Sensory Metaphor and Meanings: Development of a Cross-Sensory Heterogeneity Index

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EXTENDED ABSTRACT

“All human knowledge comes from the senses” (Marks, 1978, p. 2).

In the early 1980s, Holbrook and Hirschman (1982, p. 132) noted that little research had focused on the nonverbal multi-sensory properties of consumption situations, despite the fact that many products project important nonverbal cues that must be seen, heard, tasted, felt or smelled to be appreciated properly. During the past two decades, consumer researchers have considered the importance of our physical senses and sensory imaging, yielding important insights about effects of senses in memory, processing, attitudes, and purchase intentions. The vast majority of this research, however, has focused on an individual sense, that is, taste, touch, sound, smell, or sight; at most, studies have concurrently considered two of the five senses (see for example, Macklin 1994, Wirtz and Mattila 2001). Recently, Joy and Sherry (2003) have argued that it is important to sell an experience, not a product, and that the strategies to do so go beyond traditional marketing and brand building techniques.

A number of observations are critical to our research. First, we assume that different senses can provide information on an object of interest—the rough texture of sand paper is evident via sight and touch; we can smell and taste a homemade apple pie. Each sensory modality provides information, and in some instances, the information is identical across two or more senses; for example, the peacefulness associated with financial security can be articulated in terms of sound of the ocean and the blue sky; this cross-modal correspondence is referred to as auditory-sight synesthesia. Third, individuals convey their sensory experiences with words that reflect inter-sensory analogies or cross-modality matching in terms of sensory metaphors—smooth (touch) music or bright (visual) sneeze. Thus, “language acts as an internal medium of communication among different [sensory] modalities” (Marks 1978, p. 24).

An important component of language, generally and with regard to the senses, is the metaphor, the representation of one thing in terms of another (Lakoff and Johnson 1980). Literature as diverse as cognitive psychology, cognitive neuroscience, linguistics, and anthropology indicate that metaphors are central to thought, and are important means of expression (Lakoff and Johnson 1999; Ortony 1993). Recently, metaphor has received considerable attention in the consumer and marketing research (Burroughs and Mick 2004; Coulter, Zaltman, Coultar 2001; Joy and Sherry 2003; Zaltman and Coulter 1995; Zaltman 2003). Zaltman (2003, p. 38) observed that metaphors reveal “embodied cognition”– the referencing of our sensory and motor systems to express our thinking” (see also Danesi 1990; Lackoff and Johnson 1999). Sensory metaphors are articulated in our everyday conversations through metaphorical expressions– the words, phrases, or sentences that are the surface realization of the cross-domain mappings (Baron-Cohen and Harrison 1997; Cytowic 2002; Howes 1991; Marks 1978). Sensory metaphors provide a window into deeper meanings consumers associate with products and experiences; “metaphor is a means to disclose new analogies and equivalences” (Marks 1978, p. 252).

The objective of our research was to bring attention to sensory imaging and metaphor in consumer research and to develop a measurement tool to assess consumers’ multi-sensory imaging; that is, the extent to which consumers report thematic meanings consistently across senses. We employed the sensory imaging step from the Zaltman Metaphor Elicitation Technique (ZMET) (Zaltman 2003; Zaltman and Coulter 1995) to examine sensory metaphors as a means for eliciting thematic meanings that consumers associate with a given topic across the senses. Specifically, in two different data collections, we asked participants to “imagine that you are explaining the meaning of financial security to some friends using sensory images.” For each sense, participants were asked to identify one sensory metaphor, and provide the meaning(s) that they associated with the sensory metaphor.

The first data collection (72 undergraduate students) served as a basis for identifying sensory metaphors (e.g., touch of velvet; sound of classical music) and developing of a coding scheme for the thematic meanings (e.g., freedom; no worries) associated with financial security. The procedure for the analysis was systematic and grounded in qualitative data analytic procedures (Spiggle 1994).

Based on the coding scheme developed, the second data set (139 undergraduate students) was analyzed. Perhaps not surprisingly, we found money (including cash/money, money to buy expensive items, and simply money to buy things) as relatively consistent themes across these senses. The frequency with which other meanings were articulated varied across the senses and we identified uniquely important meanings for each sense: touch—strong and comfort; taste—rich/elegant/sophistication; smell—fresh/refreshing; and sound—money to buy things.

Finally, we developed the Cross-Sensory Heterogeneity Index to calibrate the diversity present in the set of thematic meanings reflected across senses by each individual. $CSHI$ involves three measures, $N$, $U$, and $H$, where $N$ is the total number of meanings mentioned by an individual across all the senses, $U$ is the total number of unique meanings mentioned by an individual across all senses, and $H$ is the number of homogeneous pair-wise connections for an individual. $N$ and $H$ are used to construct a pairwise connection homogeneity ratio ($F$), i.e., $[H/(N^2(N-1)/2)]$, and $CSHI$ is calculated as $[(U-1)^*(1-F))/N]$, and ranges between 0 and 1. A higher $CSHI$ indicates more the individual identified a greater number of meanings, as well as more heterogeneous meanings across the senses.

REFERENCES

Baron-Cohen and John E. Harrison (1997), Synaesthesia, Oxford: Blackwell Publishers Ltd.


Special Session Summary
When Increasing Control Decreases Consumers’ Well-Being: The Negative Psychological Consequences of Choosing
Simona Botti, Cornell University
Tom Meyvis, New York University

SESSION OVERVIEW

Classic research in both psychology and economics has shown that people want to have choices because choosing leads to beneficial consequences such as greater intrinsic motivation, more positive affect, and superior cognitive performances. Consistent with this view, modern marketing practices as well as public policy reforms increasingly rely on the provision and exercise of choice as a means to increase individuals’ satisfaction. For example, stores offer increasingly large assortments and entice shoppers to customize product offers, and the current US administration has proposed reforms in the field of healthcare, social security, and education that switch choice from the government to the citizens. The papers presented in this session challenge the assumption that choice is always beneficial by investigating situations in which the provision of choice in different degrees (from no-choice to too many choices) have negative psychological consequences, thereby worsening, rather than improving, consumers’ well-being. In addition, these papers indicate that in specific circumstances consumers may be willing to restrict their choice. This result is particularly important because it contradicts prior findings showing that, even when dissatisfied with the decision outcome, people still prefer autonomy and choice. These studies contribute to a nascent body of literature that posits that decision makers’ evaluation of decision outcomes depends less on their ability to match personal preferences and available alternatives than on the psychological processes experienced during the decision task. Marketers as well as policy makers should therefore reconsider policies aiming at providing or increasing choice in light of the potential negative psychological effects of choosing.

“Avoiding Pain: Choice Preferences and Emotional Responses in Medical Decision Contexts”
Simona Botti, Cornell University
Sheena S. Iyengar, Columbia University
Kristina Orfali, Columbia University, ISERP

Prior research has found that people prefer situations in which they can make their own choices to those in which these choices are externally dictated (Brehm 1966). This preference for self-choice is supported by findings showing that the provision of choice improves emotional states while the removal of choice negatively affects psychological and physiological well-being (Langer 1975; Taylor and Brown 1988). Even in the field of bioethics there is a general consensus about the benefits of choice. Indeed, the autonomy model, according to which patients know what is the best treatment for them and should decide for themselves, prevails over the paternalistic model, which considers patients cognitively and emotionally unable to decide so that physicians should make the decision on their behalf.

More recent evidence has however challenged the assumption that choice is always beneficial. Research has shown that the emotional conflict often involved in decision making heightens when the importance of the choice increases (Luce 1998). In addition, choosing among all undesirable options has been found to generate psychological distress, thereby reducing outcome satisfaction (Botti and Iyengar 2004). Some evidence in medical decision research also suggests that, contrary to the principles of the autonomy model, patients are sometimes reluctant to decide and that their actual desire for autonomy is overestimated by both the physicians and the general public (Schneider 1998). The present research examines whether the psychological pain of choosing raises so much in highly consequential, aversive choices to weaken people’s preferences for personal choosing. This question is important because it contributes to the current literature on the detrimental effects of choice (e.g., Iyengar and Lepper 2000) by directly assessing choosers and non-choosers’ affective reactions to real-life decisions about medical treatments.

Study 1 is an ethnographic study about infants’ healthcare. We analyzed the protocols from 32 in-depth interviews with parents of critically ill newborns under life-sustaining treatments in two similar Neonatal Intensive Care Units (NICUs), one located in the United States, where the autonomy model is adopted, and the other in France, where instead the paternalistic model is used. These parents were facing the decision of whether or not to interrupt the treatment: The usual outcome of treatment interruption is the death of the baby, whereas the decision to prolong the treatment generally involves a higher probability of severe neurological impairment versus a lower probability of death. The sample included only cases in which the treatment was terminated causing the death of the babies, with the difference that the decision was taken by the parents in the American unit and by the doctors in the French unit. Results suggest that American parents reported more intense negative emotions such as anger, depression, guilt, or regret as compared to French parents following the death of the babies. In addition, both French and American parents expressed an ambivalent attitude towards being the decision makers, on one side resisting the idea of making a choice that will hunt them for the rest of their lives, and on the other side associating the decision to forgo the choice with being irresponsible caregivers.

Two follow-up laboratory studies were conducted to control for factors other than decision autonomy that could potentially influence the parents’ affective reactions observed in the ethnographic study. For example, cultural variables could explain the different emotions felt by French and American parents. More importantly, French parents were not always aware of the uncertainty involved in the doctors’ decisions because these decisions were often framed as the “only” solution in the baby’s best interest. In the first laboratory study participants read a scenario describing the situation of a premature baby undergoing a life-sustaining treatment. In the choice condition, participants were asked to choose between continuing the treatment, with 40% probabilities of death and 60% probability of severe neurological impairment, and withdrawing the treatment, which would determine the death of the baby. In the risky-no choice condition participants were given the same information as in the choice condition but were also told that the doctors had made the decision to withdraw the treatment and let the baby die. Finally, in the sure-no choice condition participants were told that the doctors had decided to withdraw the treatment and let the baby die without being informed about the alternate course of action. Results were consistent with those of the ethnographic study. Participants in the risky-no choice condition experienced the