Journal of Business Research 88 (2018) 91–101

Contents lists available at ScienceDirect

Journal of Business Research

journal homepage: www.elsevier.com/locate/jbusres

Using warmth as the visual design of a store: Intimacy, relational needs, and approach intentions

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ARTICLE INFO

Keywords:
Store atmospherics
Visual design
Warmth
Retail environment
Relational needs
Sensory marketing

ABSTRACT

Store design involuntarily affects consumer's thoughts and behaviors. Retailers use color and material to project a certain visual, modifying the environmental perceptions of a consumer's store experience. Although, a knowledge gap exists on how visual representations of warmth (via design elements) influence consumers in a retail context. In a series of three experiments, this research seeks to address this gap. Corresponding to assimilative effects of warmth, Study 1 shows a visually warm (vs. cold) store design induces intimacy. Based on complementary effects of warmth, Studies of 2A and 2B report a visually warm (vs. cold) store design is preferred only for consumers with high relational needs. Study 3 presents a boundary condition which reveals that our results do not hold for luxury brands. Together, the results provide valuable insights from a theoretical and managerial perspective on how retail spaces via design can influence consumers as nonverbal communication.

1. Introduction

As the digital revolution (e.g., e/m-commerce) continues to disrupt and gain a foothold in the evolving retail landscape, more attention has been placed in the retailing community to maintain consumer traffic in physical stores. This is especially becoming apparent in the age where shoppers are gravitating towards online shopping for its higher convenience with lower restraints (e.g., time, physical space) (Morganosky & Cude, 2000). Additionally, people are seeking experiences when shopping at brick & mortar stores (Thompson, 2017). Indeed, ever since brick & mortar stores have been displaced as the sole transaction medium, retailers have been challenged to strategically utilize their physical space to strengthen the consumer-brand connection via in-store experiences (Verhoef et al., 2009). For example, retailers have long been known to manipulate store ambience in order to project a particular theme or "feel" for customers (Baker, 1987). As such, it is necessary to understand the value of sensory marketing and how it engages consumer senses to affect perception, judgment, and behavior in physical retail settings (Krishna, 2012).

Sensory experiences (e.g., visual, touch, smell, etc.) involuntarily affect people's thoughts and behaviors (cf. Lee & Schwarz, 2012). For example, physical warmth activates the concept of emotional warmth (otherwise known as the "temperature-premium effect"), eliciting positive reactions and judgments about target objects (Zwebner, Lee, & Goldenberg, 2013). Physical warmth is also known to foster interpersonal trust, cooperation, and friendliness (Citron & Goldberg, 2014; Kang, Williams, Clark, Gray, & Bargh, 2011). Much of the research in this domain relies on the notion of conceptual metaphor theory (Lakoff & Johnson, 1980). Recent scholars have demonstrated that visually perceived warmth can increase the accessibility to thoughts and feelings related to that metaphor (Choi, Chang, Lee, & Chang, 2016; Choi & Singh, 2011; Mehta, Chae, Zhu, & Soman, 2011).

While the term *warmth* is often used to describe heat sensations, warmth can also portray a visual representation of objects and environments. For instance, certain colors may be identified as warm (e.g., orange) or as cold (e.g., blue) (Fenko, Schifferstein, & Hekkert, 2010; Yildirim, Akalin-Baskaya, & Hidayetoglu, 2007). Further, certain objects that we see, based on their texture and material, may also be characterized as warm (e.g., wood, brick) or cold (e.g., metal, glass) (Wastiels, Schifferstein, Heylighen, & Wouters, 2012a, 2012b). While architects and interior designers have used colors and décor materials to create a visually warm atmosphere of an environment, a knowledge gap exists on how visual representations of warmth contribute to consumers' affect and their subsequent behavior in a retail context. This is an important line of inquiry as retailers seek to achieve the same type of benefits that physical warmth provides without the need to adjust the temperature settings in their stores.

While ample studies have examined the effect of warmth on

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https://doi.org/10.1016/j.jbusres.2018.03.013
Received 23 May 2017; Received in revised form 12 March 2018; Accepted 13 March 2018

judgments and behaviors, most are confined to the impact of physical warmth (e.g., Ijzerman & Semin, 2010; Williams & Bargh, 2008). Given that certain color and materials may activate temperature perceptions (Choi et al., 2016), we believe that a visually warm store can also influence consumers' affect and behavior. Hence, the goal of this research is to systematically investigate the effect of visually warm design on store intimacy (affect) and approach intentions (behavior) towards retailers. In addition, we were interested in how a consumer's relational needs may impact their affect and behavior. Moreover, current psychological research in this domain suffers from the lack of applicability or observation of actionable behavior (Meier, Schnall, Schwarz, & Bargh, 2012). This is especially true in retail settings where the applicability of visual temperature and its impact on consumer behavior has been limited. Thus, our research seeks to contribute not only in advancing theoretical knowledge but also in providing practical strategies and solutions to generate optimal retail settings for physical stores.

2. Literature review

2.1. Retail atmospherics and visually warm store design

According to inference theory, people make inferences about the unknown on the basis of information they receive from cues available to them (Huber & McCann, 1982; Monroe & Krishnan, 1985). In a retailing context, consumers may take cues from the store ambience to make judgments and inferences about the store. For instance, retail managers have focused on how the environmental elements of a retail space are designed and arranged to influence consumption behavior (Baker, Parasuraman, Grewal, & Voss, 2002; Bitner, 1992). Retailers' efforts to enrich in-store consumer experiences have shifted from merchandise assortment to store atmospherics; it allowed the store to communicate with in-store consumers nonverbally beyond their products and services that they offer (Spence, Puccinelli, Grewal, & Roggeveen, 2014). Indeed, retail researchers have touted the benefits of store atmospherics on internal states (pleasure/arousal) and subsequent behavioral responses such as patronage intentions, approach intentions, and store preferences (Eroglu, Machleit, & Davis, 2003; Orth & Wirtz, 2014; Rosen & Purinton, 2004).

The term *warmth* originally refers to thermal properties perceived by tactile sensation, but it is also widely used to describe a holistic atmosphere of an environment or an interior design. When gauging a visually warm design of a store environment, color is a one of the key defining characteristic (Wastiels et al., 2012a). Cognitive psychologists have depicted that some colors with wavelengths falling under 3000 K are perceived to be warmer (e.g., red, amber, etc.); red-colored objects appear as warmer than other colors (Fenko et al., 2010; Lewinski, 1938; Osgood, Suci, & Tannenbaum, 1957; Ross, 1938; Taft, 1997). This is based on the associative network of memory (Anderson & Bower, 1973; Bower, 1981) where orange often represents warmer objects such as the fire and the sun, whereas blue often represents colder objects such as the ocean and the sky. In the past, empirical studies have explored the color-temperature link in multiple settings. For instance, Itten and Birren (1970) discovered that an orange/red-colored room was perceived 3–4 °C warmer than a room with a blue/green color. Guéguen and Jacob (2014) showed that a red-colored cup leads to the warmest perception for the liquid when compared to other colors. Michael and Rolhion (2008) also revealed that people reported their nasal perception to a red-colored liquid to be warmer than to a yellow/green liquid, despite the matching temperature of the liquids. Taken together, color plays a key role in contributing to the perception of warmth.

In addition to color, surface features can also influence warmth perceptions. For instance, a wall that is smooth may be perceived to be colder than a wall that is textured (Thiis-Evensen, Waaler, & Campbell, 1987). Wastiels et al. (2012b) found that smooth-surfaced materials such as glass were perceived to be colder than rougher materials such as wood and brick even though they were at the same temperature. Pallasmaa (2012) asserts, “Vision reveals what the touch already knows.” That is, such warmth perceptions by material textures can be formed via visual senses regardless of the actual temperature of the object. Appendix A provides a comparison of a visually warm versus a visually cold design of a store using colors and materials as visual cues.

2.2. Motivations on warmth: assimilative vs. complementary

Recent models of social cognition suggest many abstract psychological concepts are grounded in physiological experiences (Barsalou, 2008; Lakoff & Johnson, 1980). That is, physiological experiences activate related concepts in memory which ostensibly influences people's perceptions, judgments, and feelings (Williams, Huang, & Bargh, 2009). For example, prior research has shown that physiological warming sensations lead to compatible abstract concepts of warmth such as affection and love (Vess, 2012; Williams & Bargh, 2008). This is because physiological experiences are stored together with corresponding psychological concepts in memory which is later produced to strengthen conceptual metaphors (Niedenthal, Barsalou, Winkielman, Krauth-Gruber, & Ric, 2005). Hence, it is not surprising people experiencing physical warmth tend to use more language associated with interpersonal warmth (IJzerman & Semin, 2009). Warmer colors are also associated with tranquility, liberalness, and sociableness (Choi et al., 2016).

Theories of grounded cognition suggest cognition process takes place via modal representations (e.g., Gibbs Jr, 2005). Notwithstanding, the relationship between physical and social warmth is one of the most robust findings among all findings in the field of grounded cognition (e.g., Bargh & Shalev, 2012; Williams & Bargh, 2008). Extant research on warmth can be broadly classified into two streams (Zhang & Risen, 2014). One stream of research has demonstrated an *assimilative effect*; physical warmth activates concepts of interpersonal warmth and vice versa. For example, physical warmth (i.e., holding a warm drink) relates to evaluating another person also as warm (Williams & Bargh, 2008), feeling intimate (Zwebner et al., 2013), conforming to others (Huang, Zhang, Hui, & Wyer Jr, 2014) or showing higher tendency of gift giving (IJzerman, Leung, & Ong, 2014). Even without the direct touch or experience of physical warmth, Macrae, Raj, Best, Christian, and Miles (2013) replicated the assimilative effect of warmth; people imagining holding a warm drink showed higher tendency of evaluating others as warm than those who did not.

The other stream of research has demonstrated a *complementary effect* such that a certain physical experience can enhance a person's desire for a psychological state that complements the physical state. Here, motivation plays a crucial role in leading to behaviors that metaphorically alleviate undesirable state such as loneliness (Bargh & Shalev, 2012; Zhong & Leonardelli, 2008). In parallel, social consumption can regulate the feelings of physical coldness (lower room temperature) (Lee, Rotman, & Perkins, 2014). Taken together, people seek psychological solutions for physiological imbalance and vice versa.

Using theories of grounded cognition as the basis of our research, we aim to provide a theoretical framework to understand the effect of visually warm (and cold) store design. Specifically, we propose a set of hypotheses that investigates the effects of a visually warm (vs. cold) design on store intimacy and approach intentions. We also consider the