Can You Feel What You Expect? How A-Modal Information Affects Haptic Perception

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We investigate the effect of a-modal information on haptic perception. Specifically, we examine how positive (vs. negative) social information affects softness perception. Results reveal that positive social information leads to higher softness ratings. We show that individuals high in instrumental need for touch are less influenced by social information.

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Expectations and Epihedonics – Novel Factors That Change Perspective and Enjoyment

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Paper #1: The Dismal Side of Power: How Power Thwarts Enjoyment in Familiar Domains
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Paper #2: Mix it Baby: The Effect of Customization on Perceived Healthiness
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Paper #3: Pleasure Favors the Unprepared
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SESSION OVERVIEW

Consumers habitually form expectations about experiences (Lee, Frederick, & Ariely, 2006) and products (Kahn, Luce, & Nowlis, 2006), which affect both their decisions and the subsequent experience of the chosen option. These biased perceptions can lead to suboptimal decisions (Hoegg & Alba, 2007) or to reduced enjoyment (Shiv, Carmon, & Ariely 2005), a process we will refer to as epi-hedonics (that is, how enjoyment and experience is affected by incidental factors). In terms of experiences, expectations in the form of knowledge about the ingredients in a beverage can impede enjoyment (Lee et al., 2006). Similarly, extrinsic factors such as price and irrelevant product attributes have been identified to bias consumers in this manner. For example, it has been shown that visual cues can be more instrumental in driving taste perceptions than actual taste (Hoegg & Alba 2007) and that consumers incorrectly rely on assortment aspects rather than inherent hunger or diet restrictions to derive the appropriate consumption amount (Kahn & Wansink, 2004). These findings demonstrate that consumers’ consumption decisions are often influenced by factors that bias their expectations and in turn might influence their behavior or perceptual experience.

Especially when people are trying to reduce their overall amount of consumption (because of turbulent economic times, when economic growth should be slowed) while still maximizing enjoyment, investigating how expectations are both formed, and impact the experience, itself is extremely relevant for modern consumers. Furthermore, in the context of food consumption, investigating how and why consumption biases influence expectations and consumed amount is timely, since obesity rates are rising.

Therefore, it is important to understand the factors that lead to expectation formation—including quality or health perceptions—that better decision and planning strategies can be enacted to maximize enjoyment potential, reduce over-consumption, and avoid biased perceptions. The papers in this session fit this need by providing insight into the factors that cause the formation of harmful expectations. Indeed, these papers provide novel, counterintuitive findings with respect to the nature of consumer biases, and simultaneously offer consumers techniques to avoid suboptimal decisions or experience preparation strategies. In doing so, this session adds to existing research (e.g., Chandon & Wansink 2007; Shiv and Nowlis, 2004) and offers recommendations to consumers about how to maximize enjoyment when consumption must be curbed.

In the first paper, The Dismal Side of Power, the authors show that powerful one feels can impact experiential enjoyment (i.e., how much utility is extracted from a consumption experience) by changing the use of expectations about experience quality. Specifically, they find that, paradoxically, high levels of power can actually reduce enjoyment by employing unnecessarily high expectations when evaluating an experience. In the second paper, Mix it Baby, the authors focus on how producing expectations through customization can be a source of bias in consumers’ product perceptions (i.e. healthiness perception). They establish the counterintuitive finding that selecting your own ingredients as compared to receiving a prepared product decreases its perceived healthiness. In the third paper, Pleasure Favors the Unprepared, the authors find that forming expectations by preparing for an experience (versus not preparing) reduces objective enjoyment of that experience. More precisely, preparation increases desire for some parts of an experience over others, generally resulting in an overall reduction in experience enjoyment. In the fourth paper, Can You Feel What You Expect?, the authors demonstrate the ability of social information to affect expectations and haptic sensory experience.

Taken together, these papers (all in advanced stages) describe factors that affect the formation of expectations, and the subsequent impact of those expectations on enjoyment in the consumption context. This session not only demonstrates that expectations are easily affected by a variety of novel factors, but that these shifts in expectation can have dramatic consequences for the objective enjoyment of the experiences they describe. In today’s turbulent economic climate, consumption must be reigned in to avoid producing excessive levels of personal or public debt. It is then of great importance to understand how to maximize the enjoyment or utility for the remaining consumption experience. These findings help consumers toward this goal by recommending how to make better choices and experience preparations that maximize potential enjoyment, thereby better balancing consumption quantity and consumption quality. Therefore, we believe that the papers in this session help promote more effective consumption in turbulent times. These papers will further appeal to people interested in consumer biases, food consumption, expectations, and the burgeoning study of epi-hedonics.

The Dismal Side of Power: How Power Thwarts Enjoyment in Familiar Domains

EXTENDED ABSTRACT

We know that we feel better about the decision that we make when we are more powerful, but after making the decision, how does the feeling of power impact our enjoyment of the experience that we select? Consumers naturally gravitate toward states of high power and actively pursue power (Keltner, Gruenfeld, & Anderson, 2006). The pursuit of power is motivated by knowledge that, as an affective state, it confers psychological benefits and social status (Alicke, 1985; Anderson, Brion, Moore, & Kennedy, 2012; George- son and Harris, 1998; Hall, Coats, & Smith LeBeau, 2005; Taylor...
and Brown). Despite these many investigations of antecedents and consequences of power, no work has yet addressed how varying the affective state of confidence may impact consumer enjoyment of a concurrent experience.

Therefore, because power is actively pursued in many consumption domains, it is important to better understand how this affective state impacts experiential enjoyment. In the current research, we present several experiments to explore our predictions that power impacts experiential enjoyment, and that although consumers anticipate this to be the case, they do so in the wrong direction. Specifically, we propose that increasing power increases the expectation threshold people set for interpreting an experience as enjoyable. However, because power increases reliance on one’s natural disposition (including expectations), this effect should be moderated by the extent to which people have any baseline familiarity with the item in question. That is, in unfamiliar domains people are unlikely to display differences in experiential enjoyment based on their power level. Therefore, we specifically hypothesize that consumers’ intuition may not accurately describe the relationship between power and experiential enjoyment because it relies on assessment of the positive valence associated with feeling powerful to predict enjoyment (H1, Study 1). By drawing on the power literature, we make the more nuanced assertion that, instead of positive affect assimilation, power will have its dominant effect on enjoyment by changing the use of expectations to judge the quality of an experience. Therefore, higher levels of power should be associated with lower levels of experiential enjoyment (H2A, Study 2), and this relationship should be independent of the effect of affect on enjoyment (H2B, Study 2). However, because power only increases reliance on existing expectations (and does not directly change expectations) it should only affect enjoyment in familiar domains (i.e., domains with which one has experience; H3 Study 3).

Together, the findings from the above studies provide support for the model that the positive affective state of power decreases experiential enjoyment (Experiment 2) because higher power increases the threshold consumers use to evaluate familiar experiences (Experiment 3) and that this effect defies consumers’ lay intuition (Experiment 1). Consumers should be careful not to pursue states of high power while experiencing something that they would like to enjoy because high power levels increase the use of high expectations, and therefore the threshold for which an experience is evaluated as positive. These findings lead to recommendations for consumers wishing to maximize experiential enjoyment. Consumers attempting to maximize their enjoyment of a familiar experience (i.e., an experience for which they have expectations, either from previous experience or from third-party information), may wish to reduce how powerful they feel during consumption, especially if the quality of the goods they are consuming is not extremely high. If one has high expectations for a consumption experience, there is greater likelihood that the actual experience will fall short of these expectations, and if it does, this will negatively impact experiential enjoyment.

Mix it Baby: The Effect of Customization on Perceived Healthiness

EXTENDED ABSTRACT

Companies in the food industry (e.g., M&Ms) engage customers in the production process by allowing them to select between different ingredients to create their individual product. The purpose of this research is to explore whether the mere act of selecting one’s own ingredients for a given food/drink influences its perceived healthiness. Considering the increasing trend for customization (Lyon 2011) and the rising rates of obesity (Flegal et al. 2010), it is relevant to investigate whether customizing food products could bias consumers’ healthiness perceptions. This research adds to existing research that identifies factors, such as price (Shiv, Carmon, and Ariely 2005), health positioning (Chandon and Wansink 2007a), and healthiness (Raghunathan et al. 2006) which bias consumers’ product perceptions. We present three studies to demonstrate that selecting one’s own ingredients as compared to buying the complete product decreases its perceived healthiness. Further, we provide first evidence for the underlying mechanism.

In study 1 we investigate whether students that mix their own juice and those that obtain a ready-made juice differ in their healthiness perceptions of the drink. We offered students (N=85) a glass of juice. Depending on the condition the student either saw one carafe containing a mixture of juices (non-creators) or three different carafes (self-creators), each containing a different juice. Since we want to test whether the mere act of selecting ingredients influences individuals’ healthiness perceptions, we need three juices (i.e., cranberry, lemon, and orange juice) that were pre-tested to be equally healthy and tasty. After participants mixed their juice we measured the perceived healthiness of the juice (7-points semantic differential scale, 1=healthy and 7=unhealthy). An ANOVA with the healthiness ratings of the juice as dependent variable revealed that self-creators (Mself-creators=2.88, SD=1.64) rated the juice as significantly less healthy than non-creators (Mnon-creators=2.12, SD=1.04; F(1,83)=6.58, p<0.05).

In study 2 we make use of food (i.e., cereal) to test generalizability of our finding. We explore whether selecting your own cereal ingredients as compared to obtaining a prepared mix decreases the perceived healthiness of the cereal. In addition, we investigate whether this effect is dependent on the physical act of mixing the ingredients together oneself. To test this we manipulate whether participants (N = 114) create their own cereal (self-creators vs. non-creators) and whether they perform the action of mixing themselves (yes vs. no). While the self-creators selected the cereal ingredients of their choice (i.e., walnuts, pumpkin seeds and dried strawberries; pre-tested to be equally healthy and tasty), the non-creators obtained a prepared mix of ingredients. Participants either performed the act of mixing their ingredients themselves or a researcher assistant took care of this: both self-creators and non-creators either filled the ingredients together themselves or a researcher took care of this. Before participants were allowed to eat the cereal, they indicated its perceived healthiness. A two-way ANOVA with healthiness ratings of the cereal as the dependent variable revealed a statistically significant main effect for creating your own cereal with self-creators rating the cereal as less healthy (Mself-creators=7.29, SD=1.52) than non-creators (Mnon-creators=7.92, SD=1.84; F(1,110)=4.02; p<0.05) irrespective of who performs the action of mixing the ingredients.

Study 3 fulfills two purposes. First, it tests the robustness of our effect by using another product of interest (i.e. yoghurt). Second, and most importantly, study 3 sheds light on the underlying mechanism for our effect. We argue that individuals in the mixing condition are faced with the decision of what kind of product to make. They have to think about which goal, tastiness or healthiness, they prioritize when creating their own mix. Generally, there are individual differences in concern with the emphasis individuals put on healthy eating. We expect that individuals who are concerned with healthy eating rely on healthiness as a criterion when selecting the ingredients while individuals that do not care about healthy eating would not take healthiness into account when choosing the ingredients. Further, in line with research on goals we predict that individuals base their judgment of the end product on the goal they had when creating it.
As a consequence, we expect an interaction effect between our manipulation (i.e. self-creation) and the importance attached to healthy eating. We predict that the effect is pronounced for participants who do not attach importance to healthy eating but attenuated for participants to whom healthy nutrition is important.

Seventy-three participants took part in this study (distributed via Amazon Turk) and were randomly assigned to a self-creator condition or non-creator condition. All participants were shown a picture of plain white yoghurt. Afterward, depending on the condition participants either selected their own toppings choosing out of mango, cranberries and walnuts (pre-tested to be equally healthy) or received the prepared mix. Afterward participants indicated the perceived healthiness of their yoghurt on a 10-point Likert scale (10 = being very healthy). In addition, participants expressed their (dis)agreement with the statement “I consider eating healthy to be important” using a 7-point Likert scale (7 = strongly agree).

We find a significant difference between self-creators ($M = 7.51$, $SD = 1.82$) and non-creators ($M = 8.37$, $SD = 1.15$) in perceived healthiness of the yoghurt ($p < .05$). More importantly, we also find the predicted interaction effect between our manipulation and the importance attached to healthy eating ($F (1, 72) = 3.81; p < .06$). For participants that attach importance to healthy eating there is no significant difference between self-creators ($M_{self-creators} = 7.89$, $SD = 1.59$) and non-creators ($M_{non-creators} = 7.98$, $SD = 1.73; F < 1$, $p = .87$).

However, individuals that do not attach importance to healthy eating judge their yoghurt to be significantly less healthy when they created it themselves ($M_{self-creators} = 6.72$, $SD = 2.02$) as compared to when they obtained a prepared mix ($M_{non-creators} = 8.44$, $SD = 1.38; F(1,72) = 6.43; p = .015$).

Our studies reveal customization as a factor that biases consumers’ healthiness perception: The mere act of selecting ingredients oneself decreases consumers’ healthiness perception. In a follow-up experiment, we intend to prime individuals with a health goal or an indulgence goal to provide further evidence that differences in goals are driving our effect.

**Pleasure Favors the Unprepared**

**EXTENDED ABSTRACT**

How do we derive the most pleasure during a hedonic experience? One school of thought recommends that we prepare for experiences in order to maximize pleasure. Indeed, we plan itineraries for perfect vacations; we make music playlists to enjoy our favorite songs; we have lengthy debates before choosing a DVD to watch with friends. However a contrasting philosophy suggests that ‘less preparation’ for experiences yields more pleasure. People often claim to have more fun when they travel on a whim, enjoy old songs more when they come up on the radio, or like watching a movie that comes up on TV even when they own the DVD.

Extant literature examining hedonic experiences, like lay wisdom, is also equivocal in predicting how preparing for an experience can affect its hedonic value. One stream of research suggests that pre-experience savoring and preparation can motivate enhanced appetitive states and greater engagement (e.g. Beridge & Robinson 1998, Higgins 2006, Wadhwa, Shiv, & Nowlis 2008). Another stream of research suggests that pre-experience anticipation or mental preparation can induce satiation or reduce reward-value (e.g. Morewedge, Huh, & Vosgerau 2010; Schultz 2002). At the core, these two different hedonic strategies actually reflect contrasting motivations. Consuming experiences that one has prepared for (active sampling) revolves around enjoying what one has deemed to be the best possible options, while consuming experiences that we little prepared for (passive sampling) revolves around enjoying experiences as they come.

Across experiments ranging from creating music playlists to watching YouTube videos to taking virtual art gallery tours, we find that this effect is driven by a novel mechanism in which informational and motivational factors interact during the pre-experiential stage to change how much enjoyment one derives from different individual components of a hedonic experience. In particular, active sampling depending either on memory or extrinsic information induces focalism on focal packets, which can end up reducing the overall pleasure of an experience via the relative derogation of non-focal packets (Experiments 1, 3, 4). This effect holds for negative experiences (Experiment 2), but can be attenuated in several circumstances, including when packet-focalism is dispelled by induced focus on a broad range of packets (Experiments 5, 7), or when there is no information on the ordering of packets (Experiment 6).

We find that an active pre-experience generally results in a greater desire for focal packets and reduced weighting and enjoyment of non-focal packets of an experience, which can result in less pleasure being derived from the overall experience. During passive sampling however, attention is captive to the immediate packets that are presented (even if those packets are non-focal ones), so derogation of peripheral packets does not occur. In other words, our findings intut that a movie preview can make a movie worse not because it ‘spoils’ the focal scenes, but because it decreases how much one enjoys the non-focal scenes and structure of the movie. For repeated experiences, the bias in active sampling is akin to a listener interrupting the storyteller and telling them to “get to the good bit already,” while passive sampling is akin to a captive listener sitting back and enjoying the story as it comes, even when the story is familiar.

Despite its novel predictions showing both the pros and cons of preparing for experiences, our research also integrates cohesively with previous literatures: one on the structure of experiential utility, and another on the valuation of hedonic experiences. Firstly, prior research on the structure of hedonic experiences has partitioned experiential utility into three distinct stages – anticipation, online experience, and memory (Elster & Loewenstein 1992; Kahneman, Wakker, & Sarin 1997). Extant work on the valuation of hedonic experiences has primarily examined how factors in the anticipatory phase affect experience reward value (e.g. Nowlis, Mandel, & McCabe 2004; Nowlis and Shiv 2004; Plassman et al 2007). Our interests however, are in how information from memory can interact with desires in anticipation to change how online utility is derived from experiences. This framework also predicts an iterative process whereby active sampling’s effect on experienced utility will change memory, which will then change anticipation, experience, and then memory again, etc. Critically, we also study each macro aspect of experience with a micro lens by exploring packet-level differences.

This line of investigation has numerous managerial implications for optimizing repeat consumption (for products ranging from media to cereal), service design, brand evolution, and promotional strategies (e.g. blanket promotion prior to a movie release can make the actual movie experience worse). In such areas, our findings make counter-intuitive predictions, for example, that promoting the non-peak packets along with the peak packets can actually enhance an overall experience, while promoting the best aspects of an experience can end up yielding the worst overall experience.
Can You Feel What You Expect? How A-Modal Information Affects Haptic Perception

EXTENDED ABSTRACTS

Traditional retailers have begun to take advantage of the holistic sensory experience. Not only in practice, but also scientifically, sensory marketing has gained relevance (Krishna 2011). However, there is only little research within the field of sensory marketing that explores the influence of a-modal information (Krishna 2011). Moreover, with sensory information being ambiguous in nature (Troye and Supphellen 2012), we assume the suggestibility of sensory perception by a-modal information.

We employ online peer reviews as one type of a-modal information (e.g., Chevalier and Mayzlin 2006). In an experiment, we demonstrate that despite the physical presence of a product in an evaluation task and the possibility to directly touch it, positive social information impacts perceived softness positively compared to negative social information.

We draw on the two-stage model of cognition (Peracchio and Luna 2006) to explain the effects of social information on haptic perception. It suggests that consumer judgments are formed in a preliminary stage of automatic processing and then followed by a more conscious stage with deliberate processing.

Moreover, we expect that evaluative criteria (as peer reviews) facilitate the encoding of the sensory experience. As sensory attributes are often ambiguous because it is unclear what factors contribute to the attribute, Hoch and Ha (1986) found that the quality of polo shirts can be influenced by positive information regarding the quality.

By the rise of the web 2.0 and the tremendous amount of information online, social information and word of mouth (WOM) have become of utmost importance in influencing consumer behavior (for a recent review see Zhu and Zhang 2010). Accordingly, many companies take advantage of online consumer reviews as a new unconventional marketing tool. Prior studies demonstrate that firms not only regularly post-product information about their offerings and sponsor promotional chats on online forums, but also proactively encourage their consumers to spread the word about their products online (Godes and Mayzlin 2004). Effects of online consumer reviews can be both positive and negative. By acting as informant and recommender, online consumer reviews have the capability of influencing decision making processes and consumer behavior (Park and Lee 2008).

Touch research both within psychology and consumer behavior literature is still in its infancy, although attention is increasing (e.g., Peck and Childers 2008). In accordance to Krishna and Morrin (2008), haptic perception implies the “perceptual processing of inputs from multiple subsystems including those in skin, muscles, tendons and joints” (p. 808). Haptic exploration is a major component in determining overall product quality. Therefore, touch plays an instrumental role and is predictive of properties relevant to the product performance. Contrary to online studies, our judgment task provides the opportunity to directly touch the product and thus makes the social information a stimulus of minor instrumental relevance. Thus, it would be plausible, that consumers rely on their individual haptic input for the evaluation of softness perception. But as established by Burnkrant and Cousineau (1975) in an offline setting, people use other individuals’ product evaluations as a source of information about the product. According to this theorizing, we propose the following:

**H1:** “Positive compared to negative social information affects the perceived softness of a fabric positively.”

Recent research on touch further has revealed that consumers differ in terms of their haptic orientation, called need for touch (NFT). Peck and Childers (2003a) define need for touch as “a reference for the extraction and utilization of information obtained through the haptic system” (Peck and Childers 2003a, p. 431). NFT is a multi-dimensional construct with two underlying factors, namely instrumental and autotelic touch. The strength of both dimensions of NFT differs between individuals and can be measured by the “Need for Touch Scale” developed by Peck and Childers (2003a). As our experiment is an evaluation task that asks participants to touch the product in order to gain information, we focus on the instrumental dimension in the scope of this study.

Research in this emerging area has primarily concentrated on touch versus no touch conditions and elaborated that tactile input increases product evaluations for high quality products among people high in NFT (Grohmann et al., 2007). As for general differences between haptic orientation, consumer behavior literature shows that people high in NFT utilize haptic information earlier in their product evaluations than their low NFT counterparts (e.g., Peck and Childers 2003). To them, the haptic experience is a convincing element in product judgment (e.g., Peck and Wiggins 2006).

H2: “Individuals high in instrumental NFT will be less influenced by social information in their softness ratings than those low in instrumental NFT.”

We created the social information stimulus according to prior research (e.g., Chevalier and Mayzlin 2006; Park, Lee, and Han 2007). We created five reviews set at three lines (positive 5 stars, negative 1 star). The review’s content aimed at performing a recommendation role and focused on the haptic perception of the towel. In line with Park et al. (2007), brand effects were controlled by not displaying brand name. The haptic stimulus was a white towel as it possesses salient haptic attributes and thus serves as an example of products where touch is diagnostic and important in assessing quality. The tag was removed, the brand name undisclosed (Peck and Childers, 2003). The towel was of medium quality and softness.

A total of 81 undergraduate students (M _age_ = 23.02) participated in the experiment in exchange for chocolate bars. They were randomly assigned to one of the experimental conditions (positive / negative social information). We asked participants to read the peer evaluations and handed them the towel (time of haptic exploration constant at 20 seconds). The questionnaire assessed the towel’s perceived softness with five items (e.g. “the towel feels soft”, “the towel feels plushy”; Cronbach’s alpha = .90). Individuals’ instrumental need for touch was measured by six items from the need for touch scale (Peck and Childers 2003; Cronbach’s alpha = .89).

We employed a 2 (valence of social information: positive vs. negative) x 2 (instrumental need for touch: high vs. low) between-subjects design. A median split for instrumental need for touch was performed. An ANOVA revealed the predicted main effect of social information valence (p < .05) and a marginally significant main effect of individual’s instrumental need for touch (p < .10) on perceived softness. No significant interaction effect of social information valence x instrumental need for touch was found (p > .10). Results show that individuals who read the positive social information compared to negative social information before touching the towel rated the same towel as significantly softer (M _pos_ = 4.90 vs. M _neg_ = 4.62). Further, individuals high compared to low in instrumental need for touch are less influenced by social information in general in their softness perception (M _high_NFT_ = 4.40 vs. M _low_NFT_ = 4.06).

Our study shows that social information affects haptic softness perception of a towel. This is true despite the salient diagnostic attribute of the towel (softness) which could be directly experienced in our study. Moreover, individuals high in instrumental need for touch are less influenced by a-modal information and individuals low in instrumental need for touch.