

## **WHEN SHOPPER MARKETING BACKFIRES**

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## Abstract

Retailers use an arsenal of shopper-marketing tools to entice shoppers to spend. We show that such shopping prompts can decrease rather than increase spending by leading shoppers to exercise greater self-control to counter the temptation to spend. The results of three field experiments (1 – 3) that involved real shoppers consistently demonstrate this *ironic prudent-spending effect*. Supporting the self-control account, we also find that the effect is more pronounced (1) among shoppers who perceive themselves as impulsive and are thus more sensitive to self-control cues posed by shopping prompts; and (2) for hedonic (vs. utilitarian) items that pose greater temptation. Two lab experiments (4 – 5) further show that shopping prompts increase the subjective importance of the prudent-spending goal while reducing how tempting hedonic (vs. utilitarian) products are perceived to be, providing convergent process evidence for the proposed self-control mechanism. (138 words)

*Keywords:* shopper marketing, self-control, spending temptation, consumer impulsiveness.

From conspicuous marketing tactics such as product samples and promotional posters and flyers (Shankar 2011; Underhill 1999; Wadhwa, Shiv, and Nowlis 2008), to more subtle strategies such as primes in the retail environment (McCabe and Nowlis 2003; Turley and Milliman 2000), shoppers encounter a variety of shopping prompts in retail stores. For example, some retailers ‘assist’ shoppers by offering them a shopping cart or basket to make it easier for them to carry more items, while others prime shoppers to spend by hanging large posters in the store with temptation-imbued marketing slogans and tantalizing visuals. Such strategies are increasingly popular as marketers focus on in-store shopper marketing to influence shoppers at the “first moment of truth” – an expression Proctor and Gamble (2005) coined to describe shoppers’ first interaction with a product on a shelf (Mullman 2009; Nelson and Ellison 2005).

Consumers are often portrayed as easy victims of these shopping prompts that retailers use to loosen shoppers’ purse strings. Yet prior research has shown that consumers can protect themselves against the lure of some temptations (Ainslie 1975; Becker 1960; Trope and Fishbach 2000). Building on this work, we propose that shopping prompts can trigger greater self-control and strengthen the higher-order goal of prudent spending, which in turn decreases the propensity to buy. To the extent that shopping prompts activate greater self-control, they can thus ironically lead shoppers to spend *less* than they would have had they not encountered a temptation to spend. We name this effect *ironic prudent spending*. Shopper-marketing tools that are designed to tempt customers to spend more can thus backfire.

We examine this phenomenon in a series of field studies that we conducted at actual stores with regular shoppers making real purchases as well as in lab experiments. We induced our participants to spend using shopping prompts of varied subtlety, from more implicit shopping primes (e.g., via a photo-rating task or a letters-unscrambling task) to more explicit shopper-

marketing tools that commercial retailers commonly employ (e.g., handing out shopping flyers or offering customers a shopping basket). Supporting our predictions, we find that shoppers who encounter these shopping prompts perceive the prudent-spending goal to be more important and the tempting products (particularly hedonic ones) to be less tempting. Consequently, shoppers may spend less in the presence of these shopping prompts. Moreover, this effect is more pronounced (1) among shoppers who perceive themselves as impulsive and who are thus more sensitive to cues to exercise restraint that the tempting shopping prompts pose; and (2) for hedonic (vs. utilitarian) products which pose greater temptation – findings that provide convergent support for the proposed self-control account. The effect appears robust as it manifests across a variety of participants, shopping prompts, product stimuli, and experimental settings.

In the rest of this manuscript, we first describe the conceptual background of our research and derive a set of hypotheses. We then report the methodology and results of each experiment we conducted, and conclude with a general discussion and directions for future research.

### **When Shopping Prompts Activate the Prudent Shopper**

Retail shopping prompts are known to induce greater customer spending (Shankar 2011). The prospect of lower customer spending in response to such shopping prompts, however, has been underexplored (see, e.g., Simonson et al. 1994 for exceptions). This possibility is consistent with research on intertemporal choice and self-control that has examined situations in which people face tradeoffs between fleeting rewards and delayed higher-order outcomes, or decisions involving temptations that put higher-order goals to the test (Ainslie 1992; Loewenstein 1996;

Metcalfe and Mischel 1999; Rachlin 1995). Examples of these temptations include the lure of a mouthwatering chocolate cake while watching one's weight, or an invitation to a party one day before an important exam. Such temptations stimulate the desire for immediate gratification and can thus increase consumption. However, they simultaneously also have the opposite effect: prompting self-control efforts to thwart the impact of temptation on behavior so as to keep on track the attainment of the higher-order goals. To the extent that the self-control response overrides the activation of desire, temptation cues will decrease indulgence (Fishbach and Trope 2007; Papies, Barsalou, and Custers 2012).

Self-control efforts triggered by the presence of a temptation can manifest in two parallel ways (Fishbach and Converse 2010). On the one hand, the motivational strength of pursuing the higher-order goal is bolstered so as to override the temptation. On the other hand, the desire to succumb to the temptation is weakened so that the temptation can be overridden by the higher-order goal. In particular, these dual effects may involve (1) enhancing the importance of the higher-order goal; and (2) devaluing tempting stimuli or activities that are inconsistent with the higher-order goal (see also Zhang, Huang, and Broniarczyk 2010). For instance, when individuals on a diet are offered a slice of luscious chocolate cake, they may temporarily regard their goal of healthy eating to be *more* important, while perceiving the cake to be *less* tempting or to contain more calories; these asymmetric perceptions, together, help the dieters keep their goal on track.

People can exercise self-control even if they are implicitly primed with temptations, as the temptations automatically activate higher-order goals and make them more accessible, while primes related to the higher-order goals inhibit temptation-related concepts. For example, Fishbach, Friedman, and Kruglanski (2003, Study 1) used participants' self-reported goals and

temptations to obtain goal-temptation word pairs (e.g. faithful-sex); participants recognized goal-related words (e.g. faithful) more quickly after being subliminally exposed to temptation-related words (e.g. sex), but recognized temptation-related words more slowly after being exposed to goal-related words.

In the context of shopping, consumers often have a higher-order goal to control spending (Kivetz and Zheng 2006; Okada 2005). Drawing on the extant research on self-control as discussed above, we posit that encountering reminders of upcoming spending temptations (e.g., an offer of a shopping basket or exposure to shopping-related photos) can bolster the higher-order goal to spend prudently. In the shopping context where shoppers will encounter temptations, the early reminder of upcoming temptations ironically invokes restraint in shopping and may result in more prudent spending rather than leading to splurging. In this way, consumers protect themselves against temptations from shopping prompts. To summarize, we predict that shopping prompts presented prior to shopping can lead consumers to spend *less* than they would have had they not encountered these temptations.

**H1:** Shoppers who are exposed to tempting shopping prompts spend less than those who are not exposed to the shopping prompts (The ironic prudent-spending effect).

### ***Prudent Spending and Consumer Impulsiveness***

Our proposed explanation for the ironic prudent-spending effect involves the activation of higher-order goals to exercise restraint in spending. In other words, encountering spending temptations strengthens the higher-order goal to spend more prudently. An important underlying premise of this explanation is that shoppers generally have a higher-order goal to spend prudently. While this is often true of shoppers (Okada 2005), it pertains more to individuals who

are *aware* that they tend to shop impulsively, compared to intrinsically prudent shoppers who chronically focus on costs and are less likely to benefit from prompts to monitor their spending (Puri 1996). Individuals who perceive themselves as impulsive shoppers should thus be more sensitive to shopping motivators that can remind them of the need to spend prudently (Mukhopadhyay, Sengupta, and Ramanathan 2008; Rook and Fisher 1995). We therefore propose that spending temptations, which can prime the higher-order goal of prudent spending and trigger greater restraint in shopping, will have greater impact on shoppers who perceive themselves as more chronically impulsive. These impulsive shoppers are more likely to benefit from reminders to spend carefully, and are hence more inclined to be restrained in their shopping after encountering spending temptations.

**H2:** The more shoppers perceive themselves to be chronically impulsive, the stronger is the ironic prudent-spending effect on them.

### ***Prudent-Spending Goal Enhancement and Temptation Devaluation***

More central to our hypothesized mechanism for the ironic prudent-spending effect, and drawing on research documenting the dual psychological effects of temptation-induced self-control discussed above, we predict that shopping prompts can lead to two simultaneous self-control perceptions. First, shopping prompts boost perceived importance of the higher order prudent-spending goal so as to override lower order spending temptations. Formally:

**H3:** Shopping prompts increase the perceived importance of the prudent-spending goal.

Second, shopping prompts also reduce the perceived attractiveness of the goal-inconsistent spending temptations. In particular, we posit that the degree of such devaluation

should differ as a function of product type. Hedonic products such as chocolates and ice-cream are typically purchased for pleasure at consumers' discretion and deemed non-essential. In comparison, utilitarian products such as toothpaste and detergent are generally regarded as necessary purchases serving instrumental functions in everyday lives (Dhar and Wertenbroch 2000). Whereas hedonic products tend to be associated with greater feelings of guilt and their consumption is often deliberately constrained and rationed, utilitarian products are less likely to be seen as wasteful and be treated as targets of consumption self-control (Wertenbroch 1998). Therefore, we expect that encountering shopping prompts will lead consumers to perceive tempting hedonic products (which heighten the possibility of unnecessary spending) as *less* tempting; in contrast, their valuation of utilitarian products are less likely to change in the face of shopping prompts.

**H4:** Shoppers who encounter shopping prompts are more likely to perceive products as less tempting compared to shoppers who do not encounter these prompts, and this effect is stronger the more hedonic a product is.

### **Overview of Empirical Investigation**

To test these hypotheses, we conducted a series of five field and lab experiments in which we assessed participants' behavioral and cognitive responses after they had (vs. had not) encountered shopping prompts.

#### ***Experiments 1 – 3: Demonstration of the Basic Effect***



We designed experiments 1 – 3 to test the ironic prudent-spending effect and to explore its underlying mechanism in the field. We conducted these experiments at two different retail locations. The first store is privately owned and is located within the premises of a large northeastern university in the U.S. This minimart has a floor space of 4,000 square feet, and stocks more than 20,000 SKUs of common grocery products and household items. About 3,500 shoppers visit the store each day, with the average shopper buying two items and spending about \$5 per visit; the majority of the purchases are snacks and other small convenience items. The second store is part of a large national chain of approximately 100 convenience stores. It is situated within a large university in Asia and is significantly smaller; it has floor space that is about one third of the first store and stocks significantly fewer SKUs, with its average shopper spending about \$3.50 per store visit.

To identify suitable natural shopping prompts that retailers typically employ in the marketplace and that consumers perceived as temptations, we conducted a pre-test in which we asked 30 participants to rate (on separate 7-point scales) how tempted to spend they would be by several potential retailer actions. The actions included: relaxing sounds of ocean waves in the store, greeting by a store assistant at the entrance, cool (vs. neutral) in-store temperature, a promotional flyer listing deals, relaxing aromatic scents, buying with (vs. without) a shopping basket. We selected the two actions that were rated the highest in terms of their perceived ability to tempt (which should thus evoke self-control). Analyzing respondents' ratings of those actions using a series of one-tailed  $t$ -tests with the midpoint of the scale (4) as the comparative standard, we found that respondents believed they would be tempted to spend more with a promotional flyer ( $M = 5.1$ ,  $SD = 1.3$ ,  $t(59) = 6.4$ ,  $p < .0001$ ) or a shopping basket ( $M = 4.9$ ,  $SD = 1.2$ ,  $t(59) = 5.4$ ,  $p < .0001$ ).

Based on our pre-test results, we offered shoppers a shopping basket (experiments 1 and 2) or a promotional flyer (experiment 3) to prompt greater spending in our field experiments. Shopping baskets can help shoppers lug selections around as they comb the store aisles, but can also induce greater spending given the added convenience (Underhill 1999). Promotional flyers are often offered to shoppers in stores to inform them of products that are on sale and to help them find bargains, but can also promote spending given the allure of ‘deals.’

In each experiment, we monitored and analyzed shoppers’ spending under different conditions. We designed experiment 1 to test whether spending would differ between shoppers who upon entering the store were offered a shopping basket by a store assistant versus shoppers who were not offered a basket (**H1**). Experiment 2 examines whether and how the ironic prudent-spending effect depends on how impulsive shoppers perceive themselves to be (**H2**). Experiment 3 explores whether the ironic prudent-spending effect can be generalized to a different shopping prompt—promotional flyers—and also investigates its impact on the type of products that shoppers purchase.

#### ***Experiments 4 – 5: Testing the Proposed Mechanism***

We then conducted experiments 4 and 5 to seek more direct process evidence for the proposed self-control mechanism for the ironic prudent-spending effect while using more implicit shopping primes to induce spending (i.e., via a photo-rating task and a letters-unscrambling task, respectively) in order to test the generalizability of the effect to more subtle shopping prompts. Specifically, in these two experiments we tested **H3** and **H4**, respectively, and investigated whether shopping prompts trigger greater perceived importance of the prudent-spending goal while making hedonic (vs. utilitarian) products appear less tempting. We ran these

experiments in the lab so as to allow us to better pin down the underlying process of the ironic prudent-spending effect with less interference from undue ‘noise’ that often exists in the field.

## **Experiment 1: Shopping Basket Offer and Ironic Prudent Spending**

### ***Overview and Method***

This initial field experiment was designed to test **H1**, investigating the predicted basic effect that shopping prompts could have on consumer spending. Specifically, based on the results of the pre-test, we offered some shoppers a shopping basket, which can tempt shoppers to buy more at the store. We posit that this temptation can prompt greater restraint in spending as it activates the higher-order goal to spend prudently.

Two hundred shoppers at a minimart situated within a large US university participated in this experiment. The shoppers were randomly assigned to one of two experimental conditions. A research assistant, disguised as a store clerk, assigned shoppers to a different condition after every 5 – 10 shoppers, with single shoppers who entered the store at the same time being assigned to the same condition (shoppers who entered the store in groups of two or more were not approached to ensure sample homogeneity and to minimize potential social influences). Upon entering the store, approximately half of these shoppers were first offered a \$1-off coupon by the research assistant. Immediately after these shoppers accepted the coupon, the research assistant offered them a regular shopping basket of the store and asked whether they would like to shop with one (*basket-offered* condition). The other half of the shoppers were simply offered the \$1-off coupon without a basket (*basket-not-offered* condition) and served as a control group.

The \$1-off coupon allowed us to record shoppers' total spending when they redeemed their coupons after shopping.

## ***Results***

A total of 176 shoppers redeemed the \$1-off coupon ( $\text{Proportion}_{\text{basket-offered}} = 84\%$  vs.  $\text{Proportion}_{\text{basket-not-offered}} = 92\%$ ;  $z = 1.74, p = .08$ ). We compared how much the shoppers between conditions spent in the store using a *t*-test. The results revealed that shoppers in the *basket-offered* condition spent significantly less ( $M = \$3.68, SD = \$2.52$ ) than those in the *basket-not-offered* condition ( $M = \$4.76, SD = \$3.92$ ;  $t(174) = 2.16, p = .03$ ). This result supports **H1**, that shoppers who are prompted to spend (e.g., receiving a shopping-basket offer) may spend less than shoppers who are not.

## ***Discussion***

The results of this field experiment demonstrate the ironic prudent-spending effect. They appear to conflict with the common belief that shopping prompts (such as the offer of a shopping basket, which affords shoppers greater convenience) boost spending, especially when shoppers encounter them when beginning their shopping (Underhill 1999). We propose that this phenomenon can be explained by a *self-control* account: The offer of a shopping basket activates the higher-order goal of prudent spending; consequently, shoppers who are offered a basket exercise greater prudence in their spending.

An alternative account is that shoppers may interpret such shopping prompts as attempts to persuade them to spend and thus react against them by spending less (Brehm 1966; Friestad and Wright 1994). This possibility seems unlikely given that when we offered shoppers a basket

in experiment 1, *both* shoppers who accepted the basket ( $M = \$3.49$ ) and those who rejected the basket ( $M = \$3.73$ ) spent less than shoppers who were not offered a basket ( $M = \$4.76$ ).

Importantly, subsequent experiments provide additional results that do not follow from this alternative account. These experiments either incorporated procedural changes to significantly and non-obtrusively boost shopper acceptance of an offered shopping basket (experiment 2) or a promotional flyer (experiment 3), or employed implicit approaches to prompt spending (experiments 4 and 5).

## **Experiment 2: Ironic Prudent Spending and Consumer Impulsiveness**

### ***Overview and Method***

Experiment 1 demonstrates that shoppers who encounter shopping prompts (the offer of a shopping basket) respond by spending less. We posit that these shopping prompts trigger greater self-control during shopping, leading to prudent spending. As a preliminary test of this self-control account, in experiment 2, we consider the degree to which the ironic prudent-spending effect varies with shoppers' perceived consumption impulsiveness, which corresponds to the degree to which they regard shopping prompts as temptations to be resisted. Per **H2**, we expect the ironic prudent-spending effect to be stronger for consumers who perceive themselves as impulsive shoppers, given that impulsive shoppers would be more sensitive to shopping prompts compared to their more prudent counterparts who naturally focus on costs (Mukhopadhyay et al. 2008; Puri 1996; Rook and Fisher 1995). Spending temptations can remind impulsive shoppers not to deviate from the higher-order goal of buying prudently. Conversely, shoppers who are

more dispositionally prudent tend to exercise more restraint in spending regardless of reminder of spending temptations.

A research assistant, disguised as a store clerk, approached 120 shoppers at the same minimart as in experiment 1. Again, we used the offer of a shopping basket to prompt spending, and all participating shoppers received a \$1-off coupon. In addition, half of the shoppers were offered a shopping basket (*basket-offered* condition) with the coupon placed in the basket, whereas the other half were not offered a shopping basket (*basket-not-offered* condition). When shoppers redeemed their coupon at the redemption counter (set up outside the store by another research assistant) after shopping, they were asked if they would be willing to complete a brief survey for an extra \$1. In that survey, they were asked to rate themselves on Puri's (1996) 12-item consumer impulsiveness scale.

## ***Results***

One hundred and seven shoppers redeemed the \$1-off coupon ( $\text{Proportion}_{\text{basket-offered}} = 93\%$  vs.  $\text{Proportion}_{\text{basket-not-offered}} = 85\%$ ;  $z = 1.40$ ,  $p = .16$ ). Five of them made very large purchases (more than two standard deviations away from the average spending of all shoppers) and were thus excluded in the data analysis. A  $t$ -test performed on shoppers' total spending revealed that, as in experiment 1, shoppers who were offered a shopping basket ( $M_{\text{basket-offered}} = \$3.86$ ,  $SD = \$2.53$ ) spent significantly less than shoppers who were not offered a basket ( $M_{\text{basket-not-offered}} = \$4.93$ ,  $SD = \$2.97$ ;  $t(100) = 1.96$ ,  $p = .05$ ).

We performed multiple regression analysis on shoppers' total spending with the following independent variables: (i) a dummy variable for whether a shopping basket was offered or not, (ii) shoppers' mean-centered consumer-impulsiveness score, and (iii) the

interaction between the two variables. (Ten of the participants did not complete the consumer impulsiveness scale and were hence excluded from this analysis.) The results revealed a two-way interaction between shoppers' consumer-impulsiveness scores and whether a basket was offered or not ( $\beta = -.11, p = .03$ ). Figure 1 graphically depicts shoppers' spending levels as a function of their consumer-impulsiveness scores and whether they were offered a shopping basket or not.

To further explore the observed interaction, spotlight analysis at one standard deviation above the mean of shoppers' impulsiveness scores showed a significant difference ( $\beta = -2.28, p = .008$ ), indicating that shoppers who perceived themselves as more impulsive spent significantly less after receiving a basket offer versus not receiving a basket offer. A similar spotlight analysis at one standard deviation below the mean of shoppers' impulsiveness scores did not reveal any significant difference ( $\beta = .28, p = .73$ ), indicating that among shoppers who perceived themselves as less impulsive, the offer of a shopping basket did not significantly affect their spending.

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## ***Discussion***

The results of this experiment replicate the results of experiment 1, and also provide preliminary support for the self-control account of the ironic effects of shopping prompts. Importantly, we find that how much shoppers spend after they encounter shopping prompts is moderated by their perceived impulsiveness to spend: self-control is more pronounced among shoppers who perceive themselves as impulsive and whom we expect to be more responsive to cues reminding them to be cautious against overspending. Note that the alternative account of reactance does not predict this interaction effect.

A potential concern related to the results in experiment 2 is that the basket manipulation itself could have directly affected shoppers' response to Puri's consumer-impulsiveness scale. We tested this possibility by comparing scores across the two basket conditions. We found no significant difference in shoppers' impulsiveness scores between conditions ( $M_{\text{basket-offered}} = 42.0$  vs.  $M_{\text{basket-not-offered}} = 38.8$ ;  $t(90) = 1.34, p = .18$ ), and also no significant difference in score distribution between the two conditions using the Kolmogorov-Smirnov non-parametric test ( $\chi^2 = 2.55, p = .56$ ).

### **Experiment 3: Promotion Flyer Offer and Ironic Prudent Spending**

#### ***Overview and Method***

To explore the generalizability of the effects we observed in experiments 1 and 2, we ran this next experiment in a different field setting, using another natural and managerially relevant shopping prompt. Specifically, we conducted experiment 3 in a convenience store located within a large university campus. Based on the results of our pre-test (described in the experimental overview), we used the offer of a promotional flyer as a vehicle to prompt spending in the store.

This experiment was conducted over two half-days. As results did not differ across the two waves, we collapsed the data in our analysis. Two hundred and thirty shoppers participated in the experiment and were assigned to one of two conditions: the shoppers received either a promotional flyer (*flyer-offered* condition) or not (*flyer-not-offered* condition). The promotional flyer featured a number of items (about 20) that were sold at discounted prices. Importantly, the promotional items (displayed on the flyer with color pictures) were mostly hedonic (e.g., branded sweet drinks, chocolates, and snacks). As in the earlier experiments, all participating shoppers



also received a \$1-off coupon which we used as a pretext to record their spending and to administer a short post-shopping survey when they redeemed their coupon at the counter (set up outside the store by a research assistant). A second research assistant, disguised as a store clerk, assigned shoppers to a different condition after every 5-10 shoppers, with single shoppers who entered the store at the same time being assigned to the same condition (as in the earlier experiments, shoppers who entered the store in groups of two or more were not approached). Consistent with the results of experiments 1 and 2, we predicted that shoppers offered a flyer featuring hedonic products would buy more prudently and spend less than those not offered a flyer.

A noteworthy feature of this experiment is that since we were able to retain the shoppers' shopping receipts with the store owner's permission, we could analyze the type of products that the shoppers bought. If shoppers who received a flyer featuring hedonic products were indeed more prudent in their spending, we would expect them to buy a greater proportion of utilitarian items such as batteries and mouthwash, compared to shoppers who did not receive a flyer (whom we would expect to purchase more hedonic items such as candy). To test this prediction, we recruited research assistants to rate each item that shoppers purchased on how utilitarian versus hedonic the item was on a 5-point scale (1 = *utilitarian*, 5 = *hedonic*). We then compared how much shoppers across conditions spent on hedonic products (average rating > 3), utilitarian products (average < 3), and products that are both hedonic and utilitarian (average rating = 3). As a secondary measure, we also computed the average rating of all items in each shopping basket, and compared the composition of the shopping baskets across the two experimental conditions; the higher the average rating of a shopping basket, the higher the proportion of hedonic items the shopper purchased.

One might argue that shoppers who received a promotional flyer might have responded to the flyer offer with feelings of reactance, thus perceiving the discounted products to be less attractive and therefore spending less overall compared to shoppers who did not receive a flyer. To test this possibility, when shoppers redeemed their coupons after shopping, we asked them to rate how attractive they thought the promotional items were on a 7-point scale (1 = *not at all attractive*, 7 = *very attractive*). If receiving the promotional flyer indeed resulted in feelings of reactance and adversely affected shoppers' attitudes toward the promotional items, their attitudinal changes would be reflected in this additional measure. In other words, this measure provided a potential test of the reactance-based alternative account for the ironic prudent-spending effect.

## ***Results***

One hundred and twenty-five shoppers redeemed the \$1-off coupon ( $\text{Proportion}_{\text{basket-offered}} = 53\%$  vs.  $\text{Proportion}_{\text{basket-not-offered}} = 55\%$ ;  $z = .30, p = .76$ ). (Two shoppers spent an amount that exceeds three standard deviations from the average spending of all shoppers and were excluded in the data analysis.) Consistent with **H1**, comparison of shoppers' total spending across the two conditions indicated that shoppers who were offered a promotional flyer featuring tempting hedonic products spent less ( $M = \$2.60, SD = \$1.82$ ) than those who were not offered the flyer ( $M = \$3.53, SD = \$2.89; t(121) = 2.03, p = .04$ ) (see table 1). Furthermore, as predicted, our analysis of the independent raters' ratings of the type of products shoppers purchased ( $\alpha = .86$ ) revealed that shoppers who received a promotional flyer spent less on hedonic items ( $M = \$1.63$  vs.  $M = \$2.40; t(121) = 1.89, p = .06$ ) than those who did not receive a flyer; the two groups, however, did not differ on how much they spent on hybrid ( $p = .15$ ) or utilitarian items ( $p = .76$ ).

Overall, shoppers who received a promotional flyer had a less hedonic shopping basket than those who did not receive a flyer ( $M_{\text{flyer-offered}} = 3.50$  vs.  $M_{\text{flyer-not-offered}} = 3.86$ ;  $t(121) = 1.94$ ,  $p = .05$ ). In other words, shoppers who received a flyer bought a larger proportion of non-hedonic items than those who did not receive a flyer.

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Furthermore, we found no difference in rated attractiveness of the promotional items across the two groups of shoppers ( $M_{\text{flyer-offered}} = 4.24$  vs.  $M_{\text{flyer-not-offered}} = 4.24$ ;  $t(118) = .01$ ,  $p = .99$ ), nor in the amount shoppers spent on promotional items ( $M_{\text{flyer-offered}} = \$0.46$  vs.  $M_{\text{flyer-not-offered}} = \$0.59$ ;  $t(121) = .68$ ,  $p = .50$ ).

## ***Discussion***

The results of experiment 3 demonstrate the ironic effects of spending temptations in the field using another managerially relevant shopping prompt: promotional flyers. These results conceptually replicated the main findings of the earlier experiments, supporting the robustness and generalizability of the ironic prudent-spending effect. Importantly, shoppers' reduced propensity to buy hedonic items after being offered a promotional flyer further supported the hypothesized self-control account of the effect. While this result, together with the observed moderation by perceived impulsiveness in experiment 2, implicates the validity of the hypothesized self-control account, in the following two experiments, we attempted to seek more direct process evidence for the role of self-control as the mechanism underlying the ironic prudent-spending effect.

## Experiment 4: Spending Prime Increases Prudent-Spending Goal Importance

### *Overview and Method*

An essential premise of the self-control account for ironic prudent spending is that shopping prompts increase the perceived importance of the prudent-spending goal (**H3**). To test this hypothesis, in experiment 4, we used an initial task to prime some participants to shop; subsequently, we assessed participants' rated importance of a number of different shopping goals. We recruited 83 participants (45 female; mean age = 38.3,  $SD = 13.6$ ) from an online pool to complete the two parts of this experiment. In the first part, participants were asked to complete a 'photo-rating task' in which they saw 15 digital photographs taken by amateur photographers on a variety of subjects in people's urban lives; for each photo, they had to judge the quality of the photo in terms of its composition and lighting. Participants were randomly assigned to either the *shopping-prime* or the *control* condition. In the *shopping-prime* condition, 10 of the photographs depicted people shopping at a mall or in a retail store and could prompt the desire to shop. In the *control* condition, 10 of the photographs depicted people engaging in other activities such as jogging or having a business meeting. The remaining five photographs which depicted people engaging in other types of behavior (e.g., working on a laptop, viewing a piece of art in an art gallery) were the same across the two conditions.

After rating the photographs, in a purportedly unrelated task, participants were asked to complete a short survey in which they rated, on separate 7-point scales (1 = *not at all important*, 7 = *extremely important*) how important various goals are to them when they shop. These goals included 'getting the best product quality,' 'getting the best customer service,' 'buying based on how I feel at the moment,' 'having a wide selection of products to choose from,' and the focal

goal – ‘being careful not to overspend.’ In addition to these goals, participants were asked to respond to the 20-item Positive and Negative Affect Schedule (PANAS) scale (Watson, Clark, and Tellegen 1988) to assess whether exposure to the different photos across the two conditions might have changed participants’ affective state. Finally, participants were asked to guess the purpose of the study, a question that served to probe whether they were able to intuit the relationship between the photo-rating task and the survey. None of the participants speculated a relationship between the two tasks, or commented that the first task affected their ratings in the second task.

## ***Results***

Table 2 delineates the between-condition comparisons of participants’ importance ratings of the given shopping goals. Only the focal goal—‘being careful not to overspend’—revealed a significant difference, such that participants in the *shopping-prime* condition ( $M = 6.30$ ,  $SD = .75$ ) rated this prudent-spending goal to be more important than participants in the *control* condition ( $M = 5.75$ ,  $SD = 1.03$ ;  $t(81) = 2.81$ ,  $p = .006$ ). In contrast, none of the other goals revealed a significant difference in rated importance between the two conditions (all  $p > .21$ ). Further, controlling for the amount of time participants took to complete the photo-rating task and their PANAS score did not alter the significance of the difference in rated importance of the prudent-spending goal; participants also did not differ significantly in these two variables (time taken for photo-rating task:  $p = .21$ ; PANAS score:  $p = .87$ ). These results indicate that a difference in mood or difficulty of the priming task was insufficient to fully account for the difference in rated importance of the prudent-spending goal.

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Insert table 2 about here.  
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## ***Discussion***

Consistent with **H3**, we found that prompting consumers to spend through a priming task increased the importance of the prudent-spending goal to them. That the shopping prompt was implicit rather than obtrusive, as well as the null results in self-reported feelings, suggests it is unlikely that the observed effect can be attributed to negative response to marketing persuasion (Brehm 1966; Friestad and Wright 1994). The results in experiment 4 thus support an essential premise for the hypothesized ironic effects of shopping prompts and implicate the role of self-control.

To further explore the hypothesized self-control mechanism for the ironic prudent-spending effect, in the next and final experiment, we examine whether priming individuals to spend would also cause them to perceive discretionary hedonic products (but not necessary utilitarian products) to be less tempting in order to psychologically thwart the lure of these tempting stimuli.

## **Experiment 5: Spending Prime Reduces Product Temptingness**

### ***Overview and Method***

In experiment 5, we tested whether prompting shoppers to spend would make them perceive temptation-inducing products as less tempting, especially for hedonic products which render the possibility of imprudent spending more salient and whose purchase is inconsistent with the higher-order goal of prudent spending (**H4**). Specifically, we asked participants in the

experiment to rate how tempting each of a number of products was to them after priming them to shop using a different implicit shopping prompt.

A total of 86 participants recruited at a large northeastern university completed two seemingly unrelated tasks. In the first task, participants solved a number of anagrams (letters-unscrambling puzzles), and were told that the best performers would stand a chance to win a \$10 Amazon gift certificate. Participants were randomly assigned to either the *shopping-prime* condition or the *control* condition. Unbeknownst to the participants, the two groups of participants were given different anagrams: participants in the *shopping-prime* condition were given the anagram ‘SPEND’ as an example followed by eight anagrams to solve, including six shopping-related words (i.e., BUY, MALL, STORE, SHOPPING, CONSUME, and PURCHASE); participants in the *control* condition, however, were given the anagram ‘STAND’ as an example followed by eight anagrams including six non-shopping-related words (i.e., BOY, TALL, SHORE, SHIPPING, COSTUME, and PRECIOUS); the remaining two words were the same across both conditions and unrelated to shopping (i.e., TOUCH and SCHOOL).

Next, in a purportedly unrelated task, participants completed a short ‘product-ratings’ survey. In this survey, they were shown pictures of 20 different products (e.g., Pringles potato chips, hand sanitizer, M&M chocolate candies, Poland spring water) and asked to rate each product in terms of (a) how tempting the product was to them (1 = *not at all tempting to me*, 7 = *very tempting to me*); and (b) whether they perceived the product to be hedonic or utilitarian (1 = *definitely utilitarian*, 7 = *definitely hedonic*). At the end of the survey, they were asked to guess the purpose of the study. None of the participants perceived a relationship between the two tasks.

## **Results**

Participants across the two conditions solved a comparable number of the given puzzles ( $M_{\text{spending\_prime}} = 7.62$  vs.  $M_{\text{control}} = 7.73$ ,  $t(84) = .80$ ,  $p = .42$ ). More central to the main objective of this experiment, the anagrams that participants solved affected how tempting they perceived the different types of products in the ‘product-ratings’ survey to be. Specifically, we analyzed, using a number of random-effects regression models (see table 3), whether participants’ rating of the type of each product (hedonic/utilitarian) predicted how tempting the product was to them, and whether this relationship differed depending on whether they had been primed to shop through the word-puzzles task.

The regression results revealed the predicted positive relationship between participants’ ratings of product type (higher ratings indicate more hedonic) and how tempting they perceived the products across conditions, such that the more hedonic participants perceived a product, the more tempting the product was to them (spending-prime:  $b = .19$ ,  $p < .001$ ; control:  $b = .11$ ,  $p < .001$ ). However, there was a significant interaction effect between product-type ratings and spending-prime ( $b = -.07$ ,  $p = .04$ ): the positive relationship between product-type ratings and how tempting participants perceived the products was attenuated among participants who had been primed to shop (vs. those who had not been similarly primed). Figure 2 provides a graphical illustration of this interaction effect. As shown in the figure, whereas participants were equally likely to rate more utilitarian products as non-tempting, for products that participants rated as more hedonic, participants who were primed to shop found these products less tempting than control participants.

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Insert figure 2 and table 3 about here.  
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## ***Discussion***

Together, the results of experiments 4 and 5 demonstrate the dual process effects of self-control that spending temptation triggers: consumers who are exposed to shopping prompts find the prudent-spending goal more important (**H3**) and temptation-inducing stimuli less tempting (**H4**). These results, along with the results of experiments 2 and 3, provide convergent evidence for the role of self-control as the underlying mechanism for the ironic prudent-spending effect.

## **General Discussion**

Marketers invest heavily in a variety of shopping prompts under the belief that these prompts entice shoppers to loosen their purse strings and spend more. We propose, however, that consumers are not helpless when facing such shopping prompts. They can resist such influence attempts by exercising greater self-control, ironically leading them to spend less than they would have had they not encountered the shopping prompts in the first place.

We demonstrate this ironic prudent-spending effect and its underlying self-control mechanism in a series of five experiments using shopping prompts of varied subtlety (from more implicit shopping primes to more explicit shopper-marketing tools that retailers commonly employ in stores to tempt shoppers to spend). Experiments 1 – 3 first demonstrate the basic effect in both a convenience store and a minimart using two common shopping prompts—the offer of a shopping basket or a promotional flyer. The results of experiment 2 further illustrate a stronger effect among shoppers who perceive themselves to be impulsive – shoppers who are more sensitive to cues reminding them to spend cautiously and can thus benefit more from these cues. Experiment 3 shows that shopping prompts lead consumers to buy a smaller proportion of

hedonic (vs. utilitarian) products. These results support the generalizability of the effect and provide initial support for the proposed self-control account. Experiments 4 and 5 provide more direct process support, demonstrating that when consumers are primed to shop they find the prudent-spending goal more important, and goal-inconsistent tempting hedonic products less tempting. These results consistently support the self-control account of the ironic prudent-spending effect.

### ***Shopper Awareness of Ironic Prudent Spending***

It is interesting to consider the degree to which people are aware of the ironic prudent-spending effect. To examine people's intuition about the effect of shopping prompts on their spending behavior, we conducted three small follow-up studies, focusing on the offer of a shopping basket, the shopping prompt used in experiments 1 and 2. Two of these studies relied on a within-subjects design: one was conducted with shoppers ( $n = 26$ ) drawn from the same population as those who participated in the field experiments, and the other was conducted with a group of senior marketing managers ( $n = 16$ , with an average of 13 years of experience) who were participating in an executive education program. Respondents were asked to rate the extent to which they thought shoppers in the *basket-offered* condition would spend differently than shoppers in the *basket-not-offered* condition on an 11-point scale and a 9-point scale respectively, with the mid-point on each scale anchored on "no difference in spending." In both studies, respondents consistently mispredicted that if shoppers were offered a basket they would spend significantly more (follow-up study 1:  $M = 6.96$ ,  $t(25) = 4.54$ ,  $p = .0001$ ; follow-up study 2:  $M = 4.88$ ,  $t(15) = 3.96$ ,  $p = .001$ ;  $t$ -tests based on one-sample comparison with the mid-point on each scale). The third study relied on a between-subjects design and was also conducted with

shoppers ( $n = 92$ ) drawn from the same population as that in the field experiments. Respondents were asked to predict how much a shopper, Mr. A, in the *basket-offered* or the *basket-not-offered* condition would spend. Again, respondents mispredicted that the offer of a basket ( $M = \$8.45$ ,  $SD = \$5.48$ ) would result in higher spending than otherwise ( $M = \$6.47$ ,  $SD = \$2.64$ ;  $t(90) = 2.20$ ,  $p = .03$ ).

Overall, the results of these three studies show that consumers' intuitions directly conflict with the pattern of the results of our field experiment. These findings underscore the counter-intuitive nature of the ironic prudent-spending effect. Relatedly, they also suggest that the effect occurs outside of shoppers' awareness—shoppers seem to think of shopping prompts mainly as temptations to spend (consistent with the results of our pre-test) and do not intuit that these shopping prompts can backfire by triggering greater self-control and reducing spending.

### ***Suggestions for Future Research and Concluding Comments***

We caution against over-generalizing our results, given the extensive menu of shopper-marketing tools retailers employ nowadays. In particular, many sales promotions such as sizeable price discounts, bundles, and offers of larger product quantity while keeping prices constant, represent greater customer value and may thus not conflict with the prudent-spending goal. Such promotions are therefore less likely to trigger the self-control mechanism that we document in this work. Other tools such as special displays and sale signs often lead consumers to incorrectly infer that the promoted products offer better value (Anderson and Simester 1998) and may thus fly under the radar of perceived need for self-control. Finally, retailers employ a variety of other shopper-marketing tools such as product demonstrations, flyers, sampling, and many other types of sensory stimulation, to name but a few examples (see Shankar et al. 2011 for a recent review

of shopper marketing innovations). The temptation posed by such tools should elicit two opposing effects: increased self-control and increased drive to spend, and the net outcome will depend on the relative strength of each of these effects. More generally, while the current work provides important clues about the effects of these shopper-marketing tools, it seems worthwhile to further examine factors that affect how various goal-conflicting shopping prompts are perceived, as well as the self-control responses they activate.

In addition to the types of shopping prompts discussed in this paper that marketers and retailers employ in stores, shoppers often also encounter a multitude of sensory stimulations that can substantially tax their cognitive and emotional capacity. Such constraints should make it more difficult for shoppers to exercise self-control (Shiv and Fedorikhin 1998) and resist temptations to spend more as they shop, effectively boosting the effectiveness of shopper-marketing tools. As we neither manipulated nor measured shoppers' stimulation levels in our field studies—which were conducted in real shopping environments—so as to minimize shopper obtrusiveness and maximize ecological validity, we have no indication as to whether and to what extent the observed effects would have been stronger in less busy settings. More generally, investigating how the psychological mechanisms underlying these ambient factors may moderate the effectiveness of deliberative shopper-marketing strategies in retail environments seems both interesting and important.

From a consumer and public-policy perspective, it is comforting to know that, although consumers may at times succumb to spending temptations, they are also capable of fending for themselves and avoiding overspending. That said, another open question for future enquiry is whether, and to what extent, the mental cost of increased prudence and self-monitoring that spending temptations trigger may adversely affect the experience of shopping.

In conclusion, the central idea of this research is that marketing actions aimed at tempting customers to spend more can backfire, activating the goal of prudent spending and prompting more prudent buying behavior. That marketing managers were unaware of this phenomenon in our follow-up studies, coupled with the high cost and growing popularity of shopper-marketing tools (Thau 2012; Valassis 2012), highlight the practical relevance of the ironic prudent-spending effect. While there have been many exciting recent shopper marketing innovations, the current research offers a timely cautionary note regarding the potential impact of such tools.

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Table 1: Comparison of Shopping Patterns and Attitudes (Experiment 3)

Dependent Measure	Flyer-not-offered	Flyer-offered	<i>t</i> -value
Total spending	\$3.53 (\$2.89)	\$2.60 (\$1.82)	2.03**
Total spending on hedonic items	\$2.40 (\$2.41)	\$1.63 (\$1.95)	1.89*
Total spending on hybrid items	\$0.42 (\$1.17)	\$0.17 (\$0.43)	1.46
Total spending on utilitarian items	\$0.71 (\$2.02)	\$0.81 (\$1.32)	.31
Total spending on promotional items	\$0.59 (\$1.35)	\$0.46 (\$0.56)	.68
Composition of shopping basket (1 = <i>utilitarian</i> – 5 = <i>hedonic</i> )	3.86 (1.02)	3.50 (1.00)	1.94**
Perceived attractiveness of promotional items (1 = <i>not at all attractive</i> – 7 = <i>very attractive</i> )	4.24 (1.22)	4.24 (1.02)	.01

Note:— \*\*:  $p \leq .05$ ; \*:  $p = .06$ ; standard deviations in parentheses

Table 2: Comparison of Rated Shopping-Goal Importance (Experiment 4)

Shopping Goal	Spending-Prime	Control	<i>t</i> -value
<b>Being careful not to overspend</b>	<b>6.30 (.75)</b>	<b>5.75 (1.03)</b>	<b>2.81*</b>
Buying based on how I feel at the moment	3.30 (1.56)	3.47 (1.75)	.48
Getting the best product quality	5.83 (1.05)	5.81 (1.09)	.10
Getting the best customer service	5.19 (1.44)	5.25 (1.23)	.20
Having a wide selection of products to choose from	5.62 (1.26)	5.28 (1.14)	1.27

Note:— \*:  $p < .01$ ; standard deviations in parentheses

Table 3: Comparison of Rated Product Temptingness (Experiment 5)

Predictor	Model 1 (Control)	Model 2 (Spending-Prime)	Model 3 (All Participants)
Intercept	3.041** (.190)	3.192** (.202)	3.039** (.194)
Product-type rating (1 = <i>definitely utilitarian</i> – 7 = <i>definitely hedonic</i> )	.187** (.026)	.114** (.025)	.187** (.025)
Spending-prime dummy			.153 (.277)
Product type rating X Spending-prime dummy			-.074* (.036)

Note:— The table presents regression coefficients, with standard errors in parentheses.

\*\*:  $p < .001$ ; \*:  $p < .05$ .

Figure 1: Comparison of Spending Amount as a Function of Consumer Impulsiveness  
(Experiment 2)

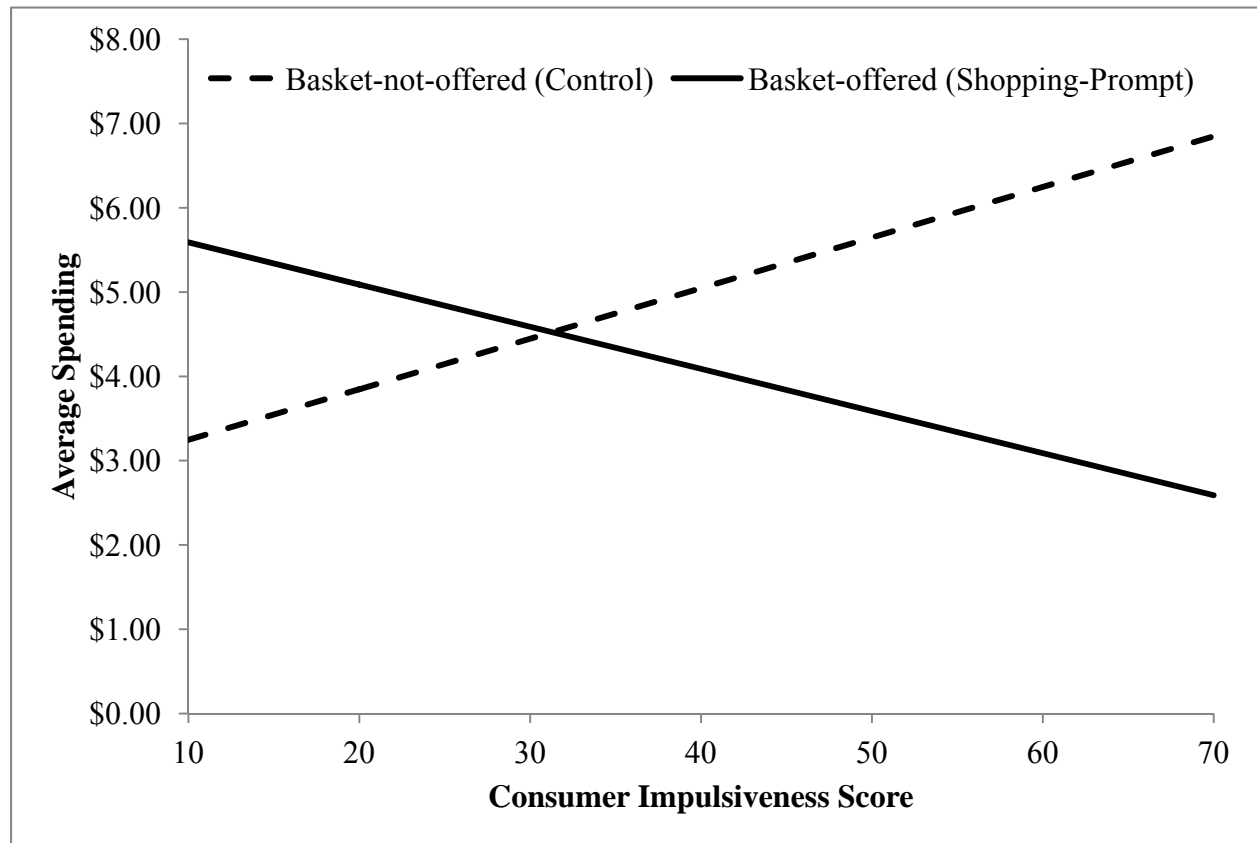


Figure 2: Product Temptingness as a Function of Type of Priming and Product Type  
(Experiment 5)

