Compulsive Buying - Also a Male Problem?
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In two studies we used IAT and fMRI to investigate automatic processes and neural correlates of men with compulsive-buying-tendencies. Results show more positive brand-associations and activations in reward-related brain areas for consumers with higher compulsive-buying-tendencies. Thus, compulsive buying might not just be a problem for women, but also for men.

[to cite]:

[url]:
   http://www.acrwebsite.org/volumes/16185/volumes/v38/NA-38

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“wore sexy clothes,” “wore clothes that showed lots of skin,” “wore a skirt,” and “went sun tanning.” Of the 59 women who began the 35-day study, 48 women completed survey 1 at least once each during the luteal and fertile phases, while 20 did so for survey 2. After excluding the data from 12 women who did not have regular cycles between 27 and 39 days in length and one who reported taking a hormonal contraceptive during the study, the final sample sizes were 35 participants for survey 1 (the food-related Likert-type items and the expenditures in both categories) and 17 for survey 2 (the appearance-related Likert-type items). Each participant’s follicular and luteal phases were estimated based on menstruation information collected via survey 1 (i.e., “did you menstruate today?”) and on subsequent post-study email correspondences.

As hypothesized, women reported feeling greater appearance-related desires and engaging in greater appearance-related product usage on fertile days than on luteal days. Despite the large mean difference in the predicted direction, there were no significant differences between the daily amount of money spent on clothing on fertile days and the amount spent on luteal days. However, a more granular split of the data revealed that women spent significantly more money during the fertile phase than during the early follicular phase. Recall that we predict the opposite menstrual cycle effect for food, such that consumption will be greater during the luteal phase than during the fertile phase. As expected, women reported feeling hungrier and stronger cravings for highly caloric foods on luteal days than on fertile days. Similarly, women in their luteal phase reported consuming more calories and more highly caloric foods compared to when they were in their fertile phase. The amounts of money that women spent on food were also significantly influenced by menstrual cycle phase, such that women reported spending significantly more money on food on luteal days than on fertile days. Mediation analyses revealed that the menstrual cycle effect on appearance-related product usage was significantly mediated by appearance-related desires. Further, food-related desires significantly mediated the menstrual cycle effects on food consumption and on food expenditures.

The obtained findings relating to actual purchases constitute the first direct economic evidence of a menstrual cycle effect on women’s consumer behavior. Our research is of relevance to consumer welfare in that we are highlighting when women are most vulnerable to succumbing to cyclical temptations for high-calorie foods and appearance-enhancing products. From a managerial perspective, practitioners having access to detailed purchasing data can deduce a particular consumer’s menstrual cycle phase from her food and/or clothing buying patterns and employ direct marketing strategies accordingly (e.g., send food-related promotions to consumers who are likely to be in their luteal phase). Overall, our findings add to the growing body of work at the nexus of physiology and consumer behavior (Miller, Tybur, and Jordan 2007; Plassmann, O’Doherty, Shiv, and Rangel 2008; Saad and Vongas 2009).

**Selected References**


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**Extended Abstract**

Compulsive Buying (CB) is a problem with increasing relevance for individuals and society. Earlier studies show that the fraction of people who exhibit a strong tendency toward CB is between 5% and 8% of the population in Western societies (Faber and O’Guinn 1992; Koran et al. 2006; Reisch, Neuner, and Raab 2004; Ridgway, Kukar-Kinney, and Monroe 2008). However, previous investigations provide evidence that between 80-95% of compulsive buyers are female (Black 2007; Faber and O’Guinn 1992; Müller and de Zwaan 2004). Remarkably, research indicates that men rarely evidence CB tendencies.

In general, compulsive buyers are prone to run into indebtedness because they are characterized by a tendency for repetitive buying with a loss of impulse control over buying (Ridgway et al. 2008). Evidence that overspending and debts are problems that often affect men more seriously than they do women (www.creditreform.de) suggests that CB is a more severe problem among men than is reflected
in the current literature (Dittmar and Drury 2000, Koran et al. 2006). There are two possible reasons why CB is often not reported for men: First, excessive shopping might be more socially accepted among women. Second, the scales for measuring CB seem to be more representative for female types of shopping behavior (e.g., Ridgway et al. 2008). Thus, CB among men might be underestimated (Koran et al. 2006; Müller et al. 2005).

Against this background, we ran two studies with male participants in order to provide new insights about CB in men. In Study 1 we applied the Implicit-Association-Test (IAT; Greenwald, McGhee, and Schwartz 1998) to examine correlations between indicators of overspending and automatically activated evaluative associations of brands of the high-price segment. In Study 2 we used fMRI (functional magnetic resonance imaging) to measure activity changes in brain areas related to reward experiences or anticipation in men with, and without, CB tendencies.

In Study 1, automatically activated evaluative associations of brands were assessed using a single target IAT (Bluemke and Friese 2008). The IAT is a response-time-based measure that can be used to assess the strength of associations between concepts (Lane et al. 2007). Our study included 28 male participants (M<sub>age</sub>=29 years). The target category was “brands,” which was represented by thirteen brand-logos assumed to be relevant for a male sample. The attribute categories were “positive” and “negative” valences, represented by a mix of pictures. The sequence of the different IAT blocks followed the standard procedure for a single target IAT (Karpinski and Steinmann 2006). After answering a number of questions unrelated to our study, participants were asked about financial problems using two five-point rating items for the two problems of overspending and automatically activating evaluative associations of brands. As predicted, the more positive the brand associations were, the more problems with overspending one’s account (r=.43, p<.05), and with settling one’s debts (r=.32, p<.05) were reported. This result shows that adverse financial consequences of CB are correlated with positive brand associations that are activated on an automatic level.

In Study 2 we applied fMRI in order to observe these automatic processes during the perception of brands on a neural level. Taking into account that the underlying neural mechanisms of CB are still not known, we wanted to investigate whether men with CB tendencies exhibit different neural activation patterns compared to men without CB tendencies. Ten men participated in the study (age: M=31.2) that was executed on a 3T fMRI-scanner. Data processing and statistical analyses were conducted with SPM5 by using the General Linear Model (Huettel, Song, and McCarthy 2008). The stimulus material consisted of the same brands as in Study 1. The participants’ task was to judge the brand as attractive or unattractive. After the scanning session, participants were asked to fill out a questionnaire that was representative for female types of shopping behavior (e.g., Ridgway et al. 2008). Thus, CB among men might be underreported and, consequently, underestimated (Koran et al. 2006; Müller et al. 2005).

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Our studies show that there is a correlation between the adverse financial consequences of CB and the positive brand associations on an automatic level, and that attractive brands lead to activity changes in reward-related brain areas in men with CB tendencies. Thus, if attractive brands act as strong reward stimuli in the brain and evoke positive associations on an automatic level, men are more likely to show CB characteristics. This indication that CB is also a male phenomenon suggests a need for further attention by consumer researchers.

References
Do Retail Brands Bias Consumer Decision-Making? 
–An fMRI Study on Retail Brand Frames and the Evaluation of Product Packaging

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Extended Abstract

Research in the field of retail marketing is important for manufacturers, in order to select the best marketing strategy, the most appropriate distribution channels, the optimal price policy, and the best retailers (Choi 1991; Lee and Staelin 1997; Pasternack 1985). However, very little is known about optimal strategies of product positioning, or about how different retail brands influence (“frame”) customers’ product perception and evaluation (Martenson 2007).

In contrast, in economic and psychological theory the “framing effect” is a very well-known and important concept for the identification of judgment biases within subjects’ choices (Gonzalez et al. 2005; Tversky and Kahneman 1981). Recent studies provide evidence that the “framing effect” occurs due to the integration of conscious and unconscious implicit and explicit background knowledge in the decision-making process. In addition, recent evidence indicates that specific neural processes play a central role for susceptibility to the manner in which a choice-problem is presented (Deppe et al. 2005a, Deppe et al. 2007).

Against this background, we applied fMRI in order to understand how the product evaluation of consumers is influenced by retail-brand-frames. In this regard, the application of fMRI could offer a new theoretical perspective and may help to reach a higher level of explained variance regarding the susceptibility of consumers to retail brands.

In our study, we investigated the behavioral decision-making and the correlating neural activity pattern of 21 subjects (11 female, 10 male). By comparing individual attractiveness evaluations of 30 packages within an unframed task and a framed task. The unframed task consisted of the attractiveness evaluation of product packages alone, whereas in the...