

Research Article

In search of a surrogate for touch: The effect of haptic imagery on perceived ownership

Joann Peck^{a,*}, Victor A. Barger^b, Andrea Webb^a

^a University of Wisconsin–Madison, 975 University Avenue, Madison, WI 53706, USA

^b University of Wisconsin–Whitewater, 800 West Main Street, Whitewater, WI 53190, USA

Received 22 February 2009; received in revised form 4 September 2012; accepted 7 September 2012

Available online 14 September 2012

Abstract

Previous research has shown that individuals value objects more highly if they own them, a finding commonly known as the endowment effect. In fact, simply touching an object can create a perception of ownership that produces the endowment effect. In this paper, we extend this line of research in several ways. First, we show that haptic imagery, or imagining touching an object, can have the same effect on perceived ownership as physical touch. We then demonstrate that haptic imagery can lead to perceptions of physical control, which in turn increase feelings of ownership. Moreover, the more vivid the haptic imagery, the greater the perception of control and the feeling of ownership. Implications for theory and practice are discussed.

© 2012 Society for Consumer Psychology. Published by Elsevier Inc. All rights reserved.

Keywords: Touch; Haptic; Haptic imagery; Perceived ownership

Introduction

Pretend for a moment that you are shopping for a sweater on the Internet. You navigate to <http://www.landsend.com>, scroll through the cardigans, and pause at one that appeals to you. You click on the sweater for more information. A larger photo appears, and the caption reads: “Imagine holding this sweater, feeling the soft, 100% cotton in your hands.” What if you did as instructed? Would your perception of the sweater be any different than if you had not imagined feeling it?

This research investigates the effect of haptic imaging—the mental visualization of touch—on perceived ownership. Previous research has shown that consumers value objects more highly when they own them, a finding commonly known as “the endowment effect” (Kahneman, Knetsch, & Thaler, 1990; Knetsch & Sinden, 1984; Thaler, 1980). Importantly, this effect is not limited to legal ownership; perceived ownership,

characterized by the feeling that something “is mine,” also produces the endowment effect. While numerous antecedents of perceived ownership have been proposed (Pierce, Kostova, & Dirks, 2003), one is of particular interest to consumer researchers: the ability of an individual to touch an object. Consumer research has shown that when individuals are given the opportunity to touch an object, they report a greater sense of ownership of the object (Peck & Shu, 2009; Shu & Peck, 2011).

Unfortunately, touch is not always feasible. For example, when consumers shop online, they are unable to touch merchandise prior to purchase. What if imagining touch could serve as a surrogate for touch? Research on imagery and the tactile system is limited (Klatzky, Lederman, & Matula, 1993), but Intons-Peterson and Roskos-Ewoldsen (1989) found that study participants took longer to mentally transport imagined objects of greater weight, which is an attribute best ascertained by the sense of touch. This suggests that there may be a relationship between imagery and touch. There is also some evidence for the interdependence of touch and visual imagery, as when tactile images are accompanied by visual images (Katz, 1925). Finally, Peck and Shu (2009)

* Corresponding author.

E-mail addresses: jpeck@bus.wisc.edu (J. Peck), bargerv@uwv.edu (V.A. Barger), awebb@bus.wisc.edu (A. Webb).

investigated the effects of ownership imagery on perceived ownership, but they did not address haptic imagery.

We contribute to existing literature in several ways. Previous research, which has demonstrated a link between touch and perceived ownership (Peck & Shu, 2009; Shu & Peck, 2011), has hypothesized, but not shown, that physical control is an antecedent of perceived ownership. We measure both constructs in this research and show the link between them. We also measure the vividness of touch imagery and delineate the relationship between haptic imagery, physical control, and perceived ownership.

Touch, perceived ownership, and haptic imagery

If physical touch leads to an increase in perceived ownership, could haptic imagery have a similar effect? Imaging is a cognitive process in which sensory information is represented in working memory (MacInnis & Price, 1987). Just as perception is a multi-modal experience, imagery may operate as a mental recreation of experience involving multiple senses. Bone and Ellen (1992) conjecture that imagery “may involve sight, taste, smell and tactile sensations” (p. 93). There is also some evidence for a relationship between haptic and visual imagery (Campos, López, & Pérez, 1998; Zhang, Weisser, Stilla, Prather, & Sathian, 2004). For example, Katz (1925) noted that when he thought about the smoothness of a pane of glass, haptic images were usually accompanied by visual images: as he imagined the haptic sensation of touching the glass, he also mentally observed his hand touching the glass. The congenitally blind individuals make use of images (Kerr, 1983; Zimler & Keenan, 1983), but the nature of the imagery can be difficult to interpret because they tend to use visual words to describe the images. Heller (1991) advises that “we should remember that visual images can contain tactile and kinesthetic components” (p. 257).

Klatzky, Lederman, and Matula (1991) propose two general principles regarding the haptic imagery system. First, the *function* of haptic imagery should be similar to that of actual touch. This could include functional equivalence between imagery and perception, and the possibility that clear haptic imagery may be a cue for the retrieval of associated information (Paivio, 1975). Second, information conveyed by haptic imagery should correspond in *content* to information extracted by touch. For example, salient haptic attributes include softness, texture, weight, and texture; similar attributes should be present in haptic imagery.

In our first study, the participants touch or imagine touching an object and report the extent to which they feel a sense of ownership of the object. We find that imagining touching an object has a similar effect on perceived ownership as physical touch, but only when one’s eyes are closed. We hypothesize, and show in our second study, that this is due to a difference in perception of physical control; that is, touching or imagining touching an object with eyes closed results in greater feelings of physical control of the object compared to not touching or imagining touching with eyes open. Further investigating this process, we hypothesize, and show in our third study, that it is the vividness of the haptic imagery that determines the perception of physical control and feeling of ownership. In essence, closing

one’s eyes and imagining touch are closer to actual touch due to the vividness of the imagined touch experience. The more vivid the haptic imagery, the greater the perception of physical control and, consequently, the stronger the perception of ownership.

Study 1: Haptic imagery leads to perceived ownership

Since perception and imagery are related, might blocking perceptual distractions enhance imagery? Unnava, Agarwal, and Haugtvedt (1996) found that when imaging and perception compete for the same resources, the positive effects of imaging on learning are reduced. Using functional magnetic resonance imaging (fMRI), Marx et al. (2003, 2004) noted different patterns of brain activation when the participants’ eyes were open versus closed. They hypothesize that, based on these patterns, closing one’s eyes leads to a “state characterized by imagination and multisensory activity” (p. 924). In contrast, when one’s eyes are open, the presence of visual stimuli can interfere with visual imagery (Sherwood & Pearson, 2010). Ehrlichman and Micic (2012) report that research on gaze aversion has demonstrated that averting one’s gaze frees up cognitive resources, and this occurs even when one’s eyes are closed.

When conducting imagery studies, the participants have sometimes been instructed to close their eyes (e.g., Bone & Ellen, 1992; Keller & McGill, 1994 (Experiment 1); Petrova & Cialdini, 2005 (Study 3)), but more often no instructions regarding opening or closing eyes have been given (e.g., Dahl, Chattopadhyay, & Gorn, 1999; Keller & McGill, 1994 (Experiment 2); Petrova & Cialdini, 2005 (Studies 1 and 2); Unnava et al., 1996; Unnava & Burnkrant, 1991). Considering the possibility that blocking perceptual distractions might enhance the effects of haptic imagery, we hypothesize that haptic imagery is more likely to resemble actual touch in terms of its effect on perceived ownership when one’s eyes are closed than when one’s eyes are open. Formally:

H1. Imagining touching an object with eyes closed will lead to greater perceived ownership of the object compared to imagining touching an object with eyes open.

Method

Study 1 was a 4 (touch/imagery: no touch and no imagery, no touch and haptic imagery with eyes open, no touch and haptic imagery with eyes closed, touch and no imagery) \times 2 (product: Koosh ball, blanket) design, with the first factor manipulated between the participants and the second factor within the participants. Conditions with simultaneous touch and haptic imagery were omitted due to our focus on identifying a surrogate for touch; inclusion of a “touch and no imagery” condition enables us to compare the effects of touch with the effects of haptic imagery, whether with eyes open or closed. Thus, in the first three conditions, the participants could not touch the products, but they were instructed to image. In the fourth condition, the participants touched the products and there were no imagery instructions.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات