<http://www.diva-portal.org>

Postprint

This is the accepted version of a paper published in *Food Quality and Preference*. This paper has been peer-reviewed but does not include the final publisher proof-corrections or journal pagination.

Citation for the original published paper (version of record):

Otterbring, T. (2016)

Touch forbidden, consumption allowed: Counter-intuitive effects of touch restrictions on customers' purchase behavior.

Food Quality and Preference, 50: 1-6

<http://dx.doi.org/10.1016/j.foodqual.2015.12.011>

Access to the published version may require subscription.

N.B. When citing this work, cite the original published paper.

Permanent link to this version:

<http://urn.kb.se/resolve?urn=urn:nbn:se:kau:diva-41974>

Touch forbidden, consumption allowed: Counter-intuitive effects of touch restrictions on customers' purchase behavior

Tobias Otterbring^{a,*}

^a *Department of Psychology & CTF, Service Research Center, Karlstad University, Universitetsgatan 2, 651 88, Karlstad, Sweden*

Abstract

In-store events are increasingly used to provide customers with unique shopping experiences. Although recent studies indicate that such events positively influence customers' purchase intentions and store choice decisions, little is known about how customers respond to various in-store events. This paper investigates one type of in-store event that is frequently used in several food and non-food contexts. Specifically, the study investigates how an in-store product demonstration influences customers' subsequent purchase behavior depending on whether they are restricted or encouraged to touch the products being demonstrated. An initial scenario-based experiment involving 35 undergraduates aimed to examine how people intuitively think that restricting (versus encouraging) touch during an in-store product demonstration would influence their subsequent purchase behavior. A two-way ANOVA with participant gender and experimental condition as the between-subjects factors consistently showed that people hold a lay theory that restricting touch should have a negative impact on the amount of money they spend and the number of products they purchase. A second field experiment involving 126 customers in a retail store aimed to investigate whether this lay belief is consistent with customers' actual purchase behavior. Counter-intuitively, a two-way ANOVA with customer gender and experimental condition (touch restriction, touch encouragement) as the between-subjects factors revealed that restricting touch during an in-store product demonstration resulted in significantly more money being spent, a larger number of products being purchased, and more expensive products being purchased. These findings show that consumer lay theory can directly contradict customers' actual purchase behavior.

Keywords: Reactance; Compensatory Consumption; Threat to Freedom; Product Touch; Touch Restriction; Product Demonstration.

* Corresponding author. Address: Department of Psychology & CTF, Service Research Center, Karlstad University, Universitetsgatan 2, 651 88, Karlstad, Sweden.
Email address: tobias.otterbring@kau.se (T. Otterbring).

1. Introduction

Customers in a shopping environment usually have the freedom to choose between several distinct options. However, it is not unusual to encounter restrictions of this freedom during an ordinary shopping trip (Clee & Wicklund, 1980). Research has focused on certain aspects of perceived restrictions or threats and their influences on consumer behavior. Threats to customers tend to result in compensatory consumption (that is, the desire to combat a self-threat by consuming products or activities that signal successful rejection of the threat; Lisjak, Bonezzi, Kim, & Rucker, 2015). For example, individuals under self-threat seek ownership of expensive high-status goods (Otterbring, 2015; Sivanathan & Pettit, 2010) and other self-view-bolstering products (Gao, Wheeler, & Shiv, 2009). Furthermore, customers whose physical space has been restricted (for example, as a result of narrower in-store aisles or more crowded stores) tend to seek more variety in their product choices (Levav & Zhu, 2009).

However, few studies have investigated how restrictions to customers' freedom to touch influence their subsequent purchase behavior. Touch is an important source of information for customers in general (Peck & Childers, 2003b) and for their judgments of food products in particular (Labbe, Pineau, & Martin, 2013; Piqueras-Fiszman & Spence, 2012). In fact, the tactile sense even influences customers' taste perceptions of various foods and beverages (Schifferstein, 2009; Tu, Yang, & Ma, 2015). Therefore, it is relevant to examine the behavioral consequences of touch restrictions within the shopping environment, especially as shopping is claimed to be "one of our few chances to freely experience the material world firsthand" (Underhill, 2009, p. 168). Additionally, since sensory science includes non-food commodities (Martens, 1999), even products or phenomena that are not directly associated with food, such as customers' freedom to touch, can lead to important insights for sensory researchers and people working in the food industry (Wansink & Park, 2001).

One example of an occasion when customers may need to touch is during various in-store events, such as when an employee demonstrates certain products from the store's assortment. Given the recently documented positive effects of in-store events on customers' value and retail brand perceptions, purchase intentions, and store choice decisions (e.g., Leischnig, Schwertfeger, & Geigenmueller, 2011; Sands, Oppewal, & Beverland, 2009; 2015), such events are increasingly used in retail settings to provide customers with unique shopping experiences. As one example of an in-store event, product demonstrations frequently take place in several distinct food and non-food consumer contexts. Despite this, little is known about how customers respond to such in-store events and what impact the tactile sense has during and after a product demonstration.

The main objective of the present research was to investigate how restricting (versus encouraging) touch during an in-store demonstration of a closet system would influence customers' subsequent purchase behavior in a real-world setting, and to contrast this with lay beliefs concerning how touch restrictions would impact customers' in-store decisions. Specifically, the study aimed to explain why people intuitively think that restricting product touch during an in-store product demonstration should negatively influence their overall spending in the store and the number of products they purchase (Study 1), when, in reality, the opposite applies (Study 2).

2. Reactance versus consistency

Reactance theory proposes that a threat or restriction to an individual's freedom to engage in a specific behavior makes the behavior more attractive (Brehm, 1972). Thus, whenever a person's freedom is restricted, the desire to retain that freedom makes the person more motivated to obtain both the freedom *per se* and the goods associated with it (Cialdini, 2001). This is why items that are hard to reach or obtain are perceived as more attractive (Bushman & Stack, 1996; Clee & Wicklund, 1980; Mazis, Settle, & Leslie, 1973) – a finding that also

applies to foods and beverages (Stok, de Vet, de Wit, Renner, & de Ridder, 2015; Van Herpen, Pieters, & Zeelenberg, 2014). For instance, the attractiveness of a cafeteria's food will increase if people are told that they cannot use that cafeteria for the following two weeks (West, 1975). Furthermore, restricting certain food products increases the desirability of those foods (Mann & Ward, 2001) and leads to their relatively higher consumption (e.g., Jansen, Mulken, & Jansen, 2007; Stok et al., 2015). The inference from these results is that restricting product touch during an in-store product demonstration may evoke a stronger urge to touch products, thereby increasing the likelihood that customers will touch a larger number of products after the demonstration has taken place and will ultimately end up purchasing a larger number of products and spending more money.

On the other hand, there has been a strong and widespread belief that people act in a way that is consistent with their attitudes and behaviors (e.g., Festinger, 1957; Osgood & Tannenbaum, 1955). By exploring the cross-situational consistency of behavior in three distinct experimental settings, Funder and Colvin (1991) found an impressive degree of behavioral consistency across settings and concluded that, "Even though situations profoundly affect what people do, people can still manage to preserve their distinctive behavioral styles across situations" (p. 791). Consistency effects are especially likely to occur in public because people prefer to be perceived as consistent (Tedeschi, Schlenker, & Bonoma, 1971). Thus, when an action is visible to others (for example, in a store), people are particularly likely to continue with the behavior they are already engaged in at the time. This suggests that people who are encouraged to touch products early on in the store will be more likely to continue with this behavior throughout their entire shopping trip and, consequently, put a larger number of products in their shopping carts and end up spending more money. Conversely, people who are restricted from touching products in one of the store's earlier sections will be

less likely to engage in product touch as they continue with their shopping, and will therefore place fewer products in their shopping carts and spend less money.

I argue that a consistency account is *intuitively* more appealing as a way of explaining customers' purchase behavior after restricting (versus encouraging) product touch. However, in terms of *actual* purchase behavior, as opposed to individuals' lay beliefs, a reactance explanation should be more likely. Hence, I hypothesize:

H1a: People hold a lay belief that restricting (versus encouraging) product touch during an in-store product demonstration *decreases* the number of products purchased.

H1b: People hold a lay belief that restricting (versus encouraging) product touch during an in-store product demonstration *negatively* influences the amount of money spent in the store.

H2a: Restricting (versus encouraging) product touch during an in-store product demonstration *increases* the number of products purchased.

H2b: Restricting (versus encouraging) product touch during an in-store product demonstration *positively* influences the amount of money spent in the store.

Furthermore, touch restrictions could also increase customers' inclination to buy expensive products. Research shows that "merely touching an object results in an increase in perceived ownership of that object" (Peck & Shu, 2009, p. 434). Because ownership is a heuristic for status (Tatzel, 2002; Wang & Wallendorf, 2006), customers whose feelings of ownership have been threatened through touch restrictions should be more likely to engage in acts that regain the state of ownership, and hence purchase products associated with ownership and status (for example, expensive products). In support of this notion, several compensatory consumption researchers have found a link between various self-threats and

individuals' preferences for consumption of expensive high-status goods (e.g., Otterbring, Sirianni, Ringler, & Gustafsson, 2015; Rucker & Galinsky, 2009; Sivanathan & Pettit, 2010). Therefore, I hypothesize:

H2c: Restricting (versus encouraging) product touch during an in-store product demonstration *increases* the purchase of products that are more expensive.

3. Study 1 – Lay beliefs and consumer behavior

The main objective of Study 1 was to investigate individuals' *lay beliefs* regarding how restricting (versus encouraging) product touch during an in-store product demonstration influences customers' purchase behavior (**H1a–b**).

3.1. Participants

A total of 35 undergraduates (69 percent female; $M_{\text{age}} = 23.66$) participated in the study, which was conducted on an individual basis as a scenario-based experiment at a Swedish university.

3.2. Design, procedure, and measures

The study used a 2 (scenario version: touch restriction, touch encouragement) $\times$ 2 (participant gender) between-subjects design. Participant gender was included as a between-subjects factor to ensure that the results would not be confounded by unexplored gender differences. I deemed this to be important based on research showing that men tend to demonstrate more reactance than women (e.g., Joubert, 1990; Seeman, Buboltz Jr., Jenkins, Soper, & Woller, 2004; Woller, Buboltz Jr., & Loveland, 2007).

Participants were randomly assigned to one of the scenario versions and instructed to imagine that they were taking part in an in-store product demonstration of a closet system

from the store's assortment. Depending on scenario version, participants were either restricted ($n = 17$) or encouraged ($n = 18$) to touch the products being demonstrated (including a pants hanger, shoe racks, and wardrobe drawers; see the Appendix for a detailed description of the scenarios). Participants then completed a brief questionnaire containing demographic information and the two following statements linked to how they believed that the described in-store product demonstration would influence their subsequent purchase behavior: "I think that this type of demonstration would make me spend more money in the store" and "I think that this type of demonstration would make me purchase more products". Both statements were rated on a seven-point scale anchored at 1 (strongly disagree) and 7 (strongly agree).

3.3. Results and discussion

A two-way ANOVA, with scenario version and participant gender as the between-subjects factors, revealed that scenario version had a statistically significant main effect on the number of products purchased, $F(1, 31) = 8.10$; $p = .008$, $\eta_p^2 = .21$. Consistent with **H1a**, participants thought that the "touch restriction" scenario ($M = 3.24$, $SD = 1.30$) would result in a *smaller* number of products being purchased than the "touch encouragement" scenario would ($M = 4.72$, $SD = 1.07$); see Figure 1.

A similar analysis on money spent in the store also found a statistically significant main effect of scenario version, $F(1, 31) = 18.73$; $p < .001$, $\eta_p^2 = .38$. Participants thought that the "touch restriction" scenario ($M = 2.88$, $SD = 1.17$) would result in *less* money being spent than in the "touch encouragement" scenario ($M = 4.78$, $SD = 0.88$); see Figure 1. This is in line with **H1b**. The main effect of participant gender and the interaction were non-significant for both these variables, $F_s < 2.13$, $p_s > .15$.

Insert Figure 1 about here

Additional one-sample *t*-tests showed that participants in the “touch restriction” scenario thought that they would purchase a significantly *smaller* number of products ($t(16) = -2.43, p = .028$) and spend significantly *less* money in the store ($t(16) = -3.95, p = .001$) than the scale midpoint. Conversely, participants in the “touch encouragement” scenario thought that they would purchase a significantly *larger* number of products ($t(17) = 2.85, p = .011$), and spend significantly *more* money in the store ($t(17) = 3.76, p = .002$) than the scale midpoint.

4. Study 2 – Testing people’s lay beliefs in an actual field setting

The purpose of Study 2 was to examine how restricting (versus encouraging) product touch during an in-store product demonstration influences customers’ *actual* purchase behavior (*H2a–c*).

4.1. Participants and store description

A total of 126 customers (76 percent female) were recruited for the study, which was conducted as a field experiment at a global home-goods department store located in Europe (the same store brand as described in the scenarios of Study 1). Three outliers were removed using a cutoff of three standard deviations from the mean on the main dependent variables.

The products available in the store ranged from entire apartment solutions, such as kitchen systems, to more specific home goods, such as bedroom furniture, cooking appliances, dinner plates, and wine glasses. One section of the store also included a restaurant.

4.2. Design, procedure, and measures

The study used a 2 (experimental condition: touch restriction, touch encouragement) $\times$ 2 (customer gender) between-subjects design.

Research assistants approached customers as they entered the store and asked them to participate in a study related to their overall shopping experience. Customers who agreed to participate were randomly assigned to either the “touch restriction” condition ($n = 61$; 46 female) or the “touch encouragement” condition ($n = 62$; 48 female). They were given a map with an identification number that would show them two specified stations inside the store where they should stop. The first station was located near the entrance to the store and included the experimental manipulation. The second station was located at the checkout. After receiving their instructions, customers indicated which of the various products available in different sections of the store they intended to purchase (for example, products located in the sections corresponding to dining, kitchen, decorations, bathroom, bedroom, living room, laundry, lights, outdoor, and closet organization), and then continued with their normal shopping. Customers’ intentions to purchase any of the products located in the different store sections did not differ between conditions. At the first station, in a display area of the store, customers received a product demonstration of a closet system. Under the “touch restriction” condition, an employee demonstrated a set of products included in the closet system (a couple of wardrobe drawers, shoe racks, and a pants-hanger). As a cover story, the employee indicated that the products were for display only, and therefore could not be touched. Under the “touch encouragement” condition, the employee demonstrated each product, while saying, “Feel how easy this is to use.” The employee encouraged customers to touch the products themselves and examine them physically (for example, by pulling out drawers). Customers then resumed their normal shopping.

At the checkout (second station), customers were met by research assistants and completed a survey that requested demographic information and asked questions about the amount of money spent, the number of products purchased, and four items adapted from Peck and Childers’ (2003a) “Need For Touch” scale (for example, “I like to touch products even if

I have no intention of buying them.”). These items, which were rated on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree), aimed to control for the possibility that the experimental manipulation could change customers’ overt desire to touch products. In other words, in order to ensure that customers in the “touch restriction” condition did not express a greater conscious need for touch than customers in the “touch encouragement” condition, I calculated a need-for-touch index by averaging these items ($\alpha = .67$).

To address **H2c**, I computed a variable that measured the average price paid per item by dividing the “money spent” measure by the number of products purchased.

4.3. Results and discussion

A two-way ANOVA, with experimental condition and consumer gender as the between-subjects factors, revealed a statistically significant main effect of experimental condition on the number of products purchased, $F(1, 119) = 5.05, p = .027, \eta_p^2 = .04$. Customers in the “touch restriction” condition ($M = 10.00, SD = 6.85$) purchased significantly more products than customers in the “touch encouragement” condition ($M = 7.66, SD = 6.80$); see Figure 2. This finding supports **H2a**.

Insert Figure 2 about here

A similar analysis on money spent in the store also found a statistically significant main effect of experimental condition, $F(1, 119) = 7.36, p = .008, \eta_p^2 = .06$. Customers in the “touch restriction” condition ($M = €107.36, SD = 144.12$) spent more than twice as much money (approximately 110 percent more) than customers in the “touch encouragement” condition ($M = €51.22, SD = 74.57$); see Figure 3. This finding is consistent with **H2b**.

Insert Figure 3 about here

Mirroring the above findings, a two-way ANOVA on the price paid per product showed a statistically significant main effect of experimental condition, $F(1, 113) = 4.75, p = .031, \eta_p^2 = .04$. On average, customers in the “touch restriction” condition ($M = €12.30, SD = 22.23$) purchased products that were 87 percent more expensive than those purchased by customers in the “touch encouragement” condition ($M = €6.59, SD = 8.47$); see Figure 4. This supports **H2c**. The main effect of customer gender and the interaction were non-significant for all the dependent variables, $F_s < 1.66, p_s > .20$.

Insert Figure 4 about here

Controlling for customers’ need for touch did not change the nature and significance of these results. In addition, customers in the “touch restriction” condition did not report a stronger conscious need for touch than customers in the “touch encouragement” condition, $F < 1, p > .68$. This finding is consistent with recent research on compensatory consumption, which shows that in some situations “people may consume products to offset self-threats with little awareness of the reasons that motivate their behaviors” (Lisjak et al., 2015, p. 1200).

5. General discussion

The present research has shown that people intuitively believe that restricting (versus encouraging) product touch during an in-store product demonstration negatively influences the amount of money they spend and the number of products they purchase (Study 1). This is in line with theories on behavioral consistency postulating that people are likely to continue with the behavior they are engaged in at present, particularly if this behavior is performed in public (Tedeschi et al., 1971). In other words, a consistency account supports the intuition-based results that people who are encouraged to touch products early on in the store think that

they should be more likely to continue with this behavior, and therefore put more products in their shopping carts and spend more money.

Counter-intuitively, customers' actual purchase behavior was found to be the exact opposite of this lay theory. Restricting (versus encouraging) product touch resulted in significantly more money being spent, a larger number of products being purchased, and more expensive products being purchased (Study 2). Thus, restricting product touch during an in-store product demonstration makes customers even more motivated to touch and, ultimately, to purchase products. This finding corroborates Clee and Wicklund's (1980, p. 393) claim that the "consumer whose decision alternative is blocked [...] by a barrier should become increasingly motivated to obtain that alternative." This finding also supports theories on compensatory consumption that argue that customers whose freedom has been restricted typically consume products that signal successful rejection of the restriction, and regain their sense of freedom (Levav & Zhu, 2009).

The present study is one of the first scientific works to experimentally examine the influence of touch restrictions on customers' actual purchase behavior. As such, this study makes a significant contribution to theories of compensatory consumption and psychological reactance. A second contribution of the present work is the finding that consumer lay theory can be directly contradictory to customers' actual purchase behavior in a relevant and fairly common in-store situation. This insight should be of interest to scholars conducting consumer-related research, and should have fruitful practical implications for retailers, marketers, advertisers, and people who work in the food industry.

At a general level, governments, public policy makers, and parents sometimes impose regulations that limit, censor, or ban the consumption of certain products or events (for example, unhealthy food, violent movies, or environmentally unfriendly products) in favor of other options. The findings reported herein, and related research in the domain of food and

other consumer contexts, suggest that such actions should be used thoughtfully because they may, paradoxically, lead to a rebound effect, and hence an overconsumption of the banned or limited alternatives. From a food perspective, this rebound effect may include overeating, ignored health concerns, and an increased preference for unhealthy foods (cf. Finkelstein & Fishbach, 2010). Similarly, this effect may explain why labeling snacks as ‘low-fat’ increases food intake by up to 50 percent (Wansink & Chandon, 2006), why individuals are more prone to make unhealthy food choices (such as a bacon cheeseburger) when a healthy food item is present in the choice set (Wilcox, Vallen, Block, & Fitzsimons, 2009), or why “people are more likely to underestimate the caloric content of main dishes and to choose higher-calorie side dishes, drinks, or desserts when fast-food restaurants claim to be healthy (e.g., Subway) compared to when they do not (e.g., McDonald’s)” (Chandon & Wansink, 2007, p. 301).

5.1. Limitations and future research

The results reported in this paper may explain why many retailers make displayed merchandise difficult to touch – a fact that has previously been met with surprise by scholars in psychology and marketing (Spence, Puccinelli, Grewal, & Roggeveen, 2014). Nevertheless, given that product touch has been found to *increase* purchase likelihood (reviewed in Spence et al., 2014), the current finding – that restricting rather than encouraging product touch has the most positive impact on customers’ purchase behavior – warrants further consideration. Future research could attempt to address these inconsistent results.

Applied to a food context, the present research supports the practice adopted by several grocery stores where certain beverages and foodstuffs are kept ‘out of the reach’ of customers. For example, deli counters displaying cheese, pastries, and salami are often protected by glass that prevents customers’ tactile experiences with the products, and potentially increases their attractiveness. Supporting this notion, research shows that consumer goods are preferred to a larger extent if they are displayed behind a physical barrier such as a large glass sheet (Brehm

& Weinraub, 1977). The present finding – that restricting product touch results in more expensive products being purchased – also strengthens the argument that customers are willing to pay a higher price for products when their freedom to touch has been restricted. To examine whether the results presented in this article can be generalized to other products and in other consumer contexts, future research should attempt to corroborate the findings with a more diverse set of (food and non-food) products.

Admittedly, the present research has only focused on one type of in-store event (that is, an in-store product demonstration) and its influence on customers' purchase behavior after restricting or encouraging their freedom to touch. However, there may be other ways to change people's consumption patterns that do not necessarily relate to the tactile sense. Because the key mechanism at play seems to be a restriction to customers' freedom, several distinct factors could arguably be the trigger for reactance-induced purchases. In support of this claim, previous research has shown, ironically, that restrictions on certain food products increase their desirability (Mann & Ward, 2001) and the resulting consumption of these very products (Jansen et al., 2007; Stok et al., 2015). Additionally, restricting customers' freedom to visit a particular food setting (for example, a cafeteria) results in higher attractiveness ratings of that food setting (West, 1975). In grocery stores, where customers rarely face explicit restrictions on touching food products during in-store events such as free tasting sessions of food samples, it may be better to use more subtle restrictions to customers' freedom. As an example, Finkelstein and Fishbach (2010) found that customers who were asked to sample a food item that was framed as healthy "later reported being hungrier and consumed more food than those who sampled the same item framed as tasty or those who did not eat at all" (p. 357). However, in the presence of two allegedly healthy food items, customers who were instructed to taste a specific one were subsequently found to be significantly hungrier than those who were free to choose between the two alternatives. In

other words, only imposed (versus freely chosen) healthy eating induced hunger and resulted in increased food consumption. These results suggest that employees delivering free samples of healthy food could increase customers' overall spending by allowing them to taste one specific pre-determined item (which restrains their freedom to choose) instead of permitting a free selection of all the sample alternatives available. Future research, preferably conducted in actual field settings, could address this possibility.

Acknowledgements

This research was supported by grants from the Swedish Knowledge Foundation. The author is grateful to two anonymous reviewers for their helpful and constructive comments.

References

- Brehm, J.W. (1972). *Responses to the loss of freedom: A theory of psychological reactance*. Morristown, NJ: General Learning Press.
- Brehm, S.S., & Weinraub, M. (1977). Physical barriers and psychological reactance: 2-year-olds' responses to threats to freedom. *Journal of Personality and Social Psychology*, 35(11), 830–836.
- Bushman, B.J., & Stack, A.D. (1996). Forbidden fruit versus tainted fruit: Effects of warning labels on attraction to television violence. *Journal of Experimental Psychology: Applied*, 2(3), 207–226.
- Chandon, P., & Wansink, B. (2007). The biasing health halos of fast-food restaurant health claims: lower calorie estimates and higher side-dish consumption intentions. *Journal of Consumer Research*, 34(3), 301–314.
- Cialdini, R.B. (2001). *Influence: Science and practice*. Boston: Allyn & Bacon.
- Clee, M.A., & Wicklund, R.A. (1980). Consumer behavior and psychological reactance. *Journal of Consumer Research*, 6(4), 389–405.

- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.
- Finkelstein, S.R., & Fishbach, A. (2010). When healthy food makes you hungry. *Journal of Consumer Research*, 37(October), 357–367.
- Funder, D.C., & Colvin, C.R. (1991). Explorations in behavioral consistency: properties of persons, situations, and behaviors. *Journal of Personality and Social Psychology*, 60(5), 773–794.
- Gao, L., Wheeler, S.C., & Shiv, B. (2009). The “shaken self”: Product choices as a means of restoring self-view confidence. *Journal of Consumer Research*, 36(1), 29–38.
- Jansen, E., Mulkens, S., & Jansen, A. (2007). Do not eat the red food!: Prohibition of snacks leads to their relatively higher consumption in children. *Appetite*, 49(3), 572–577.
- Joubert, C.E. (1990). Relationship among self-esteem, psychological reactance, and other personality variables. *Psychological Reports*, 66(3c), 1147–1151.
- Labbe, D., Pineau, N., & Martin, N. (2013). Food expected naturalness: Impact of visual, tactile and auditory packaging material properties and role of perceptual interactions. *Food Quality and Preference*, 27(2), 170–178.
- Leischnig, A., Schwertfeger, M., & Geigenmueller, A. (2011). Do shopping events promote retail brands? *International Journal of Retail & Distribution Management*, 39(8), 619–634.
- Levav, J., & Zhu, R. (2009). Seeking freedom through variety. *Journal of Consumer Research*, 36(4), 600–610.
- Lisjak, M., Bonezzi, A., Kim, S., & Rucker, D.D. (2015). Perils of compensatory consumption: Within-domain compensation undermines subsequent self-regulation. *Journal of Consumer Research*, 41(5), 1186–1203.
- Mann, T., & Ward, A. (2001). Forbidden fruit: Does thinking about a prohibited food lead to

- its consumption? *International Journal of Eating Disorders*, 29(3), 319–327.
- Martens, M. (1999). A philosophy for sensory science. *Food Quality and Preference*, 10(4), 233–244.
- Mazis, M.B., Settle, R.B., & Leslie, D.C. (1973). Elimination of phosphate detergents and psychological reactance, *Journal of Marketing Research*, 10 (November), 390–395.
- Osgood, C.E., & Tannenbaum, P.H. (1955). The principle of congruity in the prediction of attitude change. *Psychological Review*, 62(1), 42–55.
- Otterbring, T. (2015). Muscular male employees increase men's conspicuous consumption. In R. Szántó (Ed.), *Book of Abstracts of the 25th Subjective Probability, Utility, and Decision Making (SPUDM) Conference* (pp. 102–103), Budapest, Hungary: Corvinus University of Budapest. ISBN: 978-615-5270-17-8.
- Otterbring, T., Sirianni, N.J., Ringler, C. & Gustafsson, A. (2015). Muscular male employees make men spend more money. In L. Warlop, & S. Muyelle (Eds.), *Book of Abstracts of the 44th European Marketing Academy (EMAC) 2015 Conference: Collaboration in Research* (p. 64), Leuven, Belgium: Vanderpoorten. ISBN: 978-90-823-8330-0.
- Peck, J., & Childers, T.L. (2003a). Individual differences in haptic information processing: The “Need for Touch” scale. *Journal of Consumer Research*, 30(December), 430–442.
- Peck, J., & Childers, T.L. (2003b). To have and to hold: The influence of haptic information on product judgments. *Journal of Marketing*, 67(2), 35–48.
- Peck, J., & Shu, S.B. (2009). The effect of mere touch on perceived ownership. *Journal of Consumer Research*, 36(3), 434–447.
- Piqueras-Fiszman, B., & Spence, C. (2012). The influence of the feel of product packaging on the perception of the oral-somatosensory texture of food. *Food Quality and Preference*, 26(1), 67–73.
- Rucker, D.D., & Galinsky, A.D. (2009). Conspicuous consumption versus utilitarian ideals:

- How different levels of power shape consumer behavior. *Journal of Experimental Social Psychology*, 45(3), 549–555.
- Sands, S., Oppewal, H., & Beverland, M. (2015). How in-store educational and entertaining events influence shopper satisfaction. *Journal of Retailing and Consumer Services*, 23(March), 9–20.
- Sands, S., Oppewal, H., & Beverland, M. (2009). The effects of in-store themed events on consumer store choice decisions. *Journal of Retailing and Consumer Services*, 16(5), 386–395.
- Schifferstein, H.N. (2009). The drinking experience: Cup or content. *Food Quality and Preference*, 20(3), 268–276.
- Seemann, E.A., Buboltz, W.C., Jenkins, S.M., Soper, B., & Woller, K. (2004). Ethnic and gender differences in psychological reactance: the importance of reactance in multicultural counselling. *Counselling Psychology Quarterly*, 17(2), 167–176.
- Sivanathan, N., & Pettit, N.C. (2010). Protecting the self through consumption: Status goods as affirmational commodities. *Journal of Experimental Social Psychology*, 46(3), 564–570.
- Spence, C., Puccinelli, N.M., Grewal, D., & Roggeveen, A.L. (2014). Store atmospherics: A multisensory perspective. *Psychology & Marketing*, 31(7), 472–488.
- Stok, F.M., de Vet, E., de Wit, J.B.F., Renner, B., & de Ridder, D.T.D. (2015). Communicating eating-related rules. Suggestions are more effective than restrictions. *Appetite*, 86(March), 45–53.
- Tatzel, M. (2002). “Money worlds” and well-being: An integration of money dispositions, materialism and price-related behavior. *Journal of Economic Psychology*, 23(1), 103–126.
- Tedeschi, J.T., Schlenker, B.R., & Bonoma, T.V. (1971). Cognitive dissonance: Private

- rationation or public spectacle? *American Psychologist*, 26(8), 685–695.
- Tu, Y., Yang, Z., & Ma, C. (2015). Touching tastes: The haptic perception transfer of liquid food packaging materials. *Food Quality and Preference*, 39(January), 124–130.
- Underhill, P. (2009). *Why we buy: The science of shopping*. New York: Simon & Schuster.
- Van Herpen, E., Pieters, R., & Zeelenberg, M. (2014). When less sells more or less: The scarcity principle in wine choice. *Food Quality and Preference*, 36(September), 153–160.
- Wang, J., & Wallendorf, M. (2006). Materialism, status signaling, and product satisfaction. *Journal of the Academy of Marketing Science*, 34(4), 494–505.
- Wansink, B., & Chandon, P. (2006). Can “low-fat” nutrition labels lead to obesity? *Journal of Marketing Research*, 43(4), 605–617.
- Wansink, B., & Park, S. (2001). At the movies: how external cues and perceived taste impact consumption volume. *Food Quality and Preference*, 12(1), 69–74.
- West, S.G. (1975). Increasing the attractiveness of college cafeteria food: A reactance theory perspective. *Journal of Applied Psychology*, 60(5), 656–658.
- Wilcox, K., Vallen, B., Block, L., & Fitzsimons, G.J. (2009). Vicarious goal fulfillment: When the mere presence of a healthy option leads to an ironically indulgent decision. *Journal of Consumer Research*, 36(3), 380–393.
- Woller, K.M., Buboltz, W.C., & Loveland, J.M. (2007). Psychological reactance: examination across age, ethnicity, and gender. *American Journal of Psychology*, 120(1), 15–24.

Appendix, Scenarios

Introductory Paragraph (same for Scenario A and Scenario B):

Imagine that you are on your way to X [name of retailer]. You have just been asked if you are willing to participate in a demonstration of some pieces of furniture from X's assortment. Since you are not in a hurry, you agree to take part in such a demonstration. The products being demonstrated belong to a closet system and include a hanger for pants, shoe racks, and a couple of wardrobe drawers.

Scenario A (touch restriction):

During the demonstration, you are informed that you are not allowed to touch any of these products. The person responsible for the demonstration tells you that the furniture is for display only and therefore cannot be touched.

Scenario B (touch encouragement):

During the demonstration, you are informed that you are welcome to touch the products. The person responsible for the demonstration encourages you to touch the products by, for instance, pulling out drawers or physically examining the hanger.

Figure 1: Individuals' intuitions regarding how restricting versus encouraging product touch during an in-store product demonstration should influence the number of products they purchase, and the amount of money they spend.

Figure 2: The effect of touch restriction versus touch encouragement on customers' actual purchase behavior in terms of the number of products being purchased.

Figure 3: The effect of touch restriction versus touch encouragement on customers' actual purchase behavior in terms of the amount of money being spent.

Figure 4: The effect of touch restriction versus touch encouragement on customers' actual purchase behavior in terms of the purchase of more expensive products.