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Journal of Business Research

journal homepage: [www.elsevier.com/locate/jbusres](http://www.elsevier.com/locate/jbusres)

## Sensory stimulation for sensible consumption: Multisensory marketing for e-tailing of ethical brands

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### ARTICLE INFO

#### Keywords:

Multisensory marketing  
Ethical consumption  
Ethical brands  
Sensory branding

### ABSTRACT

Amidst strong competition and lack of resources and functional superiority, ethical brands may seek an experiential approach to marketing online. A between-subjects online experiment ( $N = 308$ ) shows that ethically-congruent visual and auditory cues, and a tactile priming statement, positively influence consumers' willingness to pay (WTP) for an ethical brand online. Altruistic and Biospheric value-orientation (ALTBIO) and Need for Touch (NfT) were considered as moderators to account for specific segments. For consumers with high ALTBI, the effects of visual and auditory cues are mediated by Consumer Perceived Brand Ethicality (CPBE). Tactile priming has a significant effect only for consumers with high NfT. However, the interaction between the three cues has a positive effect on WTP irrespective of CPBE, ALTBI, and NfT. Findings illustrate multisensory marketing's efficacy in fostering sensible consumption (considerate of natural and societal environments and their inhabitants) online for the mass-market and specific segments by creating an experiential customer judgement-context.

### 1. Introduction

Research on ethical consumption has examined many useful avenues of engaging customers, ranging from various types of product labelling (van Amstel et al., 2008; Vecchio and Annunziata, 2015) to the provision of detailed product information (Appelhanz et al., 2016; Osburg et al., 2017). However, while online retailing (or *e-tailing*) continues to burgeon, there is scarce research on the marketing of ethical products and brands online. Greater emphasis needs to be placed on enhancing customers' online brand experience in the face of heightened competition in e-tailing (Wang et al., 2011); particularly given the difficulties in differentiating ethical products based on functional attributes (Pancer et al., 2017). A key challenge here is that the online shopping environment is characterised by limited cues compared to in-store experiences (Spence and Gallace, 2011). In such non-experiential environments, customer judgements tend to be focused on the functional superiority of products (Brakus and Schmitt, 2008). Thus, a need arises for approaches that compensate for the limited availability of stimuli in e-tailing scenarios, especially as online channels offer much potential for ethical brands to develop and access wider markets.

To create better customer experiences for ethical brands online by engaging multiple senses, it is important to understand the efficacy of multisensory marketing techniques in e-tailing. Therefore, this paper aims to address an important gap in the literature by investigating if multisensory techniques (visual, auditory, and tactile stimulation) can lead to a more positive customer evaluation of an ethical brand, and an increased willingness to pay for it in the online environment. By doing so, we seek to add an online, as well as multisensory, marketing perspective to the extant literature on ethical consumption that has increasingly come into focus.

Consumption that is sensible *vis-à-vis* environmental and societal responsibilities (e.g. eco-friendly product purchases) is increasingly being viewed as a measure to address many global environmental and social challenges, including environmental protection, employee rights ('sweatshop labour'), and animal welfare (e.g., Osburg et al., 2017; Testa et al., 2015; Urien and Kilbourne, 2011). To aid such sensible consumption, research has already shown the importance of appropriately presenting ethical information to consumers via product labels (Testa et al., 2015; Vecchio and Annunziata, 2015), but studies have also questioned the effectiveness of ethical labels in this regard (Borin et al., 2011; Bradu et al., 2014; van Amstel et al., 2008). Hence, it is

**Abbreviations:** ELM, Elaboration Likelihood Model; Ethic, Ethically Congruent; WTP, Willingness to Pay; CPBE, Consumer Perceived Brand Ethicality; ALTBI, Consumers' Altruistic and Biospheric Value Orientation; NfT, Consumers' Need for Touch; SD, Standard Deviation

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<https://doi.org/10.1016/j.jbusres.2018.06.005>

Received 10 August 2017; Received in revised form 10 June 2018; Accepted 13 June 2018  
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important to consider new approaches to marketing ethical brands, which enhance customer experiences, but do not over-rely on labels or ethical product information, such as multisensory marketing (see: Lindstrom, 2005; Swahn et al., 2012).

Multisensory marketing has emerged as a powerful technique for enhancing customer experiences in the traditional retail setting by way of improving store design and atmospherics (Hultén, 2015; Spence et al., 2014). Customers can develop deep connections with brands when their brand-experiences stimulate and engage multiple senses, leading to stronger cognitive brand-associations retained in their memory (von Wallpach and Kreuzer, 2013). Given this, multisensory marketing techniques offer an interesting perspective as potential means, by which ethical brands can build a deeper level of engagement with customers. Notably, despite the efficacy of multisensory marketing in establishing strong brand-associations with customers (Lindstrom, 2005), its application for increasing ethical consumption through enhancing customer engagement with ethical brands, has largely remained a neglected area of research.

Moreover, the application of multisensory marketing is not exclusive to in-store shopping situations; it has been shown to be effective in diverse contexts ranging from in-cinema advertising (Lwin and Morrin, 2012), to printed food and beverage adverts (Petit et al., 2017; Yoon and Park, 2012), and place branding (Dişoju and Căruntu, 2014). The online environment may be considered the next frontier in this regard, whereby multisensory techniques offer an interesting and promising avenue for improving brand perceptions and experience (Spence and Gallace, 2011). Surprisingly, this context has so far been rarely considered.

Whilst carefully crafted imagery, symbols, and sounds have been shown to impact on customer experiences and preferences at a neurological level (Hultén, 2011; Hultén, 2015; van Rompay et al., 2014), the online environment represents a challenge in reproducing such multisensory effects (Spence and Gallace, 2011). Naturally, not all senses can be directly engaged within the online environment. However, research in offline contexts have highlighted approaches to mimic or indirectly stimulate senses (e.g. visual or olfactory), such as sensory priming, and cross-modal stimulation known as synaesthesia (see: Petit et al., 2017; Yoon and Park, 2012), which may be adapted for online contexts (Spence and Gallace, 2011). The present paper will consider sensory priming as an indirect approach to stimulating the tactile sense online, thus accounting for a significant limitation in online shopping scenarios.

To this end, we conduct an online experiment with ethically congruent visual, auditory, and tactile-priming stimuli for an ethical product (soft toy), and evaluate consumers' perceived brand ethicality and willingness to pay. Further, we control for individual differences in terms of consumers' value orientation (Altruistic-Biospheric values) and Need for Touch. Findings illustrate multisensory marketing's efficacy in fostering ethical consumption online for the mass-market as well as specific segments.

## 2. Theory and hypotheses

### 2.1. Multisensory marketing and the online environment

Sensory marketing refers to stimulating consumers' senses through marketing tactics, which influences consumers' product evaluations and purchasing behaviour (Krishna and Elder, 2010). Accordingly, multisensory marketing engages more than one sense, and comprises consumer perception through multiple senses including visual, auditory, olfactory, gustative, and tactile experiences (Hirschman and Holbrook, 1982). Multisensory marketing has been successfully applied to diverse contexts such as cinema advertising (Lwin and Morrin, 2012), destination branding (Dişoju and Căruntu, 2014), healthy eating (Cornil and Chandon, 2016), Fast Moving Consumer Goods advertising (Krishna et al., 2010), and consumption of the arts (Joy and Sherry Jr, 2003), as

well as packaging design (Raghubir and Greenleaf, 2006; van Rompay et al., 2014) and store design (Spence et al., 2014).

From a theoretical perspective, multisensory marketing forms part of the customer experience literature. Research acknowledges that it is increasingly important to create and deliver better customer experiences due to the high competition, growing similarity between competitive products, and proliferation of touch points (Brakus et al., 2009; Brakus and Schmitt, 2008; Lemon and Verhoef, 2016). Experience occurs at different points of the customer journey, i.e., the direct or virtual interaction with a product/brand, the shopping and service experience as well as the experience of consuming and using a product (Brakus et al., 2009). As such, it is vital to enhance customer experience in online shopping scenarios as well as offline (Novak et al., 2000).

Experiential aspects of a brand can be processed in two ways by a customer: deliberately, and fluently (requiring little or no deliberation) (Brakus and Schmitt, 2008). Earlier theory based on the Elaboration Likelihood Model (ELM) also makes a similar distinction between the central (requiring extensive and thoughtful considerations) and peripheral (more inferential or based on superficial cues) routes of information processing (Petty and Cacioppo, 1986). From a customer experience perspective, experiential attributes of a brand can be processed deliberately or fluently depending on whether the judgement context (e.g. shopping environment) is experiential or not (Brakus and Schmitt, 2008). Multisensory marketing cues render customers' judgement-context experiential, and can initiate both the central and peripheral routes of the ELM as they give rise to cognitive and emotional effects, thus leading to a more engaging and long-lasting impact on customer experiences (Krishna, 2012; von Wallpach and Kreuzer, 2013). In the online context, activating the peripheral route (thereby requiring less cognitive effort) and enabling fluent (inferential) processing may be beneficial; especially as consumers' attention-spans have shortened in the past decade following the growth and influence of social media (Kumar and Gupta, 2016). Even in high-involvement, high-complexity online scenarios, the peripheral route has been shown to be significantly active (see: Goh and Chi, 2017), as well as in relatively low-involvement, low-complexity online scenarios (see: Bi et al., 2017).

Experiences do not only result in favourable firm-related outcomes, they also evoke positive outcomes for the consumer, since experiences result in hedonic benefits such as happiness and long-lasting satisfaction (Gilovich and Kumar, 2015; van Boven and Gilovich, 2003). Although material (e.g., computer, fashion) and experiential purchases (e.g., holidays, spa treatments) are generally different, marketers may use unclear boundaries between both categories in order to turn material purchases into experiential consumption so that stronger hedonic benefits occur (Gilovich et al., 2015). This suggests that online material purchases of ethical products could be encouraged through making online purchases more experiential. Furthermore, multisensory marketing does not only provoke afferent experiences (i.e. neurological inputs), but also efferent responses (i.e. neurological outputs) (Hirschman and Holbrook, 1982), thus forming the basis for a two-way experiential consumption situation. Such interactivity (as perceived by consumer) in online scenarios is seen as a driver of positive consumer attitudes (see: Kalyanaram and Sundar, 2006; Keng and Liu, 2013; Kim and Forsythe, 2009). Hence, although online channels are generally considered non-experiential, multisensory marketing seems a promising approach for effectively promoting material products that are not functionally differentiated (Brakus and Schmitt, 2008; Novak et al., 2000), such as ethical products.

### 2.2. Multisensory marketing for ethical consumption

There is increasing awareness and discussion surrounding the adverse impact of current consumption habits on the environment and society (Bradu et al., 2014; Gleim et al., 2013; Vecchio and Annunziata, 2015). Ethical consumption mainly focuses on the protection and

fulfilment of the environment, human rights, and animal welfare (Doane, 2001), although an established definition is still missing in the literature. For example, Harrison et al. (2005) follow a more general definition, which also captures ethical investments and consumer boycotts. This illustrates the complexities in the understanding of ethical consumption, which are intensified by the fact that ethical product features (e.g., fair trade, organic production) are usually credence attributes, which consumers cannot verify (Vecchio and Annunziata, 2015).

Despite the growing awareness of the importance of ethical consumption, ethical brands/products are not as commercially successful in the marketplace (Gleim et al., 2013); a phenomenon referred to as the *ethical intention-behaviour gap* (Carrington et al., 2014). Therefore, a large and growing body of the literature focuses on identifying drivers of ethical consumption. On the one hand, several studies examine individual determinants of ethical purchasing such as consumer values (e.g., van Doorn and Verhoef, 2015), attitudes (e.g., Smith et al., 2008), and self-identity (Xie et al., 2015). On the other hand, recent attention has focused on the best disclosure of ethical product information, for example, through ethical labels or a detailed presentation of ethical product information (Gleim et al., 2013; Osburg et al., 2016; Testa et al., 2015). Interestingly, research belonging to the latter primarily aims at motivating ethical consumption through providing rational arguments. In contrast, studies appreciating consumer experience in the context of ethical consumption, for example, through engaging consumers with ethical brands/products through inducing an emotional connection, are rather rare.

Hirschman and Holbrook (1982) introduced the importance of customer experience through multiple sensory modalities as an important facet of hedonic consumption. The underlying assumption is that the more information an individual encodes while learning about an object/concept, the higher the chance to remember it ( Craik and Tulving, 1975). Consequently, customers will most likely build and retrieve stronger associations about a product or brand in their memory, when multiple senses are stimulated (Krishna and Schwarz, 2014; Kumar, 2014), leading to what has been characterised as ‘embodied brand knowledge’ (von Wallpach and Kreuzer, 2013). This gives rise to strong emotional ties with a brand through subconscious mechanisms that resonate with abstract brand-traits (i.e. brand personality) (Krishna, 2012), which exceeds its typical functional value (Hirschman and Holbrook, 1982; Kumar, 2014); thus, potentially advantageous for ethical brands. More specifically, customer experience includes an individual's interaction with a product/brand on a cognitive, emotional, physical, sensorial, and social level (Lemon and Verhoef, 2016). While consumer interactions with ethical products/brands have so far been particularly explored ‘offline’ on the cognitive (e.g. Gleim et al., 2013; Osburg et al., 2016), physical (e.g. van Doorn and Verhoef, 2015), and social (e.g. Han, 2015) level, interactions on the sensorial and emotional levels are still underexplored, both online and offline.

It has been shown that the provision of sensory cues positively affects different consumer outcomes such as: customer satisfaction and brand loyalty (Kumar, 2014), product evaluation (Krishna et al., 2010), purchase intention (Lwin et al., 2016), and willingness to pay (Cornil and Chandon, 2016). Previous studies have focused on the stimulation of a single sense (see: Ballouli and Bennett, 2014; Hultén, 2015; van Rompay et al., 2014; Yorkston and Menon, 2004). Nevertheless, a nascent body of literature examines multisensory approaches, mostly a combination of auditory or olfactory stimulation with visual cues (see: Bruwer et al., 2011; Kumar, 2014; Lwin and Morrin, 2012; Spence et al., 2014). Visual and auditory stimulations are important because of their influence on consumer behaviour across a range of consumption scenarios (e.g. Hagtvedt and Patrick, 2008; Krishna and Ahluwalia, 2008; Raghuram and Greenleaf, 2006). While visual cues represent the most commonly used approach in sensory marketing, auditory cues are particularly powerful since they are highly likely to evoke positive

emotions and suppress negative ones (Hultén, 2015; Kumar, 2014). Accordingly, visual and auditory cues that promote a product's ethical features should affect ethical consumption related outcomes, such as a consumer's willingness to pay a surcharge for ethical products.

Congruence plays an important role in generating positive consumer outcomes of multisensory marketing, since the message transferred by a sensory cue must be consistent with brand attributes and other sensory cues (Krishna et al., 2010). Indeed, unrelated or incongruent sensory cues may even distract consumers and consequently reduce positive product/brand evaluations compared to no sensory cues being present (Stach, 2015). Hence, the provision of neutral/unrelated or incongruent visuals or audio should not be as influential as an ethically congruent (herein referred to as: ‘EthiC’) image or audio in increasing ethical consumption.

In the online context, a key challenge is the lack of tactile stimulation, which is an important part of customers' product evaluations, and shopping experience; e.g., as an indicator of product quality, and as a result, a driver of customer confidence (Krishna et al., 2010). Crucially for ethical products, while sensory aspects such as flavour and smell appear important for consumers in general, the emphasis on ethical criteria has been shown to be of importance only for consumers with a strong ethical orientation (Asioli et al., 2014). This suggests that a stimulation of crucial senses, such as the tactile sense, is advantageous to promote ethical products across a wider range of consumers, over a mere focus on ethicality, which is attractive for specific segments.

Tactile experiences have a strong influence on product evaluations, but changes in consumer characteristics and shopping habits have posed a challenge for the effective integration of tactile experiences into multisensory marketing; e.g. due to aging/aged populations (declining tactile-sensory perception), or increasing online shopping (Spence and Gallace, 2011). Promisingly, previous research suggests that this limitation may be overcome through encouraging consumers to anticipate the sensory pleasure, both through direct instructions or vivid sensory product descriptions (Cornil and Chandon, 2016; Yoon and Park, 2012). Alternative modes can be used for describing a different sensory modality through cross-modal correspondences, such as the utilisation of auditory cues to transfer gustative information (Knoeferle et al., 2015). In any case, the mere anticipation of the sensory experience, especially by way of triggering deep-seated associations in one's memory may already influence consumer behaviour (Petit et al., 2017). As such, sensory priming may be an effective proxy for direct stimulation. For example, priming consumers through statements/captions such as: “I smell a delicate aroma of Hazelnut coffee”, has a positive effect on brand evaluations based on printed adverts the respective product type (i.e. coffee) (Yoon and Park, 2012). This may be seen as the result of deep-rooted information/associations in one's memory, mimicking the effect of an actual tactile experience, or a close approximation thereof. Consequently, this tactile-priming approach may be a particularly useful technique in the online context (Spence and Gallace, 2011), especially since previous researchers have shown that similar sensory descriptive-statements can positively influence consumer behaviour online, although the statements were not specific to the tactile sense (see: Woojin et al., 2010).

If multiple senses are stimulated through congruent sensory cues, their interaction jointly forms the overall customer experience (Krishna, 2012; Spence and Gallace, 2011). Cross-modal interactions allow consumers to perceive a product through integrating multiple cues, and are therefore advantageous over reduced or single sensory cues, potentially even resulting in synergies (Krishna et al., 2010; Stach, 2015). This is in line with the differentiation between afferent and efferent experiences, the interaction of which ultimately forms a synergistic overall experience and generates additional value for the customer (Hirschman and Holbrook, 1982; Hultén, 2011). Accordingly, the greater the number of sensory cues provided, the stronger the effect on consumer behaviour should be.

**Hypothesis 1.** The provision of an ethically congruent (EthiC) visual cue (H1a: EthiC image > non-EthiC image), EthiC auditory cue (H1b: EthiC song > non-EthiC song), and a priming statement to engage the tactile sense (H1c: priming > no priming), increases consumers' willingness to pay for an ethical product online (WTP). The combination of all three cues (visual, auditory, and tactile via priming) is associated with the highest WTP, followed by the combination of two cues, only one cue, and no cue respectively (H1d).

### 2.3. Multisensory marketing and brand perceptions

Enhancing customer experience through a more experiential shopping environment becomes increasingly important in a competitive marketplace, not only for product, but also for brand differentiation and positioning (Diçoiu and Căruntu, 2014; Hultén, 2011). As previously noted, stimulating multiple senses in the online environment enhances customer experience and leads to favourable customer-outcomes. These benefits may not occur directly, it is indicated that they are mediated through a more favourable brand experience, which must be perceived as a consequence of the product experience (Schmitt et al., 2015). Such brand experiences are also long-lasting and may result in general favourable attitudes towards the brand (Verhoef et al., 2009).

Specifically, a consumer's brand experience is considered very distinct from their brand associations, such as brand personality (Aaker, 1997), and brand image or identity (Kapferer, 1997; Keller, 1993). This is because brand experience is about actual sensations felt by a consumer in response to brand related stimuli (often sensorial) as opposed to mere projections onto a brand (such as brand personality or image) (Brakus et al., 2009).

In this context, multisensory marketing helps create holistic brand experiences for customers, and provides an opportunity to expand brand identity through previously neglected modalities (Stach, 2015; von Wallpach and Kreuzer, 2013; Wiedmann et al., 2013). Integrating sensory dimensions into a brand, and engaging multiple senses through congruent cues, lead to positive brand evaluations among consumers (Lwin and Morrin, 2012; Yoon and Park, 2012), and foster deeper emotional connections with the brand (Hultén, 2011; von Wallpach and Kreuzer, 2013).

For ethical consumption, the construct of Consumer Perceived Ethicality (CPE) needs to be considered with its different foci such as a brand, product, or service (Brunk, 2012). In the context of this research, the focus should be particularly on Consumers' Perceived Brand Ethicality (CPBE), which can be understood as a consumers' overall subjective evaluation of a brand's morality (Brunk, 2012). CPBE is relevant because consumers may evaluate a brand based on a variety of criteria and perspectives (e.g. negative associations, Fairtrade), so a holistic concept is necessary for evaluating its ethicality (Brunk, 2010). Further, a single instance of a reported unethical behaviour of a brand may heavily influence its CPBE, independent of the subject's own ethical behaviour (Brunk and Blümelhuber, 2011). Previous research shows that CPBE positively influences several consumer-level brand benefits, such as brand trust, brand affect, and brand loyalty (Singh et al., 2012). Large scale studies have demonstrated how CPBE can positively influence customer loyalty behaviours in the context of service brands (e.g. Markovic et al., 2018). In addition, CPBE has been shown to influence brand affect and perceived quality at the corporate level across a range of industry sectors, including supermarket and clothing retail sectors (Sierra et al., 2017).

Cognitive representations of a brand can emerge from both conscious and subconscious sensory experiences, particularly in relation to abstract brand traits; e.g. brand personality inferences (von Wallpach and Kreuzer, 2013). Brand experience (including its sensory dimension) has been shown to have a positive effect on consumer behaviour, which is mediated by brand perceptions (Brakus et al., 2009). As sensory cues often induce mediated effects on consumer behaviour through

cognition (Krishna, 2012; Spence et al., 2014), multi-sensory cues should affect consumer behaviour through brand perceptions, as has been illustrated in relation to fashion brands (see: Cho et al., 2015). Also, as already noted, congruence between a sensory cue and brand attributes is important in developing positive consumer effects (Krishna et al., 2010). Hence, sensory cues that are congruent with a brand's ethicality should increase ethical consumption behaviour via an ethical perception of the brand.

**Hypothesis 2.** Consumers' Perceived Brand Ethicality (CPBE) mediates the effect of EthiC visual (H2a), and EthiC auditory (H2b) cues on WTP for an ethical product.

### 2.4. Segment-specific multisensory marketing

While multisensory marketing may increase ethical consumption in general, it may also help engaging specified target groups such as ethical consumers. As outlined earlier, ethical consumers are often identified based on their value orientation because values represent fundamental principles, guiding consumer behaviour across a range of situations (Urien and Kilbourne, 2011; van Doorn and Verhoef, 2015). Values oriented around one's self and values focussing on collective interests need to be distinguished: egoistic values motivate ethical behaviour due to one's personal benefit, whereas altruistic values centre around the welfare of other human beings, and biospheric values concern the wellness of the environment (Stern et al., 1993). Both altruistic and biospheric values reliably predict ethical consumption and the importance an individual ascribes to ethical characteristics (de Groot and Steg, 2009; Han, 2015; Milfont et al., 2006); as such, these value orientations together should influence the relevance of EthiC sensory cues. Ethically oriented consumers tend to be more interested in, and focused on, ethical product information (Osburg et al., 2017). Hence, the provision of EthiC sensory cues is expected to particularly affect ethical consumption behaviour through ethical brand perceptions for consumers with high altruistic and biospheric values.

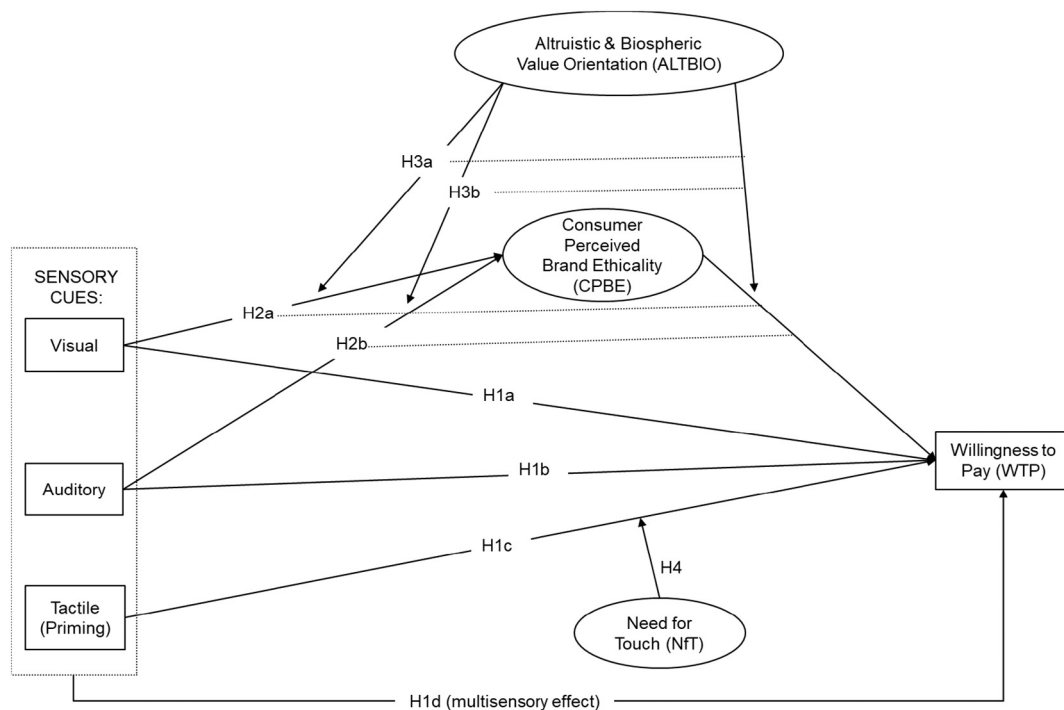
**Hypothesis 3.** Altruistic and Biospheric value orientation (ALTBIO) moderates the strength of the mediated relationships between an EthiC visual cue (H3a), and an EthiC auditory cue (H3b) with WTP via CPBE, so that the mediation is stronger for high ALTBIO compared to low ALTBIO.

In the context of online shopping, the propensity to experience a given sense varies among individuals, and depends on certain personality characteristics. So far, there is limited understanding of potential individual differences in the need for sensory stimulation (Krishna et al., 2010), except in the case of the tactile sense. Need for Touch (NfT) describes the importance an individual ascribes to tactile experiences (Peck and Childers, 2003). Given the limitations of the online environment, NfT is especially relevant for multisensory marketing, because individuals with higher than average NfT might indeed be precluded from becoming effective target segments for online retailing (Krishna, 2012; Spence and Gallace, 2011). Hence, for consumers with high NfT, priming for a tactile product-experience, may be particularly useful in overcoming the online environment's tactile-disadvantage, compared to consumers with low NfT.

**Hypothesis 4.** Consumers' Need for Touch (NfT) moderates the strength of the relationship between priming and WTP for an ethical product, so that the relationship is stronger for high NfT compared to low NfT.

Fig. 1 shows the integrated conceptual model representing all hypotheses.





Notes: H2a and H2b are mediations (indirect paths are linked via dotted lines); H3a and H3b are moderated mediations that affect two specific paths (linked via dotted lines).

Fig. 1. Integrated conceptual model.

### 3. Design and measures

#### 3.1. Pre-test

An online pre-test ( $N = 101$ ; 31 females; mean age = 32.29) was conducted to determine the product category for the main study. The pre-test included the 16 most frequently purchased product categories online (Statista, 2017). Respondents were asked to indicate the importance of each of the five senses for each product category. Additionally, participants assessed the relevance of ethical criteria and their interest in online shopping for each product category. The resulting highest mean-rank for a combination of sensory and ethical product attributes, as well as preference for online shopping, were identified for soft toys, followed by fresh groceries and beauty/personal care products (see Appendix). Consequently, the ‘soft toy’ product category was chosen for the main study.

#### 3.2. Experiment design and material

An online experiment was conducted based on a 2 (visual cue: Ethic image, no Ethic image)  $\times$  3 (auditory cue: Ethic song, non-Ethic song, no song)  $\times$  2 (tactile priming: priming statement, no priming statement) between subject design. Each participant was randomly assigned to one of the experimental conditions. Participants were asked to imagine an online shopping scenario, in which they noticed a product advertised by the imaginary brand “BEAR”. The basic experimental stimuli consisted of a picture of the product (a teddy bear) and the information “This is a fair trade and organic toy from the brand BEAR”. Depending on the assigned condition, the product description was complemented by:

- Visual cue: Image visualising fair trade and environmental protection (Ethic); no Ethic image
- Auditory cue: Song extract promoting ethicality (Ethic song); song extract without ethical references (non-Ethic song); no song
- Priming: “I feel the comforting touch of this teddy bear.”; no

priming statement

US online shoppers were targeted in an online panel conducted using Qualtrics. A sample of 308 usable responses was collected, the average age of which was the same as the global average for peak interest in ethical consumption, based on market research by Euromonitor International (2017). A descriptive profile of the sample is provided in Table 1. A breakdown of respondents by the type of cue to which they were exposed, is presented in Table 2.

#### 3.3. Measures

After the presentation of the experimental stimulus, the constructs were measured with established scales. Specifically, the survey included measures for: (1) Consumers’ Perceived Brand Ethicality (CPBE)

Table 1  
Descriptive statistics.

Variable and categories	N	Mean	SD
Age	308	33.33	10.563
Gender:			
Male	167		
Female	141		
Education:			
High School	21		
College	49		
Bachelor’s Degree	151		
Master’s Degree	83		
Doctoral Degree	4		
Household income:			
< USD 25,000	115		
USD 25,001–50,000	96		
USD 50,001–100,000	76		
USD 100,001–150,000	16		
> USD 150,000	5		
Household size	308	3.39	1.413

**Table 2**  
Respondents by type of cue.

Type of cue	Condition	N
Visual	Absent	149
	Present	159
Auditory	Absent	100
	Ethically-congruent	101
	Non-ethically-congruent	107
Tactile (priming)	Absent	150
	Present	158

(Brunk, 2012), (2) Willingness to Pay (WTP) (Netemeyer et al., 2004), (3) Consumer Values (Steg et al., 2005), and (4) Need for Touch (NfT) (Peck and Childers, 2003). The scales were only slightly adapted to better match the context of the present study (Example for a modified item: “I am willing to pay a higher price for this teddy bear than for other teddy bears” instead of “I am willing to pay a higher price for (brand name) brand of (product) than for other brands of (product).” (Netemeyer et al., 2004). The Appendix documents all items. Generally, respondents indicated their agreement on 7-point scales.

Additionally, manipulation checks were carried out to ensure that the participants had taken note of the presented sensory cues. Respondents had to identify if (and which) visual cue, auditory cue, and tactile priming statement they had noticed, based on a selection of four options each (e.g., one Ethic image, two non-Ethic images, no image). In total, 23 participants who had failed to correctly identify the cue they were presented with, were excluded from further analysis.

#### 4. Analysis and results

For hypotheses H1a–H1d, a three-way factorial ANOVA was carried out to identify the effects of Ethic visual cue, Ethic auditory cue, and tactile priming. Confidence intervals (CI) with Bonferroni adjustments were obtained for comparisons; a CI that does not include the value of zero would indicate a statistically significant difference in the pairwise comparison between the independent variable's (IV's) categories. Results show that the provision of an Ethic image (H1a) had a significant and positive effect on WTP ( $F = 4.391$ ;  $p < 0.05$ ; CI: 0.012, 0.383;  $\eta^2_{\text{partial}} = 0.015$ ). Similarly, playing of an Ethic song (H1b) had a significant and positive effect on WTP ( $F = 8.760$ ;  $p < 0.01$ ; CI: 0.198, 0.750;  $\eta^2_{\text{partial}} = 0.056$ ) compared to a non-Ethic song and no song. Priming (H1c) was also found to have a significant and positive effect on WTP ( $F = 5.565$ ;  $p < 0.05$ ; CI: 0.037, 0.408;  $\eta^2_{\text{partial}} = 0.018$ ).

As shown in Fig. 2, the provision of all three cues had the highest effect on WTP, followed by two cues, one cue, and no cue respectively ( $F = 7.840$ ;  $p < 0.01$ ;  $\eta^2_{\text{partial}} = 0.072$ ). The difference between the provision of three and two cues was not significant (CI:  $-0.129, 0.794$ ); hence, H1d is only partially supported. Nevertheless, the overall interaction of all three cues was positive and significant on WTP

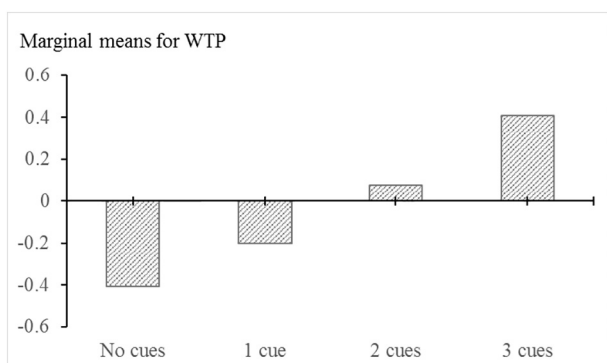


Fig. 2. Estimated marginal means for WTP by (multi)sensory cues.

( $F = 3.162$ ;  $p < 0.05$ ;  $\eta^2_{\text{partial}} = 0.021$ ), even when controlling for CPBE, ALTBIO, and NfT ( $F = 3.631$ ;  $p < 0.05$ ;  $\eta^2_{\text{partial}} = 0.024$ ). Tables 3 and 4 summarise the results for H1a–H1d, and the interaction effects respectively.

H2–H4 were tested using the OLS regression based approach of conditional process analysis (using the Hayes PROCESS tool), which examines the conditional effects of the IVs (i.e. cues) for different values of mediating and moderating variables (Hayes, 2013). The relevant paths were integrated into a single model and estimated simultaneously for each IV. Bootstrapping (5000 samples) was used for obtaining bias-corrected confidence intervals ( $CI_{\text{Boot}}$ ) and standard errors ( $SE_{\text{Boot}}$ ).

H2a was supported, as full mediation was observed by CPBE between the effect of Ethic visual cue on WTP. The direct effect of visual cue on WTP was not significant in the presence of CPBE, while the direct effects of visual cue on CPBE, and CPBE on WTP were positive and significant (total effects model:  $F = 5.659$ ;  $p < 0.05$ ;  $R^2 = 0.0183$ ). A Normal Theory test was conducted ( $z = 2.4858$ ;  $p < 0.05$ ;  $R^2 = 0.014$ ); an Ethic image has a positive and significant indirect effect on WTP through CPBE ( $\beta = 0.1167$ ;  $CI_{\text{Boot}} = 0.0282, 0.2191$ ;  $SE_{\text{Boot}} = 0.0487$ ), in comparison to a non-Ethic image.

H2b however was partially supported, since a partial mediation by CPBE was observed between the effect of Ethic auditory cue on WTP; i.e. the direct effect of auditory cue on WTP was reduced (but still significant) in the presence of CPBE (Total effects model:  $F = 9.355$ ;  $p < 0.001$ ;  $R^2 = 0.0575$ ). Further tests show that playing an Ethic song has a positive and significant indirect effect on WTP via CPBE ( $\beta = 0.1086$ ;  $CI_{\text{Boot}}: 0.0072, 0.2291$ ;  $SE_{\text{Boot}} = 0.0553$ ), whereas, playing a non-Ethic song did not ( $\beta = -0.0467$ ;  $CI_{\text{Boot}}: -0.1529, 0.0588$ ;  $SE_{\text{Boot}} = 0.0536$ ).

In order to test if CPBE's mediation effects are contingent on values of ALTBIO, further conditional process analyses were conducted by: 1) mean-centring the IVs, the mediator (CPBE), and the moderator (ALTBIO); 2) using the indicator method for coding multi-categorical IV's; and 3) computing three levels of the moderator: 'low' (mean-1SD), 'average' (mean), and 'high' (mean + 1SD) levels (Hayes, 2013; Hayes and Preacher, 2014).

As illustrated in Fig. 3, an Ethic image's effect on WTP through CPBE is conditional on values of ALTBIO (overall model:  $F = 19.9136$ ;  $p < 0.001$ ;  $R^2 = 0.2820$ ), which supports H3a. The mediating effect of CPBE is positive and significantly greater for high ALTBIO ( $n = 44$ ;  $\beta = 0.1766$ ;  $CI_{\text{Boot}}: 0.0581, 0.3615$ ;  $SE_{\text{Boot}} = 0.0749$ ) compared to average ALTBIO ( $\beta = 0.1013$ ;  $CI_{\text{Boot}}: 0.0140, 0.2066$ ;  $SE_{\text{Boot}} = 0.0489$ ). The mediation effect (*vis-à-vis* visual cue) is lowest and insignificant for low ALTBIO ( $n = 43$ ).

H3b was supported in that an Ethic song's effect on WTP through CPBE is conditional on values of ALTBIO (overall model:  $F = 22.2543$ ;  $p < 0.01$ ;  $R^2 = 0.2824$ ), as Fig. 4 shows. The mediating effect of CPBE is positive and significantly greater for high ALTBIO ( $n = 61$ ;  $\beta = 0.1704$ ;  $SE_{\text{Boot}} = 0.0915$ ;  $CI_{\text{Boot}}: 0.0176, 0.3751$ ) compared to average ALTBIO ( $\beta = 0.1209$ ;  $SE_{\text{Boot}} = 0.0593$ ;  $CI_{\text{Boot}}: 0.0161, 0.2533$ ). The mediation effect (*vis-à-vis* auditory cue) is lowest and insignificant for low ALTBIO ( $n = 54$ ).

As shown in Fig. 5, the effect of priming on WTP was conditional on values of NfT ( $F = 19.7089$ ;  $p < 0.001$ ;  $R^2 = 0.2077$ ), which supports H4. However, the effect of priming on WTP was significant (and positive) only for above average level of NfT ( $\beta = 0.3072$ ;  $t = 2.4083$ ;  $p < 0.05$ ;  $CI_{\text{Boot}}: 0.0562, 0.5582$ ).

#### 5. Discussion and implications

##### 5.1. Overall multisensory effects

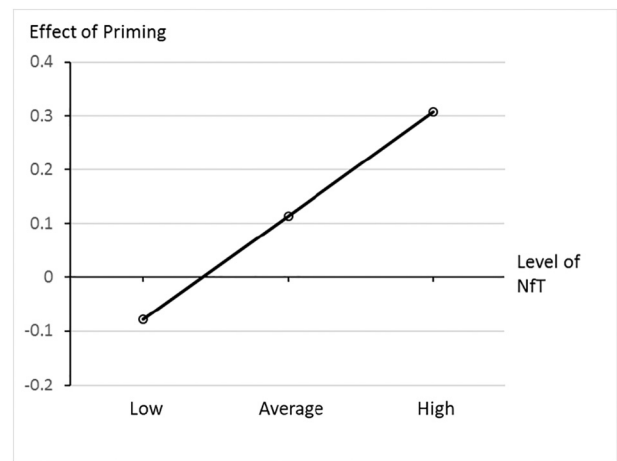
Individually, visual, auditory, and tactile (priming) cues were effective, but they also had a synergistic, multisensory effect when all three were combined. This affirms the established notion that enhancing the experiential aspect of the customer-judgement context (via

**Table 3**  
Mean differences illustrating the effect of sensory cues.

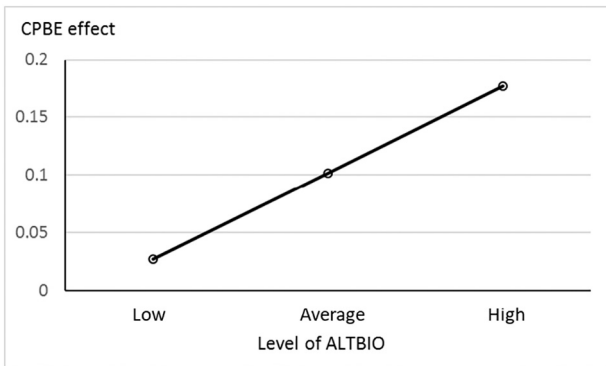
Cue	Category	Mean difference (I-J)	SE	p value	95% CI	
					Lower bound	Upper bound
Visual	EthiC image (I)	0.198	0.094	0.037	0.012	0.383
	No EthiC image (J)					
Auditory	EthiC song (I)	0.311	0.117	0.024	0.030	0.592
	No EthiC song (J)					
Tactile priming	EthiC song (I)	0.474	0.115	0.000	0.198	0.750
	Non-EthiC song (J)					
Multisensory (visual, auditory, tactile)	Priming statement (I)	0.223	0.094	0.019	0.037	0.408
	No priming statement (J)					
	3 cues (I)	0.333	0.174	0.297	-0.129	0.794
	2 cues (J)					
	3 cues (I)	0.611	0.168	0.002	0.168	1.055
	1 cue (J)					
	3 cues (I)	0.814	0.196	0.000	0.294	1.333
	No cues (J)					

**Table 4**  
Interaction effects for (multi)sensory cues.

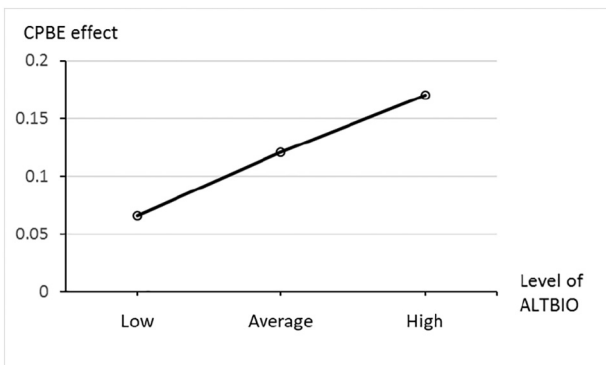
Cue-interactions	$\beta$	df	F	p	$\eta^2_{\text{partial}}$
Visual $\times$ auditory	2.167	2	1.617	0.200	0.011
Visual $\times$ tactile priming					
Auditory $\times$ tactile priming	0.549	1	0.819	0.366	0.003
Visual $\times$ auditory $\times$ tactile priming					
Visual $\times$ auditory $\times$ tactile priming when controlling for CPBE, ALTBIO, and NFT	1.882	2	1.404	0.247	0.009



**Fig. 5.** Effect of tactile priming on WTP for different levels of Need for Touch.



**Fig. 3.** Consumer Perceived Brand Ethicality's mediation of the visual cue's effect on WTP for different levels of Altruistic and Biospheric Value Orientation.



**Fig. 4.** Consumer Perceived Brand Ethicality's mediation of the auditory cue's effect on WTP for different levels of Altruistic and Biospheric Value Orientation.

added-interactivity in an online interface) for material products that are hard to differentiate functionally, leads to more positive consumer outcomes (Brakus and Schmitt, 2008; Kalyanaraman and Sundar, 2006; Kim and Forsythe, 2009).

In line with the aim of this paper, empirical evidence supports the overall efficacy of multisensory marketing techniques to increase ethical consumption. Particularly in this case, both ethically-congruent visual and auditory cues influenced consumers' willingness to pay for an ethical product, by first influencing their perceptions about the ethicality of the brand. This adds credence to the argument that sensory stimulation via congruent sensory cues produces positive brand evaluations among consumers (Lwin and Morrin, 2012; Yoon and Park, 2012), and especially illustrates its applicability in relation to ethical brands.

Previous research has illustrated that not all types of consumers engage with ethical consumption (or consume sensibly with regard to their responsibility to the environment, society and other sentient beings) to the same extent or with the same motivations (Osburg et al., 2016), just as the motivations and preferences of online shoppers in general vary (Peck and Childers, 2003; Rohm and Swaminathan, 2004). Notwithstanding, it is certainly important that all types of consumers are encouraged to make ethical consumption choices. A long-lasting and successful change towards a more ethical world will only happen if ethical consumption is supported by a majority of consumers instead of selected consumers representing an ethical niche (Schaltegger and Wagner, 2011). As such, the segment-specific results of this study offer some interesting insights.

## 5.2. Moderation effects

### 5.2.1. Ethically oriented consumers

Results show that multisensory marketing can be effective in relation to those consumers who do not have a predisposition in favour of ethical consumption, as well as those who do. Consumers that have average and high altruistic and biospheric value orientation are particularly likely to form ethical brand perceptions resulting from ethically congruent visual and auditory sensory stimulation. These results can be explained by self-affirmation theory (Sivanathan and Pettit, 2010; Townsend and Sood, 2012) in that consumers with heightened ethical awareness, seek out cues that affirm their beliefs, which in the case of consumers with average and high altruistic and biospheric value orientation, are the ethical attributes conveyed by the visual and auditory cues. For such consumers with ethical awareness, the availability of ethical signals may provide means for cognitive dissonance reduction (Carrington et al., 2014) (e.g. for forgoing a more convenient choice for an ethical one), which further explains their willingness to pay for ethical products online when stimulated by ethical visual and auditory cues.

Simultaneously, for low altruistic and biospheric value orientation, consumers' willingness to pay in response to ethical visual and auditory stimulation was not mediated by their perceived brand ethicality. However, multisensory stimulation had a positive impact on willingness to pay regardless of consumers' altruistic and biospheric value orientation; the explanatory grounds for which can be found in the customer experience and ELM literature (further discussion of this is provided under Section 5.2.3).

### 5.2.2. Consumer Need for Touch

Controlling for Need for Touch (NFT), we found that the tactile priming statement was not significant for consumers with NFT. In general retailing contexts, effects relating to tactile input only tend to materialise among consumers with high NFT (Grohmann et al., 2007). In line with this, for consumers with high Need for Touch, our results show that the inclusion of a tactile priming statement is an effective strategy, since the direct effect of the tactile (priming) cue was positive and significantly associated with consumer willingness to pay.

Although various forms of augmented and virtual reality technologies may be used to better engage consumers, adding a multitude of features to a web interface, can render the interface inefficient (e.g. by increasing page loading times) as well as costly to develop and maintain. Therefore, using technologically uncomplicated features or stimuli can help online marketing to be more competitive. The results of this study illustrate that simple techniques for sensory stimulation can result in desirable consumer outcomes, particularly by using tactile priming, which has previously been shown in the offline context to have favourable consumer outcomes (see: Yoon and Park, 2012).

### 5.2.3. Experiential effects of multisensory cues for specific segments

The mere presence of sensory cues can affect the overall positivity of the customer experience of the shopping environment (e.g. consumers interact more with a display with brighter lighting) (Bellizzi and Hite, 1992; Summers and Hebert, 2001). Similarly, a more deliberate use of sensory cues can stimulate consumers' cognitive processes, thus leading to deeper involvement and more considered purchase-choices (e.g. playing German/French music in a store increases the sales of German/French wine respectively) (Asioli et al., 2014; North et al., 1997; North et al., 1999). Such affective and cognitive effects, which are stronger when optimal, multisensory stimulation is provided (Spence et al., 2014), relate to the deliberate and fluent processing of attributes in the customer experience literature (Brakus and Schmitt, 2008); akin to the ELM's central and peripheral routes respectively.

For ethically aware consumers, multisensory marketing can foster a more in-depth level of engagement (via deliberate information processing) with a brand's ethical attributes. On the other hand, for

consumers with no ethical predispositions, the interactivity and engagement of the multisensory shopping environment (online) provided a more experiential customer-judgement context for fluent information processing, which as findings indicate, is sufficient for developing a willingness to pay. A similar explanation may be given for the results in relation to high Need for Touch customers, for whom a more deliberate processing of information can be expected as the online environment lacks tactile stimulation. In contrast, for those with average or low Need for Touch, the tactile priming statement was irrelevant, and the experiential context was sufficient to develop a higher willingness to pay for an ethical brand. The findings support previous studies from online (Bi et al., 2017; Goh and Chi, 2017) and offline (Krishna, 2012) perspectives, as well as providing evidence for multisensory marketing's efficacy in engaging customers regardless of their ethical or Need for Touch predispositions, via either deliberate or fluent processing of relevant cues.

## 5.3. Managerial implications

Successful online marketers and 'e-retailers' use various sensory appeals through their web and other multimedia interfaces to attract customers. However, for ethical products, organisations typically tend to have a limited scope in terms of deploying above-the-line marketing techniques (e.g. TV adverts) to supplement their basic web-marketing. Hence, proven techniques are necessary for ethical brands in the digital age.

The results show that low cost multisensory techniques can be applied effectively in the online context by the inclusion of congruent visual, auditory, and tactile (priming) cues. Visual cues are standard features in online retailing, but these are often limited to an image of the product or incongruent/generic imagery. However, our study shows that for consumers with a pre-disposition towards ethical products, congruent imagery is an effective addition to an image of the product. A congruent auditory cue is similarly effective in this context; however, it is important to consider if the consumer is suitably equipped or in an appropriate environment for audio play (e.g. not at work), as well as technical aspects such as internet connection quality and speed that may affect the audio play. For consumers with high need for touch, simple and low-cost priming technique is shown to be effective, which is also technically simple to implement for online retailers.

Regardless of individual or segment-specific differences, the multisensory cues increased consumer willingness to pay by enhancing the overall experience of the shopping scenario in a non-experiential environment. Hence, ethical product marketers may yet benefit from creating a multisensory online shopping environment to engage consumers of various levels of ethical persuasion or Need for Touch.

## 6. Limitations and suggestions for further research

This study focused on the stimulation of three senses in the online environment; i.e., the emergence of visual, auditory, and tactile experiences. Other senses may have an equal or stronger influence in producing positive effects on brand associations or evaluations. For example, olfactory cues have a stronger influence on positive brand evaluations compared with visual cues (Lwin and Morrin, 2012), a result that deserves further attention in the online context despite obvious limitations. Perhaps a priming-based approach, or cross-modal stimulation (via synaesthesia) could be promising avenues to explore.

However, it should be noted that the presentation of too many cues may also bear the threat of sensory-overload, potentially resulting from too high levels of stimulation (Krishna et al., 2010; Spence et al., 2014). Particularly in the online environment, too many cues may overwhelm consumers easily. Consequently, the best level of sensory-stimulation deserves further attention in future studies.

The precise interaction of the different sensory cues is also not well understood yet, despite some notable attempts in this respect (Krishna



et al., 2010). Building on the findings of the current study, further research may illustrate interaction effects in the online context in more detail. Interestingly, 3D online advertisements, including avatars, have already shown to impact on consumers' self-referencing and brand attitudes (Keng and Liu, 2013). Hence, alongside the developments in augmented reality and virtual reality technologies, further research could explore how consumers' interaction with ethically congruent virtual representations of a product (online or through multimedia platforms) would impact on their ethical brand evaluations.

## 7. Conclusion

This paper contributes to the ethical consumption and customer experience (online) streams of literature by showing that multisensory techniques (visual, auditory, and tactile stimulation) can lead to a more positive customer evaluation of an ethical brand, and an increased willingness to pay for it online. While previous research has focused on

'offline' customer interactions with ethical products/brands on the cognitive, physical, and social levels, the online context, especially on sensorial and emotional levels has hitherto remained underexplored. The present study is an early step towards better understanding the benefits of improving customer brand experience for e-tailing of ethical brands.

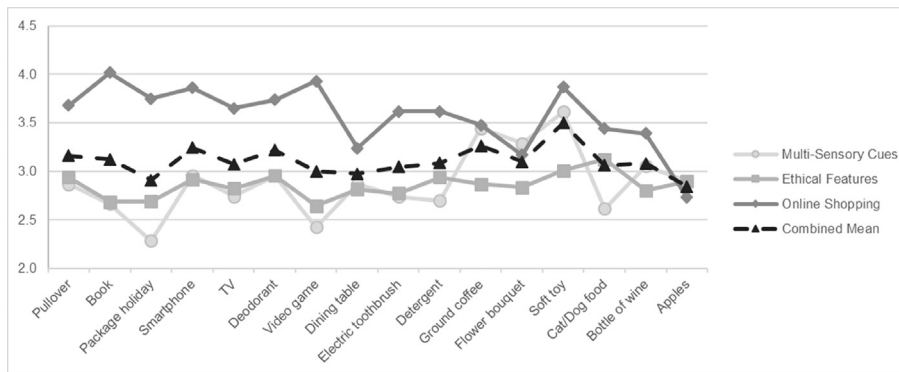
Moreover, this attempt stands apart from the conventional approach of (ethical) product information overload, which over-relies on the deliberate and elaborated processing of information by customers. Such information processing is then expected to result in sensible consumption choices that consider one's responsibilities towards the natural and social environments and its inhabitants. However, the adoption of such sensible consumption by the mass market (as opposed to an ethical niche), and consequently the growth of ethical brands, requires more experiential approaches to marketing. This study shows how even low-cost techniques can significantly influence customer choices to be more sensible by focusing on improving customer brand experience online.

## Appendix A

### Scales and sources

Construct/items	Source
Consumers' perceived brand ethicality This brand respects moral norms. This brand always adheres to the law. This brand is a socially responsible brand. This brand is a good brand.	Brunk (2012)
Willingness to pay  The price of this teddy bear would have to go up quite a bit before I would switch to another teddy bear.  I am willing to pay a higher price for this teddy bear than for other teddy bears. I am willing to pay a lot more for this teddy bear than other teddy bears.	Netemeyer et al. (2004)
Consumer values Please rate the importance of the following 12 values as guiding principles in your life from 1 (extremely unimportant) to 7 (extremely important). Social justice: correcting injustice, care for the weak ( <i>altruistic</i> ) Helpful: working for the welfare of others ( <i>altruistic</i> ) Equality: equal opportunity for all ( <i>altruistic</i> ) A world at peace: free of war and conflict ( <i>altruistic</i> ) Protecting the environment: preserving nature ( <i>biospheric</i> ) Preventing pollution ( <i>biospheric</i> ) Respecting the earth: live in harmony with other species ( <i>biospheric</i> ) Unity with nature: fitting into nature ( <i>biospheric</i> )	Steg et al. (2005)
Need for Touch  When walking through stores, I can't help touching all kinds of products. Touching products can be fun. I place more trust in products that can be touched before purchase. I feel more comfortable purchasing a product after physically examining it. When browsing in stores, it is important for me to handle all kinds of products. If I can't touch a product in the store, I am reluctant to purchase the product. I like to touch products even if I have no intention of buying them. I feel more confident making a purchase after touching a product. When browsing in stores, I like to touch lots of products. The only way to make sure a product is worth buying is to actually touch it. There are many products that I would only buy if I could handle them before purchase. I find myself touching all kinds of products in stores.	Peck and Childers (2003)

## Summary results of the pre-test



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