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Natural ingredients claim's halo effect on hedonic sensory experiences of perfumes

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ABSTRACT

Can consumer knowledge that a scent is composed of natural ingredients influence the perception of the fragrance? In the present study, 112 participants were asked to test and evaluate three perfumes from three different fragrance categories (floral, citrus and woody), all of which were made entirely from natural essential oils. Prior to the test and the evaluation of the scents, half of the subjects were informed of the natural origin of components, while the other half were not provided with that information. In addition, the pro-environmental orientation of all participants was assessed to analyze a potential interaction with the effect of the natural ingredients claim. Results revealed that participants' hedonic sensory perception, acceptance and purchase intention improved when they had been previously exposed to the natural ingredients claim. Results were robust across all three different fragrance types. Findings confirm the existence of a halo effect of natural ingredients claims affecting the perception of perfumes. However, hypothesized interaction effects with pro-environmentalism were not supported empirically. Implications for marketers of body-care products as well as regulators are discussed.

Introduction

Over recent years there has been a clear trend toward more natural ingredients in perfumes, given that society is increasingly aware of the benefits of natural products. Indeed, natural and organic products today constitute a major growth segment in the cosmetics industry, their sales registering an annual increase of 20% against 2% for cosmetics as a whole (Álvarez de la Gala, 2013). In the cosmetics industry a natural product is understood to be one that is composed of natural substances of botanical, animal or mineral origin, including their mixtures. Where organic products are concerned, a minimum of 95% of their total ingredients must proceed from organic farming. However, ambiguous and diversified definitions of natural cosmetics and the non-unified regulation of organic certification lead to confusion among consumers and to natural and organic often being perceived as one and the same thing (Yamamoto, 2008). For perfumes, specifically, the "natural origin" of ingredients is becoming increasingly relevant, since consumers are more and more sensitive about using chemical substances on the skin (Branen, Davidson, Salminen, & Thorngate, 2002; Dickson-Spillmann, Siegrist, & Keller, 2011; Kraus, Malmfors, & Slovic, 1992; Lockie, Lyons, Lawrence, & Grice, 2004; MacGregor, Slovic, & Malmfors, 1999). Accordingly, the word "natural" is understood by the consumer to be a positive characteristic, whilst "artificial" holds negative connotations (Rozin, 2005).

When buying perfumes, consumer purchase decision processes generally occur in low-involvement situations (Laurent & Kapferer, 1985). With this product type the risk that is customarily associated with purchase is low, and there is a strong drive of affective or hedonic activation (Hirschman & Holbrook, 1982). Limited cognitive involvement leads people to choose a perfume because of brand, price, advertising, attraction aroused by the celebrity it is associated with, information provided at the time by sales point staff, etc., but very often a lack of background knowledge about perfumes means that there is no deliberate process of evaluation and decision on the part of the consumer (Beharrell & Denison, 1995; Silayoi & Speece, 2004). In such a situation, consumers are particularly liable to be affected by halo effects. This happens when an individual's assessment of one particular characteristic of an item powerfully affects or slants their impressions of other attributes of the same item (Lee, Shimizu, Kniffin, & Wansink, 2013). In other words, the halo effect involves cognitive bias whereby the perception of a particular feature is influenced by the way

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previous features have been interpreted within a sequence of interpretations (e.g., Kniffin & Wilson, 2004).

Halo effects have been shown, for instance, with regard to the perception of specific attributes of food products. In some cases, participants had to evaluate a dimension of a food product that is difficult to evaluate, for instance, calories. In such cases, halo effects are more common. "Natural" or "organic" labels on foods can affect consumer perception of product quality, evaluation of a product as being more healthy, with lower risk for the organism, as well as a more positive attitude toward the product, or a stronger intention to buy (Abrams, Meyers, & Irani, 2010; Devcich, Pedersen, & Petrie, 2007; Dickson-Spillmann et al., 2011; Lockie et al., 2004; Magnusson, Arvola, Hursti, Åberg, & Sjödén, 2003; Rozin et al., 2004; Schifferstein & Ophuis, 1998). Also Roe, Levy, and Derby's (1999) study showed that a health label (e.g., high in calcium for yogurt) led consumers to consider a product to be better for their health and, therefore, to be more inclined to buy it. Schuldt and Schwarz (2010) found that consumers presupposed that an 'organic' cookie had fewer calories and that more of them could be eaten than was the case with their 'non-organic' counterpart. Likewise, the study carried out by Lee et al. (2013) revealed that participants estimated foods with organic labels to be lower in calories than those without the organic label. In addition, foods with the organic label yielded better nutritional evaluations (e.g., lower in fat, higher in fiber) than foods without the organic label.

However, the perception of dimensions that should be relatively easy to evaluate (e.g., liking of a beverage) can also be influenced by information provided to the consumer. In Siegrist & Cousin's (2009) wine tasting experiment, positive or negative information about the wine affected the rating of the wine, albeit only if the information was provided before the tasting task, not between the tasting and the evaluation. Findings suggest that information about a product may shape consumers' sensory experience itself and not only overall assessment. Lee, Frederick, and Ariely (2006) came to a similar conclusion in a beer tasting experiment. Related research by Cavanagh and Forestell (2013) showed that individuals rated cookies with a healthful brand label as more satisfying and as having a better taste and flavor. Similarly, in an earlier study conducted by Makens (1965), consumers, when confronted with two identical turkey samples, gave a higher taste rating to the one that they had been informed belonged to a local, well-known brand name. Wansink, van Ittersum, and Painter (2005) showed that even food names can exert a halo effect on how the flavor of food is perceived.

In the specific case of perfumes and fragrances, research on halo related effects has been very scarce, however. Among the very few studies in this context, Distel et al. (1999) and Distel and Hudson (2001) confirmed an effect of the perfume's name on olfactory perception in terms of pleasantness, and Raghubir (2010) showed that sensory perception of a cosmetic product can be significantly distorted through stimuli that alter consumer expectations. In particular, a possible halo effect of "natural ingredients" information on hedonic-sensory experiences of perfumes has not been studied in previous research.

The aim of this study is to address this research gap, assessing whether awareness that a perfume is made from natural ingredients may influence the perception of its hedonic-sensory properties. In line with the reviewed literature, a halo effect of information regarding the natural origin of the perfume's ingredients is expected. It is hypothesized that exposure to such an informational claim exercises a positive halo effect on the experience and evaluation of the perfume, leading to a more favorable hedonic sensory experience. Recently, there has been growing scientific interest in the measurement of hedonic-emotional experiences elicited by foods/beverages, as well as personal care products (Jaeger, Cardello, & Schutz, 2013). In addition, overall more favorable perception may also increase the willingness to purchase the perfume.

In some cases, previous research has also addressed the role of moderating variables involved in the kind of halo effects mentioned above. Pro-environmentalism has been suggested as a moderator of halo effects related to organic food perception. Findings have been rather ambiguous, however. While Schuldt and Schwarz (2010) found that at high levels of pro-environmentalism an organic claim biases caloric judgments downward, in Lee, Shimizu, Kniffin, and Wansink's (2013) study participants who deemed themselves to engage in environmentally friendly activities more often, were less susceptible to this kind of halo effect. Thus, a secondary aim of the present study is to assess the potential interaction of pro-environmentalism with the hypothesized halo effect of natural ingredients claims.

Method

Participants and design

The experimental study exposed 112 (59 female, 53 male) undergraduate university students to a between-groups experimental design. The participants' ages ranged from 18 to 47 years old (M = 22.45, SD = 4.35). Three individuals originated from sub-Saharan Africa, and the remaining participants were Caucasian. Individuals were randomly assigned to one of two groups. In both groups, each participant sensed three different fragrances on impregnated perfume test strips. After exposure to each fragrance, participants completed a questionnaire assessing different hedonic properties of the perfume, as well as overall evaluation and intention to purchase the perfume. The order of exposure to the fragrances was counterbalanced to avoid sequence effects. The experiment was carried out with three different fragrances to assess whether observed experimental effects were robust across different fragrance types. The three different scents corresponded with the most common fragrance categories: floral, citrus and woody (Donna, 2009; Veramendi, Herencia, & Ares, 2013; Worch, Le, & Punter, 2010). All three perfumes were of 100% natural ingredients made from essential oils.

In the experimental condition, before and during the perfume tests, a slide was projected to a central screen showing one single line of text in green font color on a white background: "Perfumes made of 100% natural ingredients". No brand name was shown. In addition, the experimenter stated before the test that the participants would test perfumes of 100% natural ingredients. In the control group, participants were not exposed to any slide and no information on ingredients was provided. The study complies with the ethical guidelines of the hosting university and received institutional approval.

Measurement

Development of measurement scales was based on the literature in order to ensure content validity. For the measurement of hedonic-sensory experience of the perfume, a multi item scale was developed, based on items previously used to assess hedonic-emotional and sensory perception of food products and fragrances (Churchill & Behan, 2010; Ferdenzi et al., 2013; Jaeger et al., 2013; King & Meiselman, 2010; Porcherot et al., 2010; Silva Cortez-Pereira, Rolim Baby, Kaneko, & Robles Velasco, 2009). To assess manipulation effects, participants first rated the extent to which the fragrance had a "*natural scent*". The remaining items were *pleasant, agreeable, gratifying, attractive, sensual, comfortable, enjoyable, harmonious, healthy,* and *relaxing*. Response categories ranged from 1 = *not at all*, to 10 = *very much*. The dimensionality