

## Journal of Consumer Psychology, Volume 24, Issue 2

**Special issue: Sensory perception, embodiment, and grounded cognition:  
Implications for consumer behavior**

### SCP joins the blogosphere

As the next step in the communications drive, SCP is launching its official blog: [ConsumerPsyched](#). The aim of the blog is two-fold: primarily to serve as a bridge between the Society and the Journal for Consumer Psychology and the general public as a platform for press releases, and secondarily as a bridge between the Society and its members providing in-depth coverage of issues that interest the membership.

To kick off the blog, we have several posts covering the recent annual conference in Miami in February but going forward the main focus of the blog will be to promote research published in the Journal of Consumer Psychology to the public. Check out posts on [Darren Dahl's presidential address](#), [what happened at the the doctoral consortium](#), results of the [Happiness Survey](#) conducted by Cait Lamberton and Mike Norton as well as the winner of the [Dissertation Competition 2013](#).

Attached to this newsletter is also the **2014 SCP Call for Small Grants Proposals** for their program that provides funding for initiatives that further the goals and vision of SCP. The Grants Program is competitive, and will provide a maximum of \$5000.00 for each funded initiative. Deadline for the proposals is November 1, 2014.

Finally, [registration](#) for the **SCP Advertising and Consumer Psychology conference** focusing on the psychology of design is now open! Keynote speakers include Don Norman ("Design of Everyday Things"), Aradhna Krishna (sensory marketing), Bernd Schmitt (experiential marketing) and Andrew Smith (General Motors Designer on Cadillac, Buick). Spaces are limited to 75 participants so register now!

### In this issue

- Introduction to the special issue by Aradhna Krishna and Norbert Schwartz
- Research articles on how bright light turns on the emotional system and how warmth affects our choices as well as product evaluations
- Research on the impact of technology and hand washing on the endowment effect as well as imagination and metaphors on consumer behaviour
- Research on what impacts our enjoyment of food and alters our sensitivity to portion sizes as well as many other fantastic articles - dive in to explore!

### Consumer psychology in the media

- Our moods, our foods - the messy relationship between how we feel and what we eat ([The Atlantic, 6th March](#))
- How bright light can intensify a person's positive and negative responses ([Wall Street Journal, 17th March](#))
- How drinking hot beverages may make you evaluate products more positively ([Huffington Post, 19th March](#))

Has your research been covered in the media? Let us know by emailing [elina@myscp.org](mailto:elina@myscp.org) and we'll post it on the [CP Buzz section](#) of the SCP website.

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## Introduction to special issue

### **Sensory marketing, embodiment, and grounded cognition: A review and introduction**

*Aradhna Krishna, Norbert Schwarz*

There has been a recent swell of interest in marketing as well as psychology pertaining to the role of sensory experiences in judgment and decision making. Within marketing, the field of sensory marketing has developed which explores the role of the senses in consumer behavior. In psychology, the dominant computer metaphor of information processing has been challenged by researchers demonstrating various manners in which mental activity is grounded in sensory experience. These findings are arduous to explain using the amodal model of the human mind. In this introduction, we first delineate key assumptions of the information processing paradigm and then discuss some of the key conceptual challenges posed by the research generally appearing under the titles of embodiment, grounded cognition, or sensory marketing. We then address the use of bodily feelings as a source of information; next, we turn to the role of context sensitive perception, imagery, and simulation in consumer behavior, and finally discuss the role of metaphors. Through this discourse, we note the contributions to the present special issue as applicable.

<http://dx.doi.org/10.1016/j.jcps.2013.12.006>

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## Special issue articles

### **Popcorn in the cinema: Oral interference sabotages advertising effects**

*Sascha Topolinski, Sandy Lindner, Anna Freudenberg*

One important psychological mechanism of advertising is mere exposure inducing positive attitudes towards brands. Recent basic research has shown that the underlying mechanism of mere exposure for words, in turn, is the training of subvocal pronunciation, which can be obstructed by oral motor-interference. Commercials for foreign brands were shown in cinema sessions while participants either ate popcorn, chewed gum (oral interference) or consumed a single sugar cube (control). Brand choice and brand attitudes were assessed one week later. While control participants more likely spent money (Experiment 1,  $N = 188$ ) and exhibited higher preference and physiological responses (Experiment 2,  $N = 96$ ) for advertised than for novel brands, participants who had consumed popcorn or gum during commercials showed no advertising effects. It is concluded that advertising might be futile under ecological situations involving oral interference, such as snacking or talking, which ironically is often the case.

<http://dx.doi.org/10.1016/j.jcps.2013.09.008>

### **The acuity of vice: Attitude ambivalence improves visual sensitivity to increasing portion sizes**

*Yann Cornil, Nailya Ordabayeva, Ulrike Kaiser, Bernd Weber, Pierre Chandon*

A rapid increase in the size of food portions has underlined the importance of understanding consumers' ability to accurately perceive portion sizes. Drawing on research on motivated perception, we posit that attitude ambivalence (simultaneously desiring a food and perceiving it as unhealthy) enhances visual sensitivity to increasing portion sizes. We manipulate or measure attitude ambivalence in three experimental studies conducted among children and adults and find that visual sensitivity is driven not simply by desire but by the coexistence of desire and perceived unhealthiness of the food (e.g., for hedonic food and among restrained eaters). Our findings suggest that framing foods as vices improves the estimation of portion sizes among health-conscious people.

<http://dx.doi.org/10.1016/j.jcps.2013.09.007>

### **Satiation from sensory simulation: Evaluating foods decreases enjoyment of similar foods**

*Jeffrey S. Larson, Joseph P. Redden, Ryan S. Elder*

We demonstrate in two studies that people get more satiated on a food after repeatedly rating or choosing among similar foods shown in pictures. Repeated evaluations of food apparently have an effect similar to actual consumption—decreased enjoyment of foods that share a similar taste characteristic (i.e., sensory-specific satiety). We provide mediation evidence to show that satiation manifests because considering a food engenders spontaneous simulations of the taste of that food item, which by itself is enough to produce satiation. These findings establish sensory simulations as an important mechanism underlying satiation, and provide behavioral evidence that simple evaluations can produce sensory-specific satiety.

<http://dx.doi.org/10.1016/j.jcps.2013.09.001>

### **Taking a shine to it: How the preference for glossy stems from an innate need for water**

*Katrien Meert, Mario Pandelaere, Vanessa M. Patrick*

Human beings are attracted to glossy objects. However, the investigation of whether this preference for glossy is a systematic bias, and the rationale for why, has received little or no attention. Drawing on an evolutionary psychology framework, we propose and test the hypothesis that the preference for glossy stems from an innate preference for fresh water as a valuable resource. In a set of six studies we demonstrate the preference for glossy among both adults and young children (studies 1A, 1B and 2) ruling out a socialization explanation, investigate the hypothesis that the preference for glossy stems from an innate need for water as a resource (studies 3 and 5) and, in addition, rule out the more superficial account of glossy = pretty (study 4). The interplay between the different perspectives, implications of the findings and future research directions are discussed.

<http://dx.doi.org/10.1016/j.jcps.2013.12.005>

### **Incandescent affect: Turning on the hot emotional system with bright light**

*Alison Jing Xu, Aparna A. Labroo*

We propose that turning on the light can turn on the hot emotional system. Across six studies we show that ambient brightness makes people feel warmer, which increases the intensity of their affective response, including sensation seeking from spicy-hot foods, perception of aggression and sexiness ("hotness") in others, and generating more extreme affective reactions toward positive and negative words and drinks. We suggest that these effects arise because light underlies perception of heat, and perception of heat can trigger the hot emotional system. Thus, turning down the light, effortless and unassuming as it may seem, can reduce emotionality in everyday decisions, most of which take place under bright light.

<http://dx.doi.org/10.1016/j.jcps.2013.12.007>

### **Why the bride wears white: Grounding gender with brightness**

*Gün R. Semin, Tomás A. Palma*

Two studies examine the grounding of gender by the alignment of the female-male with the bipolar dimension of light-dark (most likely due to sexual dimorphism in skin pigmentation). We hypothesized and showed that in a speeded classification task male names are processed faster when they are presented in a black typeface (Exp. 1) or a dark color (Exp. 2) than when they are presented in white or a light color, with the opposite pattern for female names. The applied relevance of these findings is investigated in study 3 where lightness and darkness of consumables are revealed to drive gender specific preferences for foods and drinks, with the lighter consumables being female and darker ones being male preferences. Study 4 shows that gender preferences for consumer goods are uniformly driven by whether the good is in black or white, the former being male and the latter being female preference. The implications of these findings are discussed for theory formation in relation to the grounding of abstract concepts and in terms of how to design targeted marketing of products.

<http://dx.doi.org/10.1016/j.jcps.2013.09.003>

### **Tablets, touchscreens, and touchpads: How varying touch interfaces trigger psychological ownership and endowment**

*S. Adam Brasel, James Gips*

As mouse-driven desktop computers give way to touchpad laptops and touchscreen tablets, the role of touch in online consumer behavior has become increasingly important. This work presents initial explorations into the effects of varying touch-based interfaces on consumers, and argues that research into the interfaces used to access content can be as important as research into the content itself. Two laboratory studies using a variety of touch technologies explore how touchscreen interfaces can increase perceived psychological ownership, and this in turn magnifies the endowment effect. Touch interfaces also interact with importance of product haptics and actual interface ownership in their effects on perceived product ownership, with stronger effects for products high in haptic importance and interfaces that are owned. Results highlight that perceptions of online products and marketing activities are filtered through the lens of the interfaces used to explore them, and touch-based devices like tablets can lead to higher product valuations when compared to traditional computers.

<http://dx.doi.org/10.1016/j.jcps.2013.10.003>

### **Embodied cognition and social consumption: Self-regulating temperature through social products and behaviors**

*Seung Hwan (Mark) Lee, Jeff D. Rotman, Andrew W. Perkins*

Extant embodied cognition research suggests that individuals can reduce a perceived lack of interpersonal warmth by substituting physical warmth, and vice versa. We suggest that this behavior is self-regulatory in nature and that this self-regulation can be accomplished via consumptive behavior. Experiment 1 found that consumers perceived ambient temperature to be significantly lower when eating alone compared to eating with a partner. Experiment 2 found that consuming a cool (vs. warm) drink led individuals to generate more socially-oriented attributes for a hypothetical product. Experiment 3 found that physically cooler individuals desired a social consumption setting, whereas physically warmer individuals desired a lone consumption setting. We interpret these results within the context of self-regulation, such that perceived physical temperature deviations from a steady state unconsciously motivate the individual to find bodily balance in order to alleviate that deviation.

<http://dx.doi.org/10.1016/j.jcps.2013.09.006>

### **Warmth and conformity: The effects of ambient temperature on product preferences and financial decisions**

*Xun (Irene) Huang, Meng Zhang, Michael K. Hui, Robert S. Wyer Jr.*

Comfortable ambient temperatures can influence consumer preferences for conformity. The results of three laboratory experiments suggest that warm (vs. cool) temperatures dispose consumers toward using others' opinions as the basis for product preferences, stock price forecasts, and betting. Warm temperatures increased the participants' perceptions of social closeness to other decision-makers, thus leading them to consider the opinions of those decision-makers to have greater validity. This enhanced validity, in turn, rendered them more likely to conform to the crowd. This effect was confirmed in an analysis of betting behavior at the racetrack over a three-year period. Bets were more likely to converge on the "favorite" (i.e., the majority-endorsed option) when the temperature at the track was warm.

<http://dx.doi.org/10.1016/j.jcps.2013.09.009>

### **The temperature premium: Warm temperatures increase product valuation**

*Yonat Zwebner, Leonard Lee, Jacob Goldenberg*

A series of five field and laboratory studies reveal a temperature-premium effect: warm temperatures increase individuals' valuation of products. We demonstrate the effect across a variety of products using different approaches to measure or manipulate physical warmth and different assessments of product valuation. The studies suggest that exposure to physical warmth activates the concept of emotional warmth, eliciting positive reactions and increasing product valuation. Further supporting the causal role of emotional warmth, and following prior research relating greater positive feelings to reduced distance, we find that warm temperatures also reduce individuals' perceived distance from the target products.

<http://dx.doi.org/10.1016/j.jcps.2013.11.003>

### **Implicit energy loss: Embodied dryness cues influence vitality and depletion**

*Idit Shalev*

Consumers have long recognized that thirst motivates beverage consumption, however little is known of the consequences of dryness-related cues and experienced energy. Based on the embodied cognition view (Landau et al., 2010; Meier et al., 2012) and motivational perspective for energy (Clarkson, 2010; Inzlicht & Schmeichel, 2012), four studies examined the idea that activation of different levels of the dryness-thirst metaphor (e.g., semantic primes, visual images, or physical thirst) will influence perceived energy. In Study 1, participants primed with dryness-related concepts reported greater physical thirst and tiredness and lower subjective vitality. In Study 2, participants who were physically thirsty were less persistent in investing effort in an unsolvable anagram task. In Study 3, images of arid land influenced time preference regarding when to begin preparation to make a monetary investment. Finally, in Studies 4a and 4b, exposure to the names of dryness-related products influenced impressions of the vitality of a target person. Overall, the findings suggest that physical or conceptual dryness-related cues influence perceived energy and may have consequences on consumer behavior.

<http://dx.doi.org/10.1016/j.jcps.2013.09.011>

### **When up brings you down: The effects of imagined vertical movements on motivation, performance, and consumer behavior**

*Massimiliano Ostinelli, David Luna, Torsten Ringberg*

Previous embodied cognition research suggests that "up" is associated with positivity (e.g., good, divine), whereas "down" is associated with negativity (e.g., bad, evil). We focus on the effect of vertical movements on consumer behavior and go beyond investigating mere affective associations of verticality. In five studies, we provide evidence that the mental simulation of vertical movements has counterintuitive effects on behavior—that is, imagining moving up hampers motivation and performance by boosting self-worth. A pilot study shows that the imagination of vertical movements affects self-worth. Studies 1, 2 and 3 show that imagining upward movements (e.g., taking an elevator ride up or taking off in an airplane) diminishes motivation as well as performance. Studies 4 and 5 show that imagining moving upward (downward) makes people feel better (worse) about themselves which, in turn, decreases (increases) their motivation to succeed on a subsequent task, hence worsening (improving) performance. This occurs independently of respondents' mood.

<http://dx.doi.org/10.1016/j.jcps.2013.12.001>

### **Detaching the ties of ownership: the effects of hand washing on the exchange of endowed products**

*Arnd Florack, Janet Kleber, Romy Busch, David Stöhr*

Recent studies have demonstrated that the ownership of a product leads to a biased perception of its aspects. Based on research on embodied cognition, we argue that the physical action of hand washing can reset the cognitive system to a more neutral state by reducing the asymmetrical perception of owned and not owned products. In three studies, we examined the effects of hand washing on the endowment effect by asking owners of a product to exchange it for a similar one. As expected, in Experiment 1, we showed that hand washing doubled the percentage of participants who exchanged an owned product for an alternative product. In Experiment 2, we replicated this finding and showed that only the action of hand washing and not a prime of physical cleaning elicited this effect. In Experiment 3, we again replicated the hand washing effect on exchange rates and examined the effect of hand washing on product evaluations. The results of all experiments suggest that hand washing reduces decision preferences that are biased by ownership.

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### **Metaphors and creativity: Direct, moderating, and mediating effects**

*Alex Marin, Martin Reimann, Raquel Castaño*

Through five experiments, this research advances knowledge about the influence of metaphors on creative cognition by showing that perceiving images that carry metaphoric meaning can alter consumers' creativity. While the results of Experiment

1 reveal that positive metaphors representing ideas like "Thinking outside the box" increase creative output, Experiment 2 uncovers that a negative metaphor conveying "I am burnt out" decreases it. Experiment 3 shows that the metaphor-creativity link is moderated by analogical reasoning skills, and Experiments 4a and 4b reveal the mediating role of creative intent. In addition to implying that marketers can use metaphors to enhance consumers' creative feedback in areas like new product development, this research also makes important theoretical contributions by showing (1) that metaphors that are visually conveyed (in addition to tangible objects or physical exercises) can not only raise but also lower creative output, (2) that a unique cognitive skill alters the metaphor-creativity link, and (3) that consumers' creative intent contributes to that relationship.

<http://dx.doi.org/10.1016/j.jcps.2013.11.001>



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