Directions in Healthcare Research: Pointers From Retailing and Services Marketing

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Abstract

Purpose: Although the importance of the environment in relation to healing processes has been well established, empirical evidence for environmental effects on patient well-being and behavior is sparse. In addition, few attempts have been made to integrate insights from related fields of research such as retailing and services marketing with findings from healthcare studies. In this paper, relevant findings and insights from these domains are discussed. What insights and findings from retailing and services marketing are (potentially) of interest to the healthcare context, and how should one interpret and follow up on these results in healthcare environments?

Background: Research in retailing and services marketing indicates that physical environmental factors (i.e., music and scent) and social environmental factors (i.e., crowded conditions) may affect consumer satisfaction and well-being. In addition, environmental effects have been shown to vary with contextual factors (e.g., the type of environment) and consumer needs (e.g., the extent to which consumers value social contact or stimulation in a specific setting). Although the evidence base for environmental factors in health environments is steadily growing, few attempts have been made to integrate findings from both domains.

Conclusions/Recommendations: The findings presented indicate that environmental variables such as music and scent can contribute to patient well-being and overall satisfaction. In addition, findings suggest that these variables may be used to counteract the negative effects resulting from crowded conditions in different healthcare units. Taking into account recent developments in the healthcare industry, the importance of creating memorable and pleasant patient experiences is likely to grow in the years to come. Hence, the finding that subtle and relatively inexpensive manipulations may affect patient well-being in profound ways should inspire follow-up research aimed at unraveling the specifics of environmental influences in health environments.

Key Words: *Environmental design, music, scent, crowding, patient needs, stress reduction*

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In recent years, the influences of healthcare design on patients' health and well-being have received increasing research attention (see, for literature reviews, Dijkstra, Pieterse, & Pruyn, 2006; Ulrich et al., 2008). Books such as *Improving Healthcare With Better Building Design* (Marberry, 2006) and *A Visual Reference for Evidence-Based Design* (Malkin, 2008) underline

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this growing awareness. Pointing out directions for future research, Kirk Hamilton (in a recent issue of HERD) identified domains of research that are of interest to healthcare researchers. Hamilton argues that findings from fields as diverse as civil engineering, physics, and real estate economics have to be considered in the process of conceptualizing and managing major healthcare projects. However, findings from related environmental contexts such as retail and office environments are hardly ever considered when the impact of the built environment on patients and personnel in healthcare settings is discussed.

This lack of attention is all the more surprising when one considers that creating satisfactory customer experiences has become one of the main objectives in retailing and services marketing in recent years (Arnold & Reynolds, 2003). The central argument underlying such practices holds that in today's "experience economy" (Pine & Gilmore, 1999), shopping is not only a means to acquire a needed product, but an experience in its own right. In addition, a satisfying customer experience may increase overall satisfaction and loyalty, experiential outcomes whose relevance is by no means restricted to commercial settings.

To create satisfying customer experiences, increasing emphasis is placed on atmospheric elements in the shopping environment such as music, scent, color, and crowding. For instance, Bellizzi, Crowley, and Hasty (1983) demonstrated that relaxing cool colors (e.g., blue), as opposed to exciting warm colors (e.g., red), increase shopping pleasure. Likewise, Eroglu, Machleit, and Chebat (2005) showed that low-tempo music can provide relief to shoppers under conditions of retail crowding. In other words, the retail environment is no longer considered in strictly functional terms, but rather as a rich source of environmental stimuli that may increase customer satisfaction and related behaviors.

Surprisingly few attempts have been made to integrate findings from retailing and service marketing with research conducted in the healthcare context.

Taking into consideration such "wholesome" effects of environmental stimuli, it should come as no surprise that the body of research addressing the effects of atmospherics in healthcare environments is steadily growing (Dijkstra, 2009; Ulrich et al., 2008). Nevertheless, surprisingly few attempts have been made to integrate findings from retailing and service marketing with research conducted in the healthcare context. Hence, in this paper, the authors elaborate on research findings from retailing and services marketing and discuss their relevance to healthcare research. In discussing atmospherics, physical environmental variables (i.e., scent and

music) and social environmental variables (i.e., crowded conditions) are distinguished. The article concludes by discussing the implications of the study's findings and avenues for future research.

Physical Environmental Factors

Research in the field of environmental psychology has demonstrated that atmospherics may, across different types of environmental settings, affect cognition (Babin, Hardesty, & Suter, 2003), mood (Dijkstra, Pieterse, & Pruyn, 2008; Leather, Beale, Santos, Watts, & Lee, 2003), and (social) behavior (Gifford, 1988; Mattila & Wirtz, 2001). Hence, regardless of the specific type of setting, the physical environment appears to be an important determinant of how people think, feel, and act. The notion that environmental stimuli may have such far-reaching consequences blossomed in the domain of retailing. More specifically, Kotler (1973) was the first to focus attention on the potential impact of the physical environment and to use the term "atmospherics," defined as "the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability" (Kotler, 1973, p. 50). Based on this idea, a large number of studies have investigated the effects of the retail environment on both commercial (e.g., purchase intentions) and experiential (e.g., shopping satisfaction) outcome measures.

As argued in this paper, the latter type of outcome measures in particular is also of importance to healthcare design. That is, in both retailing and the healthcare context, experience-related measures such as mood, environmental appraisals, perceptions of staff, and waiting experiences are often incorporated. And with the increasing focus on creating satisfactory customer experiences across services, attention to such measures is likely to grow in the years to come. Hence, it may prove to be a very useful exercise to look into the effects of atmospherics in retailing and services marketing and the evidence they provide. Even though such findings may not always be directly applicable to healthcare environments, they may certainly provide pointers or interesting suggestions for future healthcare research. In addition, studies in retail environments are often conducted in a methodologically rigorous manner, thereby also providing practical guidelines for carrying out research in healthcare settings.

In their review on the effects of atmospherics on shopping behavior, Turley and Milliman (2000) present an overview of a wide variety of environmental characteristics that can influence consumer behavior. External variables, general interior variables, store layout, interior displays, and human variables are discussed in great detail. For the purpose of the current paper, discussion is limited to variables that have clearly proven to be effective in retail and service settings. In doing so, the distinction between physical and social environmental variables is made.

With respect to physical variables, Turley and Milliman (2000) showed that music and scent are the variables that have received the most research attention in the retail context. Since these

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variables have been relatively understudied in healthcare research, the effects of music and scent are discussed in more detail. In addition, both interventions can be described as relatively low-cost and easily applicable in healthcare facilities. As for social or human variables, crowded conditions and their effects on the shopping experience have been at the center of many research projects. Hence, in addition to music and scent, the impact of crowding is elaborated on and discussed in the context of healthcare settings.

Music

Exposure to music has been associated with positive changes in emotional states (e.g., see Evans, 2002; Garlin & Owen, 2006) and cognitive processing (Sweeney & Wyber, 2002). For instance, background music in a retail store appears to influence consumers' attitudes positively toward the servicescape as well as store evaluation (Dubé & Morin, 2001). In addition, music appears to affect the way the wait for a service is perceived and evaluated. North and Hargreaves (1999), for instance, showed that music affected the amount of time people are willing to wait. Such findings are of considerable importance when realizing that perceived waiting time has been found to negatively impact overall satisfaction with the service (Bailey & Areni, 2006) and the affective evaluation of the service environment (Hui, Dubé, & Chebat, 1997).

Encounters with healthcare situations, in particular, are often characterized by lengthy waits in waiting areas, further underscoring the importance of studying the effects of music in the waiting environments of healthcare settings. To account for such effects, Baker and Cameron (1996) proposed that music in a service environment creates positive affect, which in turn decreases perceived waiting time. A more general explanation (i.e., the "affect as information" paradigm; Clore, Gasper, & Garvin, 2001) holds that experienced affect provides (embodied) information about the value of a service offering. Hence, positive affect triggered by atmospherics in the (service) environment may translate to (more positive) judgments of services and service procedures.

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With respect to patient health and well-being, a review of therapeutic applications of music concluded that music might reduce anxiety during normal care delivery (Evans, 2002). Likewise, music interventions may calm patients before going into surgery (Cooke, Chaboyer, Schluter, & Hiratos, 2005; Lee, Henderson, & Shum, 2004), decrease postoperative pain (Good, Anderson, Ahn, Cong, & Stanton-Hicks, 2005), and decrease pain during surgical procedures (Dubois, Bartter, & Pratter, 1995). Of particular importance to the current undertaking are

two recent studies that investigated the effects of classical music in waiting rooms (Dijkstra, 2009). Findings showed that playing classical music in a dentist's waiting room may reduce feelings of stress and anxiety, and may increase the perceived attractiveness and professional quality of the waiting room. A second study replicated these beneficial effects of classical music in the waiting room of a general practitioner. Moreover, this study demonstrated that these calming effects are the result of patients experiencing a more positive emotional state after exposure to classical music.

These studies underline the potential impact of music as an environmental factor. Taking into account that the effects of music have been understudied in the healthcare context, they most certainly deserve the attention of researchers in that area.

Scent

Another variable that attracted considerable attention from researchers studying retail and service environments is ambient scent. In a simulated store environment, for instance, the effects of a variety of scents were compared to conditions in which no scent was present in the environment (Spangenberg, Crowley, & Henderson, 1996). Results showed that participants in the store with an ambient scent evaluated both the store and the store environment more positively. Interestingly, specific merchandise was also evaluated more positively in a scented environment. Furthermore, participants in the scented store perceived they had spent less time in the store than participants in the store without scent. Finally, results indicated that the nature of the scent itself appeared to be of limited importance; the mere presence of a (pleasant) scent accounted for the results.

Mitchell, Kahn, and Knasko (1995) investigated the effects of ambient scent–product congruity and demonstrated that congruity between scent and product type can positively affect consumer decision making. In the congruent condition (in which scent and product type matched), subjects spent more time processing product information. They were also more holistic in their processing and looked more evenly at all product attributes, instead of screening only a few salient attributes. In addition to affecting product and store evaluations, ambient scent may also impact behavior and social interactions. For instance, Zemke and Shoemaker (2007) demonstrated that a pleasant ambient scent may increase the number of social interactions among people in an environmental setting.

Scent in service environments is often accompanied by other atmospheric factors such as music in shopping malls. Underscoring the importance of studying atmospherics in interaction, Mattila and Wirtz (2001) showed that when ambient scent and music are congruent with each other in terms of their arousing qualities, the environment is rated more positively and customers experience enhanced satisfaction. Similar results were obtained in a recent study: Congruity between ambient scent and music elicit favorable outcomes (Spangenberg, Grohmann, & Sprott, 2005). Stressing the importance of congruity (and the negative consequences of incongruity),

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Spangenberg and colleagues (2005) further suggest that retailers are better advised to use a single environmental cue rather than to risk introducing incongruity by uninformed applications of multiple atmospheric stimuli. Because people perceive their surrounding environment in a holistic manner, the possible interactions between environmental stimuli deserve further exploration in future research.

The studies described above all demonstrate that ambient scent can affect consumers' evaluations and behaviors. Within the healthcare context, the effects of ambient scent have received limited attention. Two studies are available that tested the effects of ambient odor in the waiting room of a dentist. Lehrner, Eckersberger, Walla, Pötsch, and Deecke (2000) demonstrated that exposure to an ambient orange-flavored scent has a relaxing effect; women experienced a lower level of anxiety, a more positive mood, and higher levels of calmness. Another study compared the effects of two scents (i.e., orange and lavender) to a music condition and a control condition (Lehrner, Marwinski, Lehr, Johren, & Deecke, 2005). Both scent conditions resulted in improved mood and less anxiety. These studies clearly demonstrate that the use of ambient scent can also be of interest in a healthcare context. Moreover, the use of ambient scent may be useful in masking the typical "hospital smell." Further research in this direction is thus warranted.

Store Ambiance and Personnel Perceptions

The research described above demonstrates that both music and scent can contribute to the ambiance of an environment. This ambiance can, in addition to influencing affective experiences and service procedures, also influence customer perceptions of personnel or salespeople. For instance, Sharma and Stafford (2000) demonstrated the effects of store ambiance on perceptions of salespeople by showing that store atmospherics affected attributions of credibility to salespeople. Such findings are important insofar as perceptions of staff are among the few available clues patients have when they are in a healthcare situation. After all, many aspects of healthcare services are difficult to evaluate because of their intangible nature. Furthermore, Zeithaml (1988) and Berry, Wall, and Carbone (2006) state that the more complex and personally relevant a service is, the more customers act as detectives to unravel all of the available clues. In other words, clues from the built environment, as well as interactions with staff members, will be assessed to assist impression formation of the service provided.

Research in a healthcare context already demonstrated that a doctor can be evaluated as more or less competent depending upon the presence or absence of competence cues (e.g., diplomas on the wall or scientific books) in the environment he or she works in (Verhoeven, Van Rompay, & Pruyn, 2007). Personal belongings (e.g., family portraits and decorative objects), on the other hand, triggered evaluations of the physician as more empathic. These findings take on increased significance when realizing that competence and empathy perceptions are most important in patients' evaluations of doctors and physicians (see Arneill & Devlin, 2002). Hence, it is important

to realize that the way staff are evaluated by patients is influenced by atmosphere and objects in the surrounding environment. Interestingly, such perceptions of staff may in turn affect perceptions of service delivery.

At this point the social variables present in the service environment are examined. In addition to staff or personnel, many service environments (including healthcare services) are visited by large numbers of customers. In retailing and services marketing, the presence of fellow customers is readily associated with crowded conditions. In the next section, a brief overview of crowding research is presented and the means to remedy the negative effects of crowding are discussed.

Social Environmental Variables

A factor that has attracted widespread attention in consumer research is retail density (Eroglu & Harrell, 1986; Eroglu & Machleit, 1990; Eroglu at al., 2005; Harrell, Hutt, & Anderson, 1980; Hui & Bateson, 1991; Pons, Laroche, & Mourali, 2006; Van Rompay, Galetzka, Pruyn, & Moreno-Garcia, 2008). *Retail density* refers to the number of people present in a limited space and is generally considered the most important antecedent of crowding perceptions (Stokols, 1972). Obviously, crowded conditions occur across services, including healthcare environments. In reception and waiting areas, for instance, patients may face large numbers of fellow patients and visitors.

Generally, crowding is considered a negative influence, associated with stress and a perceived inability to control events. In retail settings, for instance, consumer density may restrict free movement throughout the store, lengthen (planned) shopping time, and frustrate wayfinding. In addition, products may be harder to locate and displays may be inaccessible. Clearly, such frustration of shopping goals could negatively affect shopping satisfaction. Patients in hospitals also have implicit goals, although of a different kind. For instance, upon entering a hospital, patients have a need for accurate information (e.g., provided by signage and information displays) and visual overview (i.e., seeing how to proceed and where to go). In addition, crowded conditions may inspire high arousal levels (Pederson, 1983), leading to distress and confusion. Taking into account such considerations, crowded conditions are usually considered undesirable and thus need to be counteracted as much as possible.

However, more recently, various studies have demonstrated that density may also affect customer experience in positive ways. For instance, Pons and colleagues (2006) showed that high levels of customer density may increase satisfaction in services where social contact is valued (e.g., a bar or a disco). In this type of service, density facilitates goal achievement (the goal of meeting and interacting with other people), and may be considered "functional," as opposed to situations where one does not value social contact, and density is "dysfunctional" (Eroglu & Harrell, 1986). In line with these findings, Eroglu and Machleit (1990) showed that crowded conditions resulted in less shopping pleasure among task shoppers (shoppers intent on completing a specific shopping task within a given time) compared to non-

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Physical elements or partitions in large spaces grant customers a sense of privacy by allowing them to regulate (visual) contact and social interactions with other people.

task shoppers (shoppers who regard shopping as a recreational activity without any immediate interest in buying a product). These findings indicate that the effects of density vary depending on the goals (motivations) that customers entertain upon entering a retail or service environment.

In addition, research indicates that the effects of density vary with customer personality (Van Rompay et al., 2008; Van Rompay, Krooshoop, Verhoeven, & Pruyn, 2010). For instance, Van Rompay and colleagues (2008) showed that crowded conditions are particularly distressing for shoppers with a high need for control (i.e., shoppers who like to have control over people and events; Burger & Cooper, 1979). Likewise, findings from a recent study (Van Rompay et al., 2010) showed that crowding positively, rather than negatively, affects the shopping behaviors of people with a strong desire for social contact or affiliation, generally considered a fundamental human motivation involving the urge to seek and enjoy relationships with other people (Hill 1987; Murray, 1938). Hence, people may value social contact because they are naturally inclined to do so or because the current situation inspires affiliative tendencies.

To understand such findings, it is important to realize that retail environments may appeal to the social needs of customers by bringing people together and creating opportunities for social interaction. In line with this proposal, recent studies on retailing indicate that shopping motivations are often social in nature (Arnold & Reynolds, 2003; Haytko & Baker, 2004). For instance, consumers may go shopping for the thrill and excitement arising from being part of a crowd (e.g., Haytko & Baker, 2004). Likewise, when feeling gloomy or anxious, being with others may be experienced as soothing (e.g., Babin, Darden, & Griffin, 1994). Arguably, it is this soothing effect of others that may prompt the need for social contact in healthcare settings. In other words, depending on the extent to which such social (shopping) motivations prevail, the presence of others may positively, rather than negatively, affect customer experiences.

As for ways to manage or remedy the negative consequences of density, three strategies are of particular relevance for the present context. The first pertains to research addressing the relationship between density effects and the architectural setting (Baum & Davis, 1980; Evans, Lepore, & Schroeder, 1996; Schaeffer, Baum, Paulus, & Gaes, 1988). Baum and Davis (1980), for instance, modified a long corridor dormitory to create smaller subunits. This intervention reduced the negative effects of density, as indicated by fewer reports of social withdrawal. In addition,

physical elements such as pillars or racks in retail environments may also attenuate crowding effects (see Van Rompay et al., 2008). An explanation of these effects holds that physical elements or partitions in large spaces grant customers a sense of privacy by allowing them to regulate (visual) contact and social interactions with other people (see Altman, 1975).

In addition, the effects of crowding may be attenuated by the informed use of atmospheric variables. For instance, Eroglu et al. (2005) showed that slow-tempo music may remedy negative crowding effects, indicating that slow-tempo music may (by virtue of its calming effects) counteract excessive levels of arousal resulting from high retail density. Similarly, in healthcare research, calming stimuli have also been shown to reduce stress and anxiety (Ulrich et al., 2008). In addition, a study by Haytko and Baker (2004) indicates that lighting and color may be used to reduce the perception of crowding in shopping malls by creating a more spacious impression of the retail environment. For instance, narrow hallways may acquire a more spacious feel under bright lighting conditions.

Finally, on a more general level, research testifies to the importance of freedom of choice. For instance, findings from a much-cited study by Mills and Krantz (1979) showed that giving blood donors control over which arm to use reduced anxiety and distress during blood transfusions. Extending these findings to consumer settings, Hui and Bateson (1991) showed that density in a commercial bank caused fewer negative effects for consumers who had a choice whether to enter the setting than for consumers who had no choice in the matter (i.e., customers who could not come back at another time). These findings suggest that freedom of choice increases perceptions of control (see Averill, 1973), thereby counterbalancing the negative effects of human density.

In the next section, focus shifts from retailing to the healing context and the implications of the findings are discussed. Central to the following discussion is the insight that the effects of density vary with situational patient needs and dispositional factors (i.e., patient personality), and that these factors should be taken into account when considering crowding effects and the means to reduce perceptions of crowding.

Crowding in the Healthcare Context

Similar to retail settings, healthcare environments are social venues where patient density (e.g., in waiting rooms or reception areas) is often high. In addition to crowded conditions during relatively short-duration visits, patients may also face intrusions of privacy in shared patient rooms during longer periods of hospitalization. The following discussion distinguishes environmental hospital units and argues that situational patient needs may vary depending on the unit under discussion.

In the discussion of crowding effects in relation to retailing, it was argued that density should not be considered a one-dimensional construct and something to be avoided at all times. As the presence of others in retail settings may be valued for

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the social rewards involved, patients in healthcare environments may likewise benefit from being "part of a crowd." However, depending on the environmental unit under discussion, customers may be more or less attuned to the presence of others and the potential "rewards" they bring. For instance, upon entering the reception area, patients value order and visual control to facilitate successful orientation and wayfinding. In this phase, patient needs can be considered functional rather than social. With this in mind, it is easy to see that crowding may impact patient well-being in negative rather than in positive ways by increasing arousal and related feelings of stress and confusion.

Hence, on a managerial level, care should be taken to reduce perceptions of crowding in functional units such as reception areas as much as possible. Although strategies aimed at breaking up larger spaces into smaller subunits are not feasible in areas where visual control and orientation are of primary importance, research suggests that the informed use of atmospheric variables such as color and lighting may attenuate crowding effects. As discussed, Eroglu and colleagues (2005) demonstrated that slow-tempo music may reduce perceptions of crowding, suggesting that an excess of arousal resulting from one variable (e.g., crowding) may be counteracted by using variables that reduce arousal. In addition to music, future research could explore the potential of scent to remedy the negative effects of crowding.

As suggested, atmospherics may also counteract crowding perceptions by inspiring perceptions of spaciousness (see Haytko & Baker, 2004). For instance, low-arousal colors may inspire higher degrees of experienced spaciousness than darker (i.e., more saturated) colors. Similarly, bright lighting conditions, as opposed to dim lighting conditions, may create the impression of a spacious environment. In addition to reducing perceived crowding, research suggests that perceptions of spaciousness are also positively related to well-being and related behavioral measures (e.g., Meyers-Levy & Zhu, 2007). For instance, in the latter study, higher degrees of spaciousness resulting from increases in ceiling height were shown to facilitate creative problem-solving strategies. These combined findings indicate that creating a literally more spacious environment (i.e., by increasing ceiling height) or a seemingly more spacious environment (i.e., through the use of atmospherics) may reduce perceptions of crowding.

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In waiting environments, on the other hand, the presence of fellow patients may be valued because they provide emotional support ("being in there together") or a welcome distraction during a potentially long-lasting and boring wait. Research suggests that patients may indeed prefer to wait with

others rather than alone (Pruyn & Smidts, 1999). Taking into consideration that patients are likely to experience at least some level of anxiety during waiting periods, waiting in the presence of others may indeed be valued because it inspires feelings of social support and belongingness. Hence, in this phase, social needs and the potentially positive effects of crowding enter the picture.

Note, however, that patient personality may take on increased importance at this stage insofar as people differ in the extent to which they perceive others as a source of emotional support (Hill, 1987). Hence, some patients will experience a strong need for privacy in the face of anxiety, whereas others will experience the presence of others as a warm, comforting embrace. From this perspective, it is arguably most important to provide patients with a choice in the matter by facilitating both types of waiting (alone or with others). To this end, flexible partitions could be used to create semiprivate waiting opportunities. Giving patients a choice in this manner may also reduce anxiety by granting them a sense of control (Averill, 1973). In addition to providing participants with a choice (which may not always be feasible due to spatial or financial restrictions), atmospherics may also be employed in this phase, because they remedy crowding perceptions without restricting opportunities for social interactions.

When considering long-duration visits (compared to the relatively brief periods of stay in reception and waiting areas), perceptions of crowding may arise in patient rooms hosting several patients (and visitors of patients) at the same time. In this type of situation, flexible means such as screens and curtains may be used to grant patients a sense of privacy when desired without frustrating the need for social contact that may prevail at other times during hospitalization. In addition, patient personality (i.e., whether patients have strong social needs) could be taken into account when assigning patients to rooms varying in size and in the extent to which they provide privacy or stimulate social interaction. Especially during longer periods of hospitalization, dispositional preferences for aloneness or social contact take on increased importance, and hence should not be ignored. Finally, research indicates that atmospherics may also increase well-being in patient rooms and may even lead to shorter hospitalization periods for some patient groups (Ulrich, 1995).

In sum, by reducing perceptions of crowding without necessarily taking away opportunities for social interaction (and, hence, frustrating patients' social needs), atmospheric variables may have great potential for managing crowded conditions. Although research addressing the relationships between atmospheric variables and perceptions of spaciousness or crowding is limited, a considerably body of research is available documenting atmospheric influences on various evaluative and behavioral measures.

General Discussion

In this paper, research topics in retailing and services marketing relevant to the healthcare context are identified. In addition to discussing research that addresses atmospherics such as music

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and scent, the importance of crowding research is broached and ways in which to counteract crowded conditions (e.g., by employing music) in healthcare environments are discussed. In doing so, it is shown that physical environmental variables such as music and scent can not only contribute to a pleasant experience; they may also be used (by virtue of their arousal-reducing qualities and by their potential to affect spaciousness perceptions) to remedy the negative effects of crowded conditions.

Thus, the body of research described in this paper clearly demonstrates the potential of both the physical and social environment to affect patient behavior and well-being. Although the outcome measures used in the domains discussed may (at first glance) appear to be rather different, it is argued that experiential outcome measures take on increased importance in retailing and services marketing. At the same time, recent developments reflecting the commercialization of the healthcare industry likewise emphasize the importance of attracting patients and providing them with memorable experiences in order to "create" satisfied and loyal customers. Interestingly, patient satisfaction has also been treated as a surrogate measure for the quality of care from a patient's perspective (Omanchu, 1990).

This review also points out the importance of studying research methodologies current in retailing and services marketing. As hinted at, the studies discussed were mostly experimental in nature. A shortcoming of many studies in healthcare research is their lack of experimental control (see Dijkstra, 2009). Hopefully, the current review testifies to the feasibility of studying environmental factors in a controlled, rigorous manner. The effects of a large variety of design interventions, such as music, color, art, and natural elements can be studied by means of controlled experiments. On the other hand, as a consequence of changing one environmental dimension, several other characteristics may covary simultaneously.

As an example, consider a researcher interested in the effects of window size. It may be difficult to disentangle the effect of window size from variables such as daylight and window view. For instance, the introduction of larger windows automatically leads to changes in the amount of daylight that enters the room. However, identifying and measuring such confounding variables adequately and including them in the experimental design allow for data analyses in which the effects of one variable (e.g., window size) can be disentangled from the effects of other variables (e.g., daylight and window view). Obviously, it is not always possible to control for all potential confounding variables. However, it is equally important to identify them in such cases, because they inspire awareness and caution regarding the

type of causality statements that experimental study data allow.

Finally, it is demonstrated that, although environmental manipulations may be relatively subtle and inexpensive, they may nonetheless impact patient well-being in profound ways. Although many predictions and speculations require follow-up research in healthcare settings, the findings discussed indicate that there is indeed much to be learned from research in retailing and services marketing.

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