Haptic Product Information and Consumers’ Recall of Haptic Imagery Information

Shannon Rinaldo, Texas Tech University, USA
Terry L. Childers, Iowa State University, USA

Although the role of haptic processing within marketing has been increasingly studied, haptic imagery use has not received the same level of attention. Based on studies of visual and auditory modalities, the interaction of imagery can selectively interfere or facilitate perception within modality. This study addresses the research question of how haptic imagery may interfere with or facilitate haptic perception. Participants evaluated products with specific haptic attributes while recalling imagery information from an advertisement. Product perception of specific attributes facilitated recall of matching haptic imagery from the advertisement. The study also corroborated previous literature showing differences in haptic information processing for blind individuals.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/15283/volumes/v37/NA-37

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
EXPANDED ABSTRACT

Although the role of haptic processing within marketing has been increasingly studied, haptic imagery use has not received the same level of attention. Imagery is a mental representation similar to the initial phases of perception but occurs without actual perception of a stimulus (Kosslyn, Thompson, and Ganis 2006). The nature of imagery consists of an experience to the individual that may appear as real as perception, where no perception is taking place.

Imagery is said to be functionally equivalent to perception in that similar behavioral and physiological responses have been observed during imagery as are observed during perception within a perceptual modality (Finke 1989). This phenomenon was first published in the marketing literature by Unnava, Agarwal, and Haugtvedt (1996), who studied the effects of perceptual modality on participants’ ability to recall imagery information from an advertisement. Auditory signals were detected more slowly when participants were holding auditory images in their minds than when they were holding visual images. Similar interference for detection of visual signals was shown when visual images were being held. Other studies investigating perception and imagery interaction have found imagery to facilitate perception in that imagery appears to improve a person’s ability to perceive stimuli (Finke 1989). This is the first study to investigate the interaction of haptic imagery and haptic perception in this way. Following the path laid by the two literatures, shape perception should differentially interfere with or facilitate the ability to recall shape imagery information, while texture perception should differentially interfere with or facilitate the recall of texture imagery information.

Evidence in the behavioral and neurological literatures indicates that the visually impaired have unique abilities in the haptic modality (Davidson 1976). Not only is this population well practiced in both haptic perception and imagery, but evidence is growing that shows that their brains react differently to haptic stimuli and memories than do the brains of their sighted counterparts (Röder et al. 1997; Sadato et al. 2002). These facts allow for a unique comparison for the study of haptic imagery’s use in consumer product evaluation. The researchers predicted, therefore, that blind consumers would differ in their results.

Sixty-two sighted and sixty-four blind consumers were recruited to participate in an experiment. Participants listened to auditory advertisements that were embedded with texture and shape salient imagery. Participants then evaluated textured or shape salient products while recalling information from the advertisement. Additional variables were collected via self report questionnaire: extent and type of imagery evoked by the advertisement; attitude toward the advertisement; attitude toward the product; frustration with the task; and confidence with the task. The Communication Evoked Imagery Scale was also used to measure the nature and extent of mental imagery evoked (Babin and Burns 1998).

A general linear model revealed that visual status (i.e., sighted versus blind) was significant (F=2.218, p=.05), supporting the prediction that blind and sighted participants would differ in their results. Visual status was significantly related to the number of non-imagery statements (M_sighted=1.98 vs. M_blind=2.48), (F=4.0, p <.05), quantity of imagery evoked by the target ad (M_sighted=3.28 vs. M_blind=3.93), (F=3.202, p=.076), attitude toward the target ad (M_sighted=4.4 vs. M_blind=5.1), (F=6.610, p<.05), confidence in recall (M_sighted=3.52 vs. M_blind=4.52), (F=14.847, p<.0001), overall rating of the ad (M_sighted=3.51 vs. M_blind=4.37), (F=12.83, p<.001), overall rating of the product (M_sighted=3.85 vs. M_blind=4.73), (F=8.778, p<.01), and haptic imagery evoked by the ad (M_sighted=4.63 vs. M_blind=5.36), (F=4.342, p<.05).

The research question stated that when participants were evaluating stimuli while recalling imagery elements from an advertisement, properties of the stimulus touched would interact with the nature of the imagery advertisement content recalled. Because visual status was significant in the overall GLM, the data were split by visual status and an overall test of effect was conducted. In line with Unnava et al. (1996), a t-test was performed to test the overall effects of match/mismatch of stimuli evaluated with imagery statements. This is essentially a contrast of recall means when stimulus quality matched the recall statement modality (Texture/Texture or Shape/Shape) versus when modalities did not match (Texture/Shape or Shape/Texture). Results indicated that there was a significant difference in both groups. The sighted participants recalled significantly more imagery statements when there was a modality match (M=1.57 vs. M=1.04), (t=11.306, p<.0001). Blind participants results followed the same trend where a modality match resulted in more imagery recall statements (M=1.55 vs. M=.88), (t=8.82, p<.0001). These results indicate that in this case modality match resulted in the facilitation of matched imagery recall.

Participants who reported having both visual imagery and haptic imagery from the target ad had significantly better overall attitudes toward the ad itself (F=25.595, p<.0001, SS=64.307). A hierarchical regression removed variance attributable to the visual imagery item in the haptic imagery item (Cohen and Cohen 1983). The residual variance of the haptic imagery item was regressed on attitude toward the ad and the relationship was significant apart from the portion attributable to the visual imagery question (F=8.847, p<.01, SS=206.608). The same was true for likelihood of purchase (F=6.82, p=.01, SS=401.869) and for attitude toward the product (F=7.409, p<.01, SS=315.077).

The utility of non-visual imagery use in advertising and other consumer marketing has yet to be fully realized (Unnava et al. 1996). This study is the first to offer evidence that the use of haptic imagery in advertising is likely to be effective. Participants in this study who reported experiencing haptic imagery while listening to the advertisement also indicated a more positive attitude toward the advertisement, more positive attitude toward the product, and higher likelihood of purchase. This study is also the first to show how product properties can affect recall of imagery statements from an advertisement upon product evaluation. The study specifically showed that when evaluating a shape salient product, participants were more likely to recall shape imagery and when evaluating a texture salient product, participants were more likely to recall texture imagery statements.

REFERENCES


Lyman, Brian J. and Mark A. McDaniel (1990), “Memory for Odors and Odor Names: Modalities of Elaboration and Imagery,” *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 16 (4), 656-64.


