

Feelings...

Nothing More Than Feelings:



The Impact of Embodied Cognition on Consumer Preference and Evaluation

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INTRODUCTION

Bodily sensations... have you ever wondered how they affect our choices? For example, do the bodily sensations we receive when we walk barefoot on a hard tile floor in the morning affect what we choose to eat for breakfast? Embodied Cognition is a construct rooted in understanding "acting beings." This is to say that there are many times when one's body acts in a manner not directly instructed by the brain. Late night eating or brushing one's teeth, for example, could all be done in a habitual manner by one's body, without the brain consciously instructing the body to perform these actions. Moreover, prior research in this area suggests that it is worthwhile to investigate how a variety of felt surfaces may influence distinct bodily sensations that result in varied product evaluations by consumers.



LITERATURE REVIEW

SITUATED ACTION THEORY

Past research on embodied cognition has been somewhat conflicted, however, there does seem to be some consensus in the literature that embodied cognition deals with consumers' experiences of bodily sensations that have an impact on consumer thinking (*Labroo and Nielsen, 2011*).

The theory of situated action is an ever evolving framework which has at its foundation that human behavior grows directly out of the particularities and the immediacy of a given situation or environment (*Nardi, 1996*). Situated action also focuses on the roles that perception and activity play in cognition and goal achievement. Specifically, Suchman (1987) believes that the organization of situated action involves "moment-by-moment interactions between actors, and between actors and their environments of their action" (*Nardi,*

1996). Therefore, within a situated action context, it is paramount to analyze the relationship between the individual and their environment. Situated action also emphasizes human improvisation and responsiveness to the setting and/or environment. As a result, this type of improvisational behavior allows for a one time solution to a one time problem that begins and ends with the individual. Hence, situated action deemphasizes the study of more stable and persistent behavior or phenomena within situations. Rather it focuses on individuals bringing their creative responses to unique situations.

Robotics have played an integral role in advancing situated action since it seems to be a great testing ground. In an artificial intelligence simulation, researchers can observe robots responding in a particular environment and working to achieve a specific outcome. Similar to human activity, there are multiple systems operating simultaneously like perception, action and cognition. These multiple systems then interact with the environment to achieve a goal. Ultimately, whether robots or humans, essentially, situated action is "activity of persons-acting in a setting" (*Nardi, 1996*).

HAPTICS

Given work on embodied cognition focuses on bodily sensations, it is necessary to also discuss affective haptics. Affective haptics focuses on influencing the emotional state of consumers by means of touch. Specifically, recent findings have shown that the shape of a product, material, or texture, can make people feel good (*Tsetserukou et al. 2009*). Specifically, we propose a significant correlation among the bodily feelings of consumers, their affect, and ultimately their evaluations of products.

Therefore, the implication of haptics in an embodied cognition context is truly significant. First, our ability to touch is the first sense to fully develop and human beings use their hands to obtain information and engineer their environments. Second, according to Ackerman et al. (2010), active and passive tactile sensations from the hands can enhance sensory sensitivity as well as improve the acquisition of information. Moreover, physically manipulating objects can make perceptual and cognitive judgments more accurate (*Ackerman et al. 2010*). According to situated action, having the ability to touch an object influences the multiple systems in play- perception, action and cognition. Touching an object or product can trigger certain bodily sensations that can ultimately influence a cognitive response to the object, like product preference and evaluation.

HYPOTHESES

Therefore, we hypothesize:

H1: When sitting on a hard (soft) surface, consumers will experience more negative (positive) affect.

H2: When sitting on a hard (soft) surface, consumers will



evaluate products less (more) favorably and spend less (more) time evaluating those products.

METHODOLOGY

A total of 75 persons, 18 years older and above, were recruited for this study using Amazon's Mechanical Turk (Mturk), an online labor market where requesters post jobs and workers choose which jobs to do for pay (*Mason and Siddharth, 2012*). Each participant received \$0.75 for completing the survey. Data collection was anonymous. We tested our hypotheses in an online shopping context; such that the actual chair that study participants sat on (either a hard surface or soft surface) would influence their evaluations of the products shown in the study. We also looked at Need For Touch (NFT), as this can impact product attractiveness, given consumers cannot touch products when shopping online. In the literature, the NFT measures people's intrinsic motivation to touch objects when shopping (*Klatzy and Peck, 2012*).

All products utilized in the study were related to the home, and were either hard (i.e., a clock) or soft (i.e., bedding) to the touch. We additionally included the PANAS scale (*Watson et. al, 1988*), which was used to assess mood during the survey. As a manipulation check, we asked participants to describe the chair they were currently sitting on.

DATA ANALYSIS

While data collection is in initial stages, we first looked at negative affect, which indicates that participants experienced marginally more negative affect when sitting on a hard surface ($M_{hard} = 2.103$ versus a soft surface ($M_{soft} = 1.372$, $F(1, 11) = 4.216$, $p = .067$). However, analysis of positive affect did not show the predicted results, with the difference between hard ($M_{hard} = 2.897$) and soft ($M_{soft} = 3.115$) surface not showing significant differences ($F < 1$, $p = .586$).

Next, we examined chair surface and NFT on product evaluation. Product evaluation was measured on a seven-point scale (1 = not at all attractive; 7 = very attractive). We analyzed product attractiveness by looking at hard and soft products separately. We found a marginally significant

interaction between chair surface and NFT ($F(1, 8) = 3.405$, $p = .10$) on hard product attractiveness. When NFT was high, the difference between hard and soft chair surface was not significant ($M_{hard} = 4.5$, $M_{soft} = 4.2$, $p = .624$). However, when NFT was low, the difference between hard and soft chair surface was significant ($M_{hard} = 3.9$, $M_{soft} = 5.7$, $p = .093$). The difference in attractiveness for soft products was not affected by either chair surface or NFT (all F 's < 1) or the interaction between chair surface and NFT ($F = 1.747$, $p > .2$).

We then examined the time spent evaluating the product, which was measured in seconds based on how long participants spent looking at the product on the page and answering the questions. Interestingly, we found the opposite pattern of results. When looking at the amount of time spent evaluating hard products, the difference between hard and soft chair surface, as well as NFT, and the interaction between the two was not significant ($F = 2.665$, $p = .141$; $F = 1.15$, $p = .315$; and $F < 1$, $p = .918$; respectively). When we analyzed the amount of time spent evaluating soft products, we find a main effect of chair surface. When the chair was soft ($M_{soft} = 13.82$), participants spent significantly more time evaluating the product than when the chair was hard ($M_{hard} = 7.557$, $F(1, 8) = 5.295$, $p = .05$). The main effect of NFT and the interaction between NFT and chair surface were not significant (F 's < 1).

CONCLUSION

While data in our initial study is still coming in, results are already beginning to show the effect embodied cognition and haptics can have on our affect and product evaluations. Thus, there is a great deal that can be done to extend this initial research on the role of embodied cognition, including follow-up surveys testing for the mediation between affect and product evaluation to determine why we evaluate hard versus soft products differently when touching various surfaces. The results from this research will be useful to the retailing community, as findings could potentially assist retailers in redesigning their consumer in-store experiences and environments. Moreover, this work could extend into the public policy space, especially as it relates to consumer health issues. In studying obesity habits and why consumers choose to eat unhealthy foods over healthier foods, perhaps it is embodied cognition within the surface of the couch itself that primes consumers to eat an entire bag of potato chips or pint of ice cream in one sitting? Embodied cognition may give us more insight into answering these questions and helping to change consumption behaviors.

Conceived by: L.A.I Communications (www.laicommunications.com)
Designed by: Market Place Printing (www.marketplace-printing.com)
Printed by: Market Place Printing

