Brand-Evoked Mental Imagery: The Role of Brands in Eliciting Mental Imagery

Diana Gavilan1,2 and Maria Avello2

Abstract
This research provides evidence of the role played by a brand in the stimulation of mental imagery. We anticipate that a familiar (vs. unfamiliar) brand will evoke higher levels of visual mental imagery in the consumer. In addition, if the consumer exhibits favorability toward the brand, the visual mental imagery evoked will be enhanced. Therefore, we provide evidence of the moderating role of brand favorability in the relationship between brand familiarity and visual mental imagery. Our findings suggest that brands are evocative and are able to enhance (or reduce) information processing and, thus, the generation of visual mental images that we name “brand-evoked mental imagery.” The results contribute to the literature on branding and mental imagery and have several practical implications for marketers.

Keywords
branding, mental imagery, brand familiarity, brand favorability, moderation analysis, information processing

Introduction
Brands are among the most valuable and enduring assets capable of boosting a company’s success (Kotler & Pfoertsch, 2007). In the marketing domain, since Keller (1993), there is ample agreement that certain outcomes in consumer behavior are due to the presence of the brand. Browsing the pages of any popular social media account or even the push notifications on a mobile encourages customers to imagine themselves experiencing hundreds of products or services of different brands. Attractive shop window designs and virtual reality entice consumers to visualize their consumption experience through products and brands’ visualization (Bogicevic et al., 2019; Derbaix & Gombault, 2016).

Mental imagery has extensively been studied in the marketing field’s literature due to its powerful ability to create expectations, foster persuasion, and influence a consumer’s attitude, mood, behavior and interpretations (Bone & Ellen, 1992; Escalas, 2004; Heyes et al., 2017; Kamleitner & Feuchtl, 2015; MacInnis & Price, 1987). In situations in which products cannot be experienced physically, people tend to form mental images of themselves using the brand or product by bringing to mind their previous experiences with it (Argyriou, 2012). Therefore, mental imagery is defined by consumer behavior researchers as a process by which sensory information is represented in working memory (MacInnis & Price, 1987).

Research in the marketing context has identified different stimuli as being antecedents or facilitators of mental imagery to identify effective imagery-evoking tactics. These include visual stimuli, such as pictures (Fennis et al., 2012; Gao et al., 2017; Gavilan et al., 2014; Holmes et al., 2008) and video versus audio (Kim et al., 2014); cognitive stimuli, such as words (Elder & Krishna, 2009); web design (W. Lee & Gretzel, 2012); and emotional facial expression (Suess & Abdel Rahman, 2015); as well as the visual depiction of products (Elder & Krishna, 2011).

As a consequence of the experienced mental imagery, a wide range of cognitive, affective, and behavioral responses have been studied: attention (Rodero, 2012), ad recall and attitude toward the ad (Bone & Ellen, 1992; Chang, 2013; Unnava et al., 1996), advertising trust (Gavilan et al., 2014), intention to purchase (Argyriou, 2012), the generation and duration of positive feelings (Y. Lee & Qiu, 2009), immersion experiences (Derbaix & Gombault, 2016), and brand beliefs and recall (Mikhailitchenko et al., 2009).

One element capable of evoking abundant mental images that is consistently present in all marketing communications is the brand. Consumers are continuously exposed to brands throughout their everyday life (Brakus et al., 2009). Despite the importance of mental imagery in marketing and advertising literature, it is remarkable that this research is silent with regard to the study of real brands and their mental imagery.
imagery-evoking abilities; a great number of conclusions have been drawn based on empirical results that used fictitious brands as stimuli in their experiments (Bone & Ellen, 1992; Chang, 2013; Fennis et al., 2012; W. Lee & Gretzel, 2012; Miller et al., 2000; Unnava et al., 1996). This study differs from previous studies in mental imagery that have exhaustively studied attitude toward the brand, attitude toward the ad, and purchase intention as outcomes. However, no studies we are aware of have measured the effect that real brands will have in mental imagery and exerting vivid, numerous, and elaborated mental images. Therefore, the purpose of this research is to investigate the role played by a brand in the stimulation of mental imagery when consumers are exposed to advertising.

As brands differ in familiarity and favorability (Aaker & Stayman, 1992; Park & Stoel, 2005), in the present research, we explore the extent to which mental imagery is affected when the brands that evoke it differ in familiarity and favorability. Specifically, this research attempts to contribute to the literature by providing a better understanding of mental imagery evoked by brands by analyzing the interaction of brand familiarity and brand favorability in the generation of mental images.

This research also has practical implications for marketers. This is because practitioners are eager for knowledge that helps them not only to increase brand equity, but also to benefit from this asset through the development of more efficient communication strategies. For example, the use of rich push notifications where the presence of the brand, and the imagery that it evokes, can exert a significant effect on the improvement of click-through rates or the ads inserted in social media, as most of them including a picture and the brand. All of this communication relies on the ability of the brand and the picture to elicit mental imagery.

In the following sections, we present the literature review and our hypothesis, then we give detailed information on the study that has been conducted and, finally, we conclude by addressing the research’s specific contributions and presenting suggested lines of future research in this area.

**Literature Review and Hypothesis**

**Mental Imagery**

Mental imagery, sometimes referred to as “visualizing” or “seeing in the mind’s eye,” has been defined as “a process by which nonverbal information is represented in working memory” (MacInnis & Price, 1987). This mental representation encompasses all sensory modalities: visual, auditory, olfactory, kinaesthetic, gustatory; and haptic. However, research has primarily focused on its visual dimension due to the dominance of visual images in our perception; two thirds of all perceptual information that reaches the brain come through the visual system (Adaval et al., 2018).

Visual mental imagery differs from the mere act of seeing in that it focuses on recognition and object identification. Visual mental imagery involves the generation of quasi-perceptual images that transform visual input at will (Adaval et al., 2018). Imagery describes a quasi-sensory experience of which we are self-consciously aware and that exists in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts. As part of the perceptive experience, it is often formed in the consumer’s mind prior to develop behavioral intentions. In fact, consumers often use imagery to facilitate decision-making (Huh et al., 2016). For instance, they imagine what a dessert tastes like to assess their preference for a choice when eating at a restaurant. Imagery also elicits physiological responses such as salivation when a mental representation of the smell is available (Krishna et al., 2014).

An individual’s cognitive style may exert a difference in their experience of mental images when, as consumers, they are faced with the same stimuli (Childers et al., 1985). Cognitive style refers to a consistent way of acquiring, processing and organizing information. Thus, high visualizers, who are characterized by being image oriented, preferring to be shown images, and enjoying visual information, tend to experience more intense visual mental imagery in response to imagery-evoking stimuli (Fennis et al., 2012). Visual processing, the tendency to form images, seems to be fairly innate rather than a preference primed by situational factors (Amit et al., 2017).

Visual mental imagery can also be explained as a result of the nature of the stimulus. For example, certain features of the images such as concreteness (Petrova & Cialdini, 2005), vividness (Gavilan et al., 2020), and the manipulation of the images that encourage mental simulations (Cian et al., 2015) facilitate imagery spontaneously from pictorial inputs. More recently, as technology has created new interactive experiences, new types of imagery-evoking tools have emerged. These include digital games, mobile advertisements, virtual models that enable online shoppers to “try-on” products and three-dimensional product or store visualization (Ha et al., 2019).

Information retrieval is at the core of the information processing required to form visual mental imagery. Subsequent explanations of visual mental imagery suggest that the effects of imagery stem from the availability of imaginal information based on the notion of multiple retrieval paths (Paivio, 1990) as well as on the favorable subjective experiences that accompany the sensory information (Krishna & Schwarz, 2014). This elaborated thinking process allows customers to recover and mentally live or re-live past experiences, even from long-term memories, when such real experiences are not available. When stimuli elicit mental images, mental representations of diverse modality stored in the memory are reactivated (Suess & Abdel Rahman, 2015).
Mental imagery is assumed to be multidimensional. Babin and Burns (1998) established a three-dimensional model of mental imagery consisting of vividness, quantity, and elaboration. Vividness refers to the clarity with which the individual experiences an image and reflects its quality, intensity, and distinctiveness (Bone & Ellen, 1992). The quantity of images refers to the number of images that come to mind when evoked by a stimulus (McGill & Anand, 1989) and the elaboration of mental imagery refers to the activation of information, beyond that provided by the stimulus, in the generation of mental images (Babin and Burns, 1998).

Vividness has been widely considered responsible for enhancing message processing (Smith & Shaffer, 2000) and, thus, it is considered to be most representative of mental imagery. However, a comprehensive set of dimensions of mental imagery is rarely taken into account.

### Brand Familiarity

Brands become familiar when consumers are exposed to advertising, have previous shopping experiences, have used the brand, or have received information about the brand from their peers. Park and Stoel (2005) define brand familiarity as “the number of brand-related direct or indirect experiences that have been accrued by the consumer” (p. 150); it reflects associations that exist within a consumer’s memory. As such, the positive valence of these events increases its perceived familiarity (Monin, 2003). Research showed that brand familiarity influences the recall of advertising messages (Campbell & Keller, 2003) and determines the effectiveness of advertising appeal (Rhee & Jung, 2019). Therefore, familiar brands are likely to receive special attention and interest from consumers (Yu et al., 2017) and, accordingly, consumers’ ability to recognize the brand under different circumstances facilitates message processing.

Based on Paivio’s dual coding theory (1990), the nature of mental representation that is triggered by a stimulus is based on the notion that there are two ways that knowledge is acquired and stored, verbal associations and visual imagery, and both can be used when recalling information. Prior experiences with the brand create multiple encoding processes and multiple retrieval pathways that will be tapped into at the time of recall. Thus, familiar and well-known brands, when appearing to combine visual and verbal inputs, such as online ads, facilitate multiple pathways to retrieve arguments with which to build visual mental imagery. The more information that is available at the time of the decision, the greater the representational richness of the visual mental imagery evoked.

Given these arguments, it is expected that brand familiarity will act as a pathway for the retrieval of visual mental images. Therefore, we would expect visual mental imagery (vividness, quantity, and elaboration) to be superior in situations where customers are familiar with the brand and inferior when familiarity is limited.

### Brand Favorability

Brand favorability refers to the ability of the brand to provoke positive feelings about the brand in consumers. These consumers’ beliefs in the ability of brands to deliver high-quality functional benefits lead to higher brand favorability (Gupta et al., 2013). Favorable brands are perceived as having positive associations, valuable attributes, and offering benefits that consumers believe will satisfy their needs and wants (Keller, 1993).

As thoughts, feelings, and behaviors are grounded in sensory experiences (Krishna & Schwarz, 2014), and customers experience the world through their senses, sensory information, such as the logo of a brand, evokes the accompanying subjective experiences available in the memory. According to the availability-valence theory (Kisielius & Sternthal, 1986), the cognitive elaboration of visual mental imagery representations may depend on the favorableness of the information stored in the memory at the time of judgment. A positive bias is associated with mental imagery because people are more prone to evoke positive than negative outcomes; thus, associations with a positive valence are more easily accessible. In the context of advertising, studies show a positive bias of mental imagery elicited in radio ads (Bolls & Muehling, 2007) and websites (W. Lee & Gretzel, 2012) because consumers focused on the positive aspects of their imagination (Maier & Dost, 2018). In addition, Kisielius and Sternthal’s point of view (1986) assumes that the availability of memorable information may enhance, undermine, or have no effect on imagery processing depending on the favorableness of the information. Therefore, we would expect that the favorable predisposition of individuals toward the brand would facilitate imagery processing and the creation of visual mental imagery.

Based on this, consumers who are more familiar with a specific brand, when faced with visual ads, may be more likely to evoke mental imagery as brand familiarity facilitates imagery processing of the ad. The availability of sensory, affective, cognitive, physical, or social content stored in memory encourages the creation of visual mental images. If these consumers also experience brand favorability, mental imagery elicited by the visual ad is enhanced. Therefore, mental imagery stems from sensory information and increases in consonance with the availability of favorable information provided in the message. Thus, we propose the following hypothesis:

**Hypothesis 1 (H1):** A familiar (vs. unfamiliar) brand will be more likely to evoke visual mental imagery for those consumers with high (vs. low) favorability toward the brand (Figure 1).

To test this hypothesis, we conducted an experiment and provide evidence of the interaction between brand familiarity and brand favorability in predicting visual mental imagery.
Mental Imagery with fashion and accessories, cosmetics, food and beverages, their level of interest in, and their degree of familiarity about their interest in various product categories. Participants were aged between 5 and 10 min. They then gave their consent and received a password to enter the online questionnaire.

The questionnaire was completed in three stages. First, they answered some questions about their familiarity and favorability with four brands: Mango and other real filler brands (H&M, Zara, and Bershka). Immediately after this, participants read a brief description of the context: they were browsing a shopping webpage where they came across the advertisement of Mango that opened on the screen as a pop-up window for 5 s. Finally, participants answered the questions referring to mental imagery ability (MIA), mental imagery, and some filler questions about shopping behavior. The participants were then fully debriefed and thanked for their collaboration. The experiment lasted between 5 and 10 min.

Measurement Scales
In this study, the independent variable was brand familiarity, the moderator variable was brand favorability, and the dependent variable was mental imagery. Also, MIA was measured as a covariate in the studied model.

Brand Familiarity: A 3-item brand familiarity scale adapted from Kent and Allen (1994) was used. Responses to the prompt, “Regarding the brand are you: unfamiliar/familiar; inexperienced/experienced; not knowledgeable/knowledgeable” were rated on a 7-point semantic differential scale (ranging from 1 = strongly low to 7 = strongly high).

Brand Favorability: A 3-item scale (extremely dislike/extremely like; bad/good; unpleasant/pleasant) was adopted from Cox and Cox (1988), due to its high internal consistency (Cronbach’s α = .94). Items were rated on a 7-point semantic differential scale (ranging from 1 = strongly low to 7 = strongly high).

Mental Imagery: To capture and measure all aspects of mental imagery, we adapted the scale developed by Babin and Burns (1998) consisting of three dimensions: vividness, quantity, and elaboration. All the items were measured using a 7-point Likert-type scale (ranging from...
In this study, the scores of the 16 items had very high internal consistency (Cronbach’s $\alpha$ range from 1.0 to 5.0 (Fennis et al., 2012). To get an index of mental imagery according to their dimensions, the 11 items of the mental imagery scale were subjected to a principal component analysis (PCA). The Kaiser–Meyer–Olkin (KMO) value was .796 and Bartlett’s test of sphericity was significant ($p < .000$). The number of extracted factors with eigenvalues equal to or greater than one was three, referring to the three dimensions of mental imagery. All of the items were assessed on their appropriate factors with factor loadings higher than .6. Reliability was measured using Cronbach’s alpha and was found to be .878 (Nunnally, 1978). The scale was summed and averaged (M_IMAGERY) to form an index of mental imagery available to be used in further analysis (Bolls & Muehling, 2007; Gavilan et al., 2014).

Next, we used PROCESS macro Model 1 provided by Hayes (2017) to measure the interaction effect. Table 1 summarizes the moderation analysis of brand favorability on the relationship between brand familiarity and mental imagery while controlling MIA as an individual disposition variable.

Low levels of brand familiarity and favorability predicted low levels of mental imagery, with MIA as a significant covariate. Consistent with H1, the interaction of brand familiarity and brand favorability was significant, which meant that the impact of brand familiarity on the generation of mental images depended on the level of brand favorability. Therefore, high brand favorability boosts the mental imagery of familiar brands.

The Johnson–Neyman technique was used to evaluate the region of significance defined by the interaction. The impact of brand familiarity on mental imagery was found to be statistically significant across the entire range of brand favorability. Furthermore, brand favorability at all levels of brand familiarity increased the amount of evoked mental imagery, when controlling for MIA (Figure 2).

These results give support to H1 and confirm the effect of brand-evoked mental imagery and go one step further to suggest the importance of both factors (familiarity and favorability). In other words, the process of evoking mental images is a complex process related to external stimuli and the prior experiences of the subject.

### Results

Table 1. PROCESS Moderation Results.

| Variables               | $\beta$ | SE  | $t$   | LLCI | ULCI | $R^2$ |
|-------------------------|---------|-----|-------|------|------|-------|
| Constant                | 0.144   | .497| 0.284 | −0.840 | 1.122 | .718  |
| $B_{\text{familiarity}}$ | 0.418   | .092| 4.548*** | 0.237 | 0.600 |
| $B_{\text{favorability}}$ | −0.121  | .134| −0.900 | −0.385 | 0.144 |
| $B_{\text{familiarity}} \times B_{\text{favorability}}$ | 0.078   | .027| 2.910*** | 0.025 | 0.131 |
| Covariate MIA           | 0.331   | .108| 3.074*** | 0.115 | 0.544 |

Note. MIA = mental imagery ability.

*$p < .05$. **$p < .001$. 

1 = *strongly disagree* to 7 = *strongly agree*. Vividness refers to the clarity with which the individual experiences an image and taps into the quality aspects of the evoked visual mental imagery (Babin and Burns, 1998; Marks, 1972). Vividness was measured using 5 items following the prompt, “After seeing the ad” and included the following: I can clearly imagine what this ad communicates; I can imagine in detail . . . ; I can imagine a well-defined image of . . . ; I have a hard time imagining what this ad is trying to communicate (reverse code); and When I look at this ad, images very sharp and vivid come to my mind. Quantity of imagery refers to the number of images that come to mind while processing the information (McGill & Anand, 1989). This was measured using 3 items: Seeing this ad, I am imaging a lot of things; This ad does not suggest me to imagine anything (reverse code); and This ad activates my imagination. Elaboration refers to the activation of information, beyond that provided by the stimulus, in the generation of mental imagery (Babin and Burns, 1998). Elaboration was measured using 3 items: I can imagine what it would be like to wear the clothes of the ad; I can imagine how I’d feel if I wore the clothes from the ad; and I fantasized about the clothes in the ad.

**MIA**: The differentiation of the influence of consumer’s cognitive style when processing brand stimuli from the effect of familiarity and favorability of such brand stimuli is of particular interest in this article. For this reason, we propose to control the individual’s ability to use imagery when processing information. This was measured by the Vividness of Visual Imagery Questionnaire (Marks, 1972). This scale distinguishes between low and high visualizers and has been used in advertising research to control potential individual differences in the use of mental imagery during information processing (Fennis et al., 2012). The scale consists of 16 items rated on a 1 to 5 unipolar scale ranging from 1 = *no image at all* to 5 = *a very clear mental image*. In this study, the scores of the 16 items had very high internal consistency (Cronbach’s $\alpha = .81$). A factor analysis yielded one major factor suggesting that MIA is a unidimensional construct and a genuine individual-differentiating internal disposition. We averaged a participant’s item scores to arrive at the individual’s MIA score, which could range from 1.0 to 5.0 (Fennis et al., 2012).
Figure 2. The interaction effect of brand familiarity and brand favorability on visual mental imagery.

Discussion

The goal of this research was to explore the moderating role of brand familiarity and favorability on mental imagery, that is, so-called brand-evoked mental imagery. Findings show that a brand can exert a significant influence on mental imagery when processing advertising. It should be noted that this research does not address the recognition of the brand by the individual, but rather addresses the mental images that are shaped by the consumer from a visual stimulus of a given brand. What is interesting is not that a consumer is familiar with the brand, but that because they are familiar with the brand, more mental images are formed. Thus, we provided support to the brand-evoked mental imagery effect when processing advertising. Carried out under quasi-natural conditions, this study showed the significant interaction between brand familiarity, brand favorability, and mental imagery. It was found that when customers are familiar with the brand and are at least favorably predisposed toward it, then mental imagery significantly increases. Therefore, brand-evoked mental imagery should be considered a consequence of branding and one that arises from the need to respond to the demands of the external world and, subsequently, facilitates information processing. This is because consumers proactively use imagery as part of their approach when making purchase decisions.

For years, marketers have encouraged consumers to “use their imagination” as it has been proven that visualization contributes to increasing purchase intention (Babin & Burns, 1998). From the naïve slogans calling consumers to “imagine this or imagine that” to the visual depiction of products (Elder & Krishna, 2011), there is sufficient evidence that supports the idea that any strategies that facilitate imagery are interesting to academics and practitioners. This research shows that managing brand experience is indeed an effective strategy for facilitating subsequent mental imagery. The so-called brand-evoked mental imagery effect emphasizes that imagery is an outcome of the marketing of a product or a service based on its brand and is not a result of the product or service in and of itself.

Theoretically, our work contributes directly to the communications and persuasion literature stream on mental imagery, thus increasing the knowledge about the antecedents of mental imagery. More generally, it adds to branding literature as the brand-evoked mental imagery effect is the result of the branding process. This study differs from previous research on mental imagery processing in the field of marketing and advertising as previous research has shown that mental imagery elicited by advertising exerts a positive influence on building brand attitude (Chang, 2013; Mikhailitchenko et al., 2009). However, those studies were developed using fictitious brands. Our results do not contradict prior studies, but rather analyze a situation that actually exists. When consumers encounter advertising, the brand is often known and sometimes consumers even have previous experience with it. Therefore, brand familiarity and brand favorability facilitate the creation of mental imagery. These results, together with the above, indicate a reciprocal relationship between brand attitude and mental imagery.

Both in our conceptual development and in our experimental design, we have tried to keep our context as simple as possible, deliberately avoiding studying any cognitive, attitudinal, and behavioral responses to mental imagery. We accept as valid the previous results that probed the positive persuasive properties of mental imagery in advertising processing (Argyriou, 2012; Gavilan et al., 2014). Nevertheless, recent research suggests there are certain conditions under which the effect of mental imagery is not positive, but rather negative (Lakshmanan et al., 2013). In fact, a vivid message would make it more difficult for the individual to process and remember the arguments of the message, as the availability of vivid information in the memory could be tangential, or even irrelevant, to the message itself. Also, visually associating the product with one’s self invites for greater scrutiny as well-intensifying affective responses (Gawronski et al., 2007). Stimuli that elicit self-consciousness can intensify affective responses that, in the case of their being negative, could be transferred to the brand. Thus, further research could address specific conditions under which brand-evoked mental imagery elicits positive or negative outcomes.

It would be interesting to take into consideration the customers’ goals when encountering advertising. In this sense, future studies could also explore the moderating role of the goals that consumers have when they process advertising (Jiang et al., 2014). For example, we did not explore the differences between brand-evoked mental imagery that takes place when consumers are looking for information about the brand or its product, as compared with recreating their experiences as a consumer.
There are also psychological features that could moderate brand-evoked mental imagery. For example, to better understand the influence of situational factors, such as mood state, as well as individual differences, such as visual cognitive style, such psychological features could be of interest. In this sense, Myers and Sar (2015) have shown that mood state facilitates mental imagery processing and, at the same time, distracts detail-oriented analytical processing.

Regarding individual differences, visual cognitive style refers to the preference, or visual imagery tendency, of an individual when processing visual information. Some individuals predominantly represent information verbally, whereas others represent information more visually. It would be of interest to investigate if the brand-evoked mental imagery effect is higher among high visualizers as they experience greater imagery through visual inputs (Ostinelli & Böckenholt, 2017; Yoo & Kim, 2014).

This research has numerous direct implications for the implementation of management. We have shown that branding can affect a consumer’s advertising processing in all branding dimensions: awareness, positive experiences with the brand, and congruency between the brand and its communications, all of which shape mental imagery. The brand, through its logo, is sufficient to facilitate visual imagery if there are strong links to the brand in the minds of the consumers. An example can be seen in the tourism sector which is highly concerned with customer experience either prior or after purchasing. Hotel brands prompt tourists to visualize their lodging experiences (Bogicevic et al., 2019). Brand-evoked mental imagery highlights the relevance of the brand presence in any marketing activity, including advertising, promotion, on the product packaging at the point of sales, and even on the employees’ uniforms. Thus, the mere presence of the brand triggers a wealth of thoughts and emotions.

In today’s digital environment, smartphones have become the main means to get and stay in contact with consumers. The small size of the screen and the large amount of information received on the mobile device mean that brands compete for the user’s attention and create a new context for creativity in which a simple layout of a brand name or logo alongside an image can be more effective than more complex layouts. Even in the more competitive context of rich push notifications, a glance at the brand could be key to the effectiveness of the message if, in that glance, the consumer creates a vivid image of the brand.

Brand-evoked mental imagery is, among other things, a branding effect. As such, Keller’s words in his seminal paper (1993) are still valid: “Marketers need a more thorough understanding of consumer behavior as a basis for making better strategic decisions . . . Perhaps a firm’s most valuable asset . . . is the knowledge that has been created about the brand in consumers’ minds.” A common case study used in business schools is of the brand Zara; an apparel empire that does not invest in advertising but that, from a customer perspective, has a highly familiar and favorable logo. We are sure, however, that the mere presence of the brand triggers a wealth of thoughts and emotions. After all, they say that a picture paints a thousand words; perhaps certain words also paint a thousand pictures.

Authors’ Note

The authors whose names are listed immediately below certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers’ bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements), or nonfinancial interest (such as personal or professional relationships, affiliations, knowledge, or beliefs) in the subject matter or materials discussed in this manuscript.

Author names: Author’s signature Date
Diana Gavilan January 17, 2020
Maria Avello January 17, 2020

The procedures followed in this research were in accordance with the ethical standards of the responsible committee on human experimentation in our University.

Author names: Author’s signature Date
Diana Gavilan January 17, 2020
Maria Avello January 17, 2020

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Diana Gavilan https://orcid.org/0000-0002-5293-779X

Supplemental Material

Supplemental material for this article is available online.

References

Aaker, D. A., & Stayman, D. M. (1992). Implementing the concept of transformational advertising. *Psychology & Marketing, 9*(3), 237–253. https://doi.org/10.1002/mark.4220090306
Adaval, R., Saluja, G., & Jiang, Y. (2018). Seeing and thinking in pictures: A review of visual information processing. *Consumer Psychology Review, 2*, 50–69. https://doi.org/10.1002/arcp.1049
Amit, E., Hoeflin, C., Hamzah, N., & Fedorenko, E. (2017). An asymmetrical relationship between verbal and visual
thinking: Converging evidence from behavior and fMRI. *NeuroImage*, 152, 619–627. https://doi.org/10.1016/j.neuroimage.2017.03.029

Argyriou, E. (2012). Consumer intentions to revisit online retailers: A mental imagery account. *Psychology & Marketing*, 29(1), 25–35. https://doi.org/10.1002/mar.20405

Babin, L. A., & Burns, A. C. (1998). A modified scale for the measurement of communication-evoked mental imagery. *Psychology & Marketing*, 15(3), 261–278.

Bogicevic, V., Seo, S., Kandampully, J. A., Liu, S. Q., & Rudd, N. A. (2019). Virtual reality presence as a preamble of tourism experience: The role of mental imagery. *Tourism Management*, 74, 55–64.

Bolls, P. D., & Muehling, D. D. (2007). The effects of dual-task processing on consumers’ responses to high-and low-imagery radio advertisements. *Journal of Advertising*, 36(4), 35–47.

Bone, P. F., & Ellen, P. S. (1992). The Generation and consequences of individual differences in visual versus verbal information processing. *Journal of Consumer Research*, 19(1), 93–104. https://doi.org/10.1086/209289

Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: What is it? How is it measured? Does it affect loyalty? *Journal of Consumer Research*, 36(1), 93–104. https://doi.org/10.1086/642017

Campbell, M. C., & Keller, K. L. (2003). Brand familiarity and advertising repetition effects. *Journal of Consumer Research*, 30(2), 292–304.

Chang, C. (2013). Imagery fluency and narrative advertising effects. *Journal of Advertising*, 42(1), 54–68. https://doi.org/10.1080/00913367.2012.749087

Childers, T. L., Houston, M. J., & Heckler, S. E. (1985). Measurement of individual differences in visual versus verbal information processing. *Journal of Consumer Research*, 12(2), 125–134. https://doi.org/10.1086/208501

Cian, L., Krishna, A., & Elder, R. S. (2015). A sign of things to come: Behavioral change through dynamic iconography. *Journal of Consumer Research*, 41, 1426–1446. https://doi.org/10.1086/680673

Cox, D. S., & Cox, A. D. (1988). What does familiarity breed? Complexity as a moderator of repetition effects in advertisement evaluation. *Journal of Consumer Research*, 15(1), 111–116.

Derbaix, M., & Gombault, A. (2016). Selling the invisible to create an authentic experience: Imagination at work at Cézanne’s studio. *Journal of Marketing Management*, 32(15), 1458–1477. https://doi.org/10.1080/0267257X.2016.1199588

Elder, R. S., & Krishna, A. (2009). The effects of advertising copy on sensory thoughts and perceived taste. *Journal of Consumer Research*, 36(5), 748–756.

Elder, R. S., & Krishna, A. (2011). The “visual depiction effect” in advertising: Facilitating embodied mental simulation through product orientation. *Journal of Consumer Research*, 38(6), 988–1003.

Escalas, J. E. (2004). Imagine yourself in the product: Mental simulation, narrative transportation, and persuasion. *Journal of Advertising*, 33(2), 37–48. https://doi.org/10.1080/00913367.2004.10639163

Fennis, B. M., Das, E., & Fransen, M. L. (2012). Print advertising: Vivid content. *Journal of Business Research*, 65(6), 861–864. https://doi.org/10.1016/j.jbusres.2011.01.008

Gao, F., Zhang, W., & Lowrey, T. M. (2017). 9-V: Take a bite out of apple: How does static food advertising signaling dynamic influence food consumption. In A. Gneezy, V. Griskevicius, & P. Williams (Eds.), *ACR North American advances* (p. 1028). Association for Consumer Research.

Gavilan, D., Avello, M., & Abril, C. (2014). The mediating role of mental imagery in mobile advertising. *International Journal of Information Management*, 34(4), 457–464. https://doi.org/10.1016/j.ijinfomgt.2014.04.004

Gavilan, D., Fernández-Lores, S., & Martínez-Navarro, G. (2020). Vividness of push notifications and users’ response. *Technological Forecasting and Social Change*, 161, 120281. https://doi.org/10.1016/j.techfore.2020.120281

Gawronska, B., Bodenhausen, G. V., & Becker, A. P. (2007). I like it, because I like myself: Associative self-analyzing and post-decisional change of implicit evaluations. *Journal of Experimental Social Psychology*, 43(2), 221–232. https://doi.org/10.1016/j.jesp.2006.04.001

Gupta, S., Czinkota, M., & Melewar, T. C. (2013). Embedding knowledge and value of a brand into sustainability for differentiation. *Knowledge of World Business*, 48(3), 287–296.

Ha, S., Huang, R., & Park, J. S. (2019). Persuasive brand messages in social media: A mental imagery processing perspective. *Journal of Retailing and Consumer Services*, 48, 41–49.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Hayes, S. B., Picket, A., Mitchell, H., Raeder, S. M., Lau, J. Y. F., Holmes, E. A., & Blackwell, S. E. (2017). Mental imagery-based training to modify mood and cognitive bias in adolescents: Effects of valence and perspective. *Cognitive Therapy and Research*, 41(1), 73–88.

Holmes, E. A., Mathews, A., Mackintosh, B., & Dalgleish, T. (2008). The causal effect of mental imagery on emotion assessed using picture-word cues. *Emotion*, 8(3), 395–409. https://doi.org/10.1037/1528-3542.8.3.395

Huh, Y. E., Vosgerau, J., & Morewedge, C. K. (2016). Selective sensitization: Consuming a food activates a goal to consume its complements. *Journal of Marketing Research*, 53(6), 1034–1049. https://doi.org/10.1509/jmr.12.0240

Jiang, Y., Adaval, R., Steinhart, Y., & Wyer, R. S., Jr. (2014). Imagining yourself in the scene: The interactive effects of goal-driven self-imagery and visual perspectives on consumer behavior. *Journal of Consumer Research*, 41(2), 418–435. https://doi.org/10.1086/676966

Kamleitner, B., & Feuchtl, S. (2015). As if it were mine: Imagery like it, because I like myself: Associative self-anchoring and cognitive bias in adolescents: Effects of valence and perspective. *Cognitive Therapy and Research*, 41(1), 73–88.

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1–22. https://doi.org/10.2307/1252054

Kent, R. J., & Allen, C. T. (1994). Competitive interference effects in consumer memory for advertising: The role of brand familiarity. *Journal of Marketing*, 58(3), 97–105. https://doi.org/10.2307/1252313

Kim, S., Kim, D., & Bolls, P. (2014). Tourist mental-imagery processing: Attention and arousal. *Annals of Tourism Research*, 45, 63–76. https://doi.org/10.1016/j.annals.2013.12.005
Kisielius, J., & Sternthal, B. (1986). Examining the vividness controversy: An availability-valence interpretation. *Journal of Consumer Research, 12*(4), 418–431. https://doi.org/10.1086/208527

Kotler, P., & Pfoertsch, W. (2007). Being known or being one of many: The need for brand management for business-to-business (B2B) companies. *Journal of Business & Industrial Marketing, 22*(6), 357–362. https://doi.org/10.1108/08858620710780118

Krishna, A., Morrin, M., & Sayin, E. (2014). Smellizing cookies and salivating: A focus on olfactory imagery. *Journal of Consumer Research, 41*, 18–34. https://doi.org/10.1086/674664

Krishna, A., & Schwarz, N. (2014). Sensory marketing, embodiment, and grounded cognition: A review and introduction. *Journal of Consumer Psychology, 24*(2), 159–168. https://doi.org/10.1016/j.jcps.2013.12.006

Lakshmanan, A., Forcum, L., & Krishnan, S. (2013). The dark side of product visualization: Negative effects of imagery. *Advances in Consumer Research, 41*, 525–526.

Lee, W., & Gretzel, U. (2012). Designing persuasive destination websites: A mental imagery processing perspective. *Tourism Management, 33*(5), 1270–1280. https://doi.org/10.1016/j.tourman.2011.10.012

Lee, Y., & Qiu, C. (2009). When uncertainty brings pleasure: The role of prospect imageability and mental imagery. *Journal of Consumer Research, 36*(4), 624–633. https://doi.org/10.1086/599766

MacInnis, D. J., & Price, L. L. (1987). The role of imagery in information processing: Review and extensions. *Journal of Consumer Research, 13*(4), 473–491. https://doi.org/10.1086/209082

Maier, E., & Dost, F. (2018). The positive effect of contextual image backgrounds on fluency and liking. *Journal of Retailing and Consumer Services, 40*, 109–116.

Marks, D. F. (1972). Individual differences in the vividness of visual imagery and their effects on function. *The Function and Nature of Imagery*, 83–108.

McGill, A. L., & Anand, P. (1989). The effect of vivid attributes on the evaluation of alternatives: The role of differential attention and cognitive elaboration. *Journal of Consumer Research, 16*(2), 188–196. https://doi.org/10.1086/209207

Mikhailitchenko, A., Javalgi, R. G., Mikhailitchenko, G., & Laroche, M. (2009). Cross-cultural advertising communication: Visual imagery, brand familiarity, and brand recall. *Journal of Business Research, 62*(10), 931–938. https://doi.org/10.1016/j.jbusres.2007.11.019

Miller, D. W., Hadjimarcou, J., & Miciak, A. (2000). A scale for measuring advertisement-evoked mental imagery. *Journal of Marketing Communications, 6*(1), 1–20. https://doi.org/10.1080/135272600345525

Monin, B. (2003). The warm glow heuristic: When liking leads to familiarity. *Journal of Personality and Social Psychology, 85*(6), 1035–1048.

Myers, J., & Sar, S. (2015). The influence of consumer mood state as a contextual factor on imagery-inducing advertisements and brand attitude. *Journal of Marketing Communications, 21*(4), 284–299.

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). McGraw-Hill.

Ostinelli, M., & Böckenholt, U. (2017). Overcoming lower imagery ability through process priming. *International Journal of Research in Marketing, 34*(4), 799–812.

Paivio, A. (1990). Mental representations: A dual coding approach. Oxford University Press.

Park, J., & Stoel, L. (2005). Effect of brand familiarity, experience, and information online apparel purchase. *International Journal of Retail and Distribution Management, 33*, 148–160.

Petrova, P. K., & Cialdini, R. B. (2005). Fluency of consumption imagery and the backfire effects of imagery appeals. *Journal of Consumer Research, 32*, 442–452. https://doi.org/10.1086/497556

Rhee, E. S., & Jung, W. S. (2019). Brand familiarity as a moderating factor in the ad and brand attitude relationship and advertising appeals. *Journal of Marketing Communications, 25*(6), 571–585.

Rodero, E. (2012). See it on a radio story: Sound effects and shots to evoke imagery and attention on audio fiction. *Communication Research, 39*(4), 458–479. https://doi.org/10.1177/0093650210386947

Smith, S. M., & Shaffer, D. R. (2000). Vividness can undermine or enhance message processing: The moderating role of vividness congruency. *Personality and Social Psychology Bulletin, 26*, 769–779. https://doi.org/10.1177/0146167200269003

Suess, F., & Abdel Rahman, R. (2015). Mental imagery of emotions: Electrophysiological evidence. *NeuroImage, 114*, 147–157. https://doi.org/10.1016/j.neuroimage.2015.03.063

Umava, H. R., Agarwal, S., & Haugtvedt, C. P. (1996). Interactive effects of presentation modality and message-generated imagery on recall of advertising information. *Journal of Consumer Research, 23*(1), 81–88. https://doi.org/10.1086/209468

Yoo, J., & Kim, M. (2014). The effects of online product presentation on consumer responses: A mental imagery perspective. *Journal of Business Research, 67*(11), 2464–2472.

Yu, U., Cho, E., & Johnson, K. K. (2017). Effects of brand familiarity and brand loyalty on imagery elaboration in online apparel shopping. *Journal of Global Fashion Marketing, 8*(3), 193–206. https://doi.org/10.1080/20932685.2017.1284603