

How Price Promotions Influence Postpurchase Consumption Experience over Time

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The current research examines how price promotions influence postpurchase hedonic consumption experience. On the one hand, getting a good deal can elevate moods and dampen the “pain of payment,” thus enhancing consumption enjoyment. On the other hand, discounts also reduce sunk-cost considerations and the need to recover one’s spending. As a result, price promotions can lower attention during consumption, which in turn diminishes consumption enjoyment. The authors posit that the time delay between payment and consumption plays an important role in determining the relative strength of these competing effects. Four experiments involving real spending and consumption demonstrate that when consumption occurs immediately after payment, discounts make consumption more enjoyable; however, this pattern reverses when consumption is delayed. The experiments provide support for the roles of feelings and attention, respectively, in accounting for these effects while ruling out several alternative explanations, including perceived quality, absolute paid price, and a direct sunk-cost account.

Diana bought a classical music compact disc from Amazon. She was delighted to discover that she had received a 20% discount off the regular price as a result of a storewide sale for classical music. Diana waited for a week for the CD to arrive. How would this discount affect her enjoyment from listening to the music? How would her consumption experience be different if she were to down-

load the music from Amazon and listen to it immediately after she pays? How much would she enjoy the music if she had paid the regular price instead?

The impact of price promotions has attracted substantial interest among marketing scholars (Chandon, Wansink, and Laurent 2000; Dodson, Tybout, and Sternthal 1978; Gupta 1988; Neslin 2002; Shiv, Carmon, and Ariely 2005). For consumers, price promotions translate into real economic savings, guide buying decisions, encourage trial of new products, and make consumers feel smart and good about themselves. For retailers or manufacturers, price promotions can excite and entertain shoppers, drive short-term category demand, encourage brand switching, and discourage new entrants from entering the marketplace.

However, price promotions also have many negative effects. For example, price promotions can discourage buying by increasing price sensitivity or lowering price expectations (Kalwani and Yim 1992; Mela, Gupta, and Lehmann 1997; Papatla and Krishnamurthi 1996), rendering it difficult for firms to charge higher prices. In fact, some research suggests that price promotions might have negligible or even negative long-term effects on brand sales and consumer loyalty (Davis, Inman, and McAlister 1992; Jedidi, Mela, and Gupta 1999; Neslin 2002). Recent work also shows that price promotions can reduce perceived product efficacy (Irmak, Block, and Fitzsimons 2005; Shiv et al. 2005).

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The present work contributes to this line of research by examining how price promotions influence the consumption enjoyment of hedonic products. Specifically, we investigate the extent to which price discounts interact with time delay of consumption to affect actual consumption experience. That is, in the CD example, how would the 20% discount change Diana's enjoyment of the CD if she were to listen to it immediately after purchase versus after a delay? Our current research provides new insight for better understanding the mixed effects of promotions on sales and loyalty documented in the literature.

PRICE PROMOTIONS—A DOUBLE-EDGED SWORD

Common wisdom suggests that the perception of how much or how little we pay for a product can affect the enjoyment we derive from consuming it later. Prior research has also lent credence to these lay intuitions by implicating the potential diverse effects of price promotions on consumption experience. On the one hand, given the added transaction utility or the perception that one has "gotten a good deal" (Lichtenstein, Netemeyer, and Burton 1990; Thaler 1985), price promotions can elevate shoppers' moods and enhance not only their evaluations of promotion-related targets and propensity to buy (Chandon et al. 2000; Heilman, Nakamoto, and Rao 2002) but also their evaluations of promotion-unrelated products (Naylor, Raghunathan, and Ramanathan 2006; Shen et al. 2012). Broadly, positive moods induced for various reasons (e.g., recalling a happy event; Schwarz and Clore 1983) can systematically influence subsequent related and unrelated evaluative judgments (Cohen, Pham, and Andrade 2008). Furthermore, price promotions may dampen the "pain of payment" experienced from the transaction, thereby allowing consumers to enjoy consuming a product more (Knutson et al. 2007; Patrick and Park 2006; Prelec and Loewenstein 1998). Together, these positive-mood effects that price promotions trigger can enhance the enjoyment derived from consumption.

On the other hand, price promotions can reduce attention during consumption and thus decrease consumption enjoyment. We argue that paying a lower price for a product may reduce sunk-cost considerations, or the psychological need to justify or recover one's expenditure based on the "waste-not" rule (Arkes and Blumer 1985; Gourville and Soman 1998, 2002). Recent work in consumer psychology also supports our hypothesis that price discounts may reduce attention during consumption. For example, Wathieu and Bertini (2007) found that setting a high price can stimulate more deliberative thinking about a product (see also Oliver and Bearden 1983; Richins and Bloch 1991). Given that discounts may reduce the perceived price paid, it is conceivable that the greater the discount, the less motivated consumers may be to pay attention to all the details and nuances in an affective experience. When taking a vacation, for example, a consumer who pays the full price for the trip may be more motivated to make the trip worthwhile by

visiting more places of interest and paying closer attention to them during the visits than a consumer who receives a 40% discount for the trip.

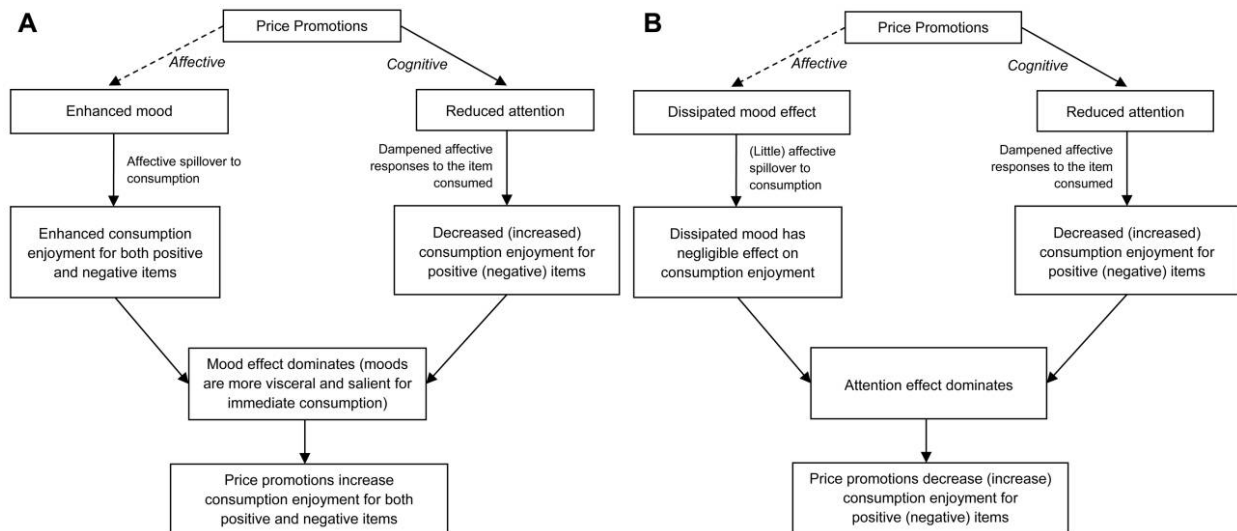
How does attention influence consumption experience? Drawing on studies showing that events have less emotional impact when people pay less attention to them (Kahneman et al. 2004; Kahneman and Thaler 2006; Pessoa, Kastner, and Ungerleider 2002; for recent reviews, see Hsee and Tsai 2008; Wilson and Gilbert 2008), we propose that price promotions can dampen consumption enjoyment by reducing attention during consumption.

Prior research has identified a number of antecedents for the effect of diluted attention on consumption experience. For example, compared to uncertain events, those that are highly certain are less attention grabbing and more likely to give way to other attention-competing occurrences (Bar-Anan, Wilson, and Gilbert 2009; Ortony, Clore, and Collins 1990; Rescorla and Wagner 1972). In one study by Wilson et al. (2005), college students read text messages from three opposite-sex peers who had evaluated them positively. Participants who were uncertain about which peer had written each message remained in a positive mood longer than those who had full information of the senders of the messages. The authors reasoned that the uncertainty of the senders kept participants in the uncertain condition thinking about the contents in the messages for longer and hence prolonged their pleasure from receiving the messages; conversely, greater certainty results in diminished attention and less persistent emotional impact. Further, self-irrelevant, well-understood events remain accessible in memory for a shorter period of time and are less attention grabbing than self-relevant, poorly understood events (Wegner 1994). For example, bereaved people who were more able to make sense of their loss dwell on a tragic event less and recover more quickly (Bonanno et al. 2002).

The present work adds to this stream of research by identifying a hitherto unexplored, but ubiquitous, determinant of attention dilution—price discount—and documenting its effect on consumption enjoyment. Prior research has focused primarily on how diluted attention weakens affective reactions to an emotional event for a while after the event has occurred (e.g., Wilson et al. 2005). Our work contributes to this literature by studying how diluted attention attenuates affective reactions to an event or item during consumption. Specifically, our work shows that price discounts reduce sunk-cost considerations and thus lower attention during consumption and consumption enjoyment. In sum, past research suggests two opposing effects: price promotions can increase or decrease consumption enjoyment as a result of, respectively, the spillover effect of positive mood ("this is a good bargain!") or reduced consumption attention ("I don't care about it very much"). The present research investigates the conditions under which these effects dominate. Given that mood effects are often transient while attention effects might be more persistent over time, we propose that time delay between payment and consumption moderates the effect of price promotions on consumption enjoyment.

FIGURE 1

CONCEPTUAL DIAGRAMS DEPICTING THE IMPACT OF PRICE PROMOTIONS ON CONSUMPTION ENJOYMENT FOR IMMEDIATE CONSUMPTION AND DELAYED CONSUMPTION



NOTE.—A, Immediate consumption: relative dominance of affective processing. B, Delayed consumption: relative dominance of cognitive processing.

WHEN DISCOUNTED PRODUCTS ARE CONSUMED

After paying for a product, consumers can consume the product either right away or after a delay. In fact, in our daily lives, some products are typically consumed immediately after purchase (e.g., a pizza at a local pizzeria or an iTunes video-on-demand movie), whereas others are typically consumed only after some time has transpired following the sales transaction (e.g., a pizza to go or a prepaid cable package that includes video-on-demand service). In this research, we propose that consumption delay and price promotions interact to influence consumption experience such that price promotions increase enjoyment when there is no delay between payment and consumption, but the effect reverses when consumption is delayed.

Our hypothesis is consistent with the burgeoning research in dual-process models (Epstein et al. 1996; Lee, Amir, and Ariely 2009; Loewenstein and O'Donoghue 2004; Nowlis and Shiv 2005; Rottenstreich, Sood, and Brenner 2007; Shiv and Fedorikhin 1999). Whereas affective processing is more automatic, associative, and effortless, cognitive processing is more deliberative, analytic, and effortful. Choices and preferences may be influenced by hot affective factors such as people's integral affective response toward a stimulus or their incidental feelings (Cohen et al. 2008; Metcalfe and Mischel 1999; Pham 1998) or cool cognitive factors such as the composition of the stimulus or other objective in-

formation (Lee, Frederick, and Ariely 2006; Levin and Gauth 1988). Positive moods are generally associated with affective processing (Clore, Schwarz, and Conway 1994) and tend to be salient and visceral (Loewenstein 1996). Thus when consumption follows soon after payment, the positive mood effects, being more visceral and prominent, tend to dominate the negative impact of reduced consumption attention in influencing hedonic consumption experience (Loewenstein 1996; see fig. 1A). The incidental positive mood that price promotions induce, accentuated by a reduction in the "pain of payment," may have a spillover effect that positively colors actual consumption experience (Cohen et al. 2008).

However, mood effects are generally transient (Gardner 1985; Pocheptsova and Novemsky 2010), while cognitive responses to an event or an object are more persistent over time (Liberman and Trope 2008). Thus, the positive mood effect on consumption experience that price promotions induce will diminish when consumption is decoupled from the sales transaction by a time delay. Cognitive considerations about price promotions, however, may now play a larger role in influencing the (delayed) consumption experience. In particular, a price discount signals a lower paid price and can reduce sunk-cost considerations and the need to recover one's expenditure on the purchased product. These cognitive responses can in turn lower attention during product consumption, dampening consumers' enjoyment of the product (see fig. 1B).

In summary, we posit that the positive spillover effect of mood on consumption enjoyment is affective and visceral and thus will dominate the negative attention effect and enhance hedonic consumption experience for immediate consumption. However, unlike the mood effect, changes in consumption attention are largely cognitive and relatively more persistent; consequently, as the positive mood effect dissipates over time, the negative attention effect will dominate for delayed consumption. Formally, we hypothesize:

- H1:** Price promotions interact with consumption delay to influence consumption enjoyment.
- H1a:** For immediate consumption, price promotions enhance consumption enjoyment.
- H1b:** For delayed consumption, price promotions decrease consumption enjoyment, a reversal of hypothesis 1a.
- H2:** The immediate effect and delayed effect of price promotions are driven, respectively, by the relative strength of positive mood and attention to consumption over time.

OVERVIEW OF EXPERIMENTS

To test these hypotheses, we conducted four experiments. Although it is common to test the effects of pricing and promotions using hypothetical scenarios that do not involve real spending and/or consumption (e.g., Naylor et al. 2006; Plassmann et al. 2008; Shen et al. 2012), we took a step further and tested our hypotheses using real spending and product consumption in all experiments. To examine the robustness of our effects, we used different product categories: chocolate truffles (experiment 1), music (experiment 2), and orange juice (experiments 3 and 4).

In experiment 1, we tested hypotheses 1a and 1b and demonstrated the basic interaction of price promotions and consumption delay on consumption enjoyment. In experiment 2, we replicated the findings of experiment 1 in a different product category with a shorter time delay while examining the unique role of price promotions by ruling out absolute paid price as an alternative account. Importantly, in experiments 2, 3, and 4, we tested hypothesis 2 and provided process evidence to show that mood and attention during consumption are indeed the key drivers for the observed effects. We achieved this by either measuring participants' mood (experiment 2) and attention (experiment 3) during consumption or manipulating stimulus valence (experiment 3) and participants' cognitive capacity (experiment 4).

We used the same basic paradigm across experiments: participants first earned a wage by completing one or more unrelated studies and then used (some of) that money to purchase one of two given products (e.g., light orange juice vs. authentic orange juice in experiment 3) either at the full price or at a discounted price. All participants paid for the chosen product right after making their choice. Subse-

quently, participants were given the product either immediately or after a delay, were asked to consume the product, and then evaluated how much they enjoyed consuming the product. It is noteworthy that participants were asked to buy a product of their own choice using the money they had just earned in the same experimental session. In general, this procedure reduces participants' reluctance to purchase while giving them the perception that they are spending their own money. Such an approach is commonly adopted in lab experiments to examine how people make financial decisions, such as shopping and charitable donations (e.g., Knutson et al. 2007; Small, Loewenstein, and Slovic 2006).

EXPERIMENT 1: CHOCOLATE TRUFFLES

In experiment 1, we tested whether the effects of price promotions on consumption experience differ by consumption delay (hypotheses 1a and 1b).

Method

Participants, Design, and Stimuli. Eighty-two undergraduate students enrolled in an introductory marketing course at the University of Toronto participated in the experiment and received \$1 each. The experiment employed a 2 (discount: no discount vs. discount) \times 2 (consumption delay: no delay vs. delay) between-subjects design. We randomly assigned participants to one of the four conditions and asked participants to choose between two chocolate truffles and then eat and rate their chosen truffle. All participants were told that the retail price of the chocolate truffles was \$1 each. Half the participants paid the full price for the chosen item, while the remaining half received a 50% discount and paid only 50 cents. For each discount level (0% vs. 50%), participants either ate the chocolate as soon as they had paid for it (no delay) or waited for a week (delay).

Two made-up options were provided in the shopping study: a pure dark chocolate truffle (56% cocoa) and a dark chocolate truffle with a hint of caramel (65% cocoa). No further information about the options was provided. Unbeknownst to participants, we offered them the same chocolate truffle (Whole Foods Organic Chocolate Truffles) regardless of their choice. This design feature allowed us to control for the stimulus. To control for quality (chocolate may taste worse after a 1-week delay), we purchased the chocolates from the store the day before participants consumed them for both the delay and the no-delay conditions.

Procedure. Participants first completed a survey that was unrelated to the present research and contained no experimental manipulations. After completing the survey, each participant received \$1 and instructions for the shopping study (see the appendix). In the shopping study, all participants first chose between two chocolate truffles, paid for their choice (\$1 or 50 cents), and received change if any. Next, participants in the no-delay conditions were offered the chocolate as soon as they had paid for it, whereas par-

ticipants in the delay conditions received the chocolate 1 week later when they attended the following session of the marketing course (with the cover story that we had to buy the chocolates after they made their choices).

All participants rated their consumption enjoyment (“How much did you enjoy eating the chocolate?”) as soon as they had finished eating the chocolate, using a 10-point scale (1 = not at all, 10 = liked it very much). Next, participants reported how much they liked chocolate in general using a similar 10-point scale. This measure allowed us to ensure that any condition effect could not be attributed to differences in general liking for chocolate. Finally, participants were asked to speculate the purpose of the experiment and provide comments about the experiment (if any). None of them was able to guess the true purpose of the experiment, and no one suspected that the chocolate they ate was different from the chocolate they had chosen.

Results

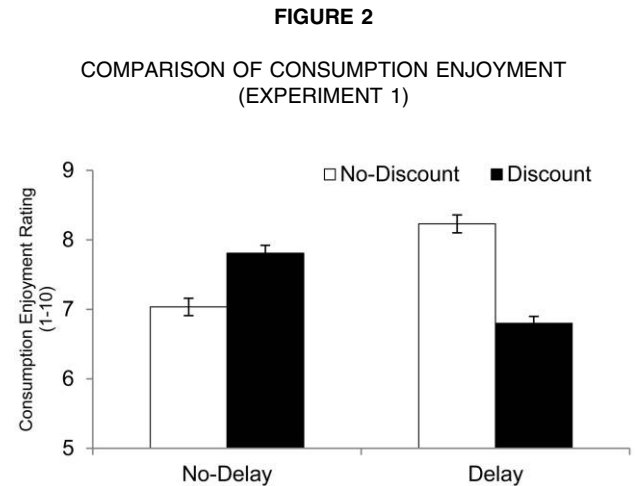
The dependent measure and other control variables we collected to check for potential confounds did not differ by product choice in any of the experiments, so data were collapsed in all the analyses for experiments 1–4.

Consumption Experience. Enjoyment ratings were submitted to a 2 (discount) \times 2 (consumption delay) ANOVA. As predicted, the analysis revealed only an interaction of discount and consumption delay on enjoyment ratings ($F(1, 78) = 19.24, p < .001$; see fig. 2). Planned contrasts showed that in the no-delay conditions, discount increased enjoyment ($M_{disc} = 7.81, SD = 1.03$ vs. $M_{nodisc} = 7.04, SD = 1.32$; $F(1, 78) = 5.98, p = .01$), supporting hypothesis 1a. However, in the delay conditions, discount decreased enjoyment ($M_{disc} = 6.80, SD = .89$ vs. $M_{nodisc} = 8.23, SD = .93$; $F(1, 78) = 13.43, p < .001$), supporting hypothesis 1b.

Confound Checks. We submitted participants’ general liking for chocolate to a two-way ANOVA. The analysis confirmed that participants did not differ in their general liking for chocolate across conditions (all $p > .27$). Including general liking for chocolate as a covariate in the ANCOVA measuring the effect of discount and delay on consumption experience revealed a significant main effect of general liking ($F(1, 77) = 19.55, p < .001$), suggesting that people who like chocolate in general enjoyed the chocolate more. More important, the interaction between discount and consumption delay remained significant ($F(1, 77) = 20.53, p < .001$).

Discussion

The results of experiment 1 support hypotheses 1a and 1b: price promotions enhance consumption experience when consumption takes place shortly after payment is made, whereas the effect reverses when consumption is decoupled from payment by a time delay. One might argue that this reversal could be attributed to a failure to recall the paid price among participants who consumed the purchased choc-



NOTE.—Error bars denote standard errors.

olate after a 1-week delay. This misremembering seems unlikely given that even among participants in the delay conditions, price promotion had an effect—albeit negative—on their consumer enjoyment. We further addressed this issue by reducing the length of consumption delay in experiment 2 and asking participants to recall the paid price in experiments 3 and 4.

EXPERIMENT 2: LISTENING TO MUSIC

In experiment 2, we examined the robustness and generalizability of the previous results by testing hypotheses 1a and 1b using a different sensory stimulus—music—and shortening the postpurchase consumption delay from 1 week to 25 minutes. Additionally, we designed this experiment with three other objectives in mind. First, we tested the mediating role of positive feelings. Second, to test perceived quality as a potential alternative explanation for the negative effect of price promotions in the delay conditions, we measured perceived quality and confirmed that it did not play a central role in the observed effects. Third, we examined the unique role of price discounts by controlling for paid price, as one may argue that the results of experiment 1 can be attributed to a difference in absolute paid price rather than price promotions. Specifically, we added two reduced-price conditions (one for immediate consumption and the other for delayed consumption) in which both the retail price and the paid price, 50 cents, were identical to the paid price in the discount conditions. If absolute price plays a central role, then consumption enjoyment would not differ between the discount conditions and the no-discount-reduced-price conditions. However, if the results of experiment 1 are driven by price discount (“I got a good deal”), we would replicate the interaction of price promotions and consumption delay even after keeping the paid price the same.

Method

Participants, Design, and Stimuli. One hundred and fifty-five students from the University of Toronto participated and received \$1 each. The experiment employed a 3 (discount: no discount vs. discount vs. no discount reduced price) \times 2 (consumption delay: no delay vs. delay) between-subjects design. We manipulated discount and consumption delay using a procedure similar to that in experiment 1. We asked participants to choose between two recordings of a musical piece. As in experiment 1, unbeknownst to participants, all of them listened to the same recording regardless of their choice, and this recording was in fact different from either option in the choice set. Controlling for the product consumed ensured that any observed effects were not caused by potential idiosyncratic differences between the two options or a match versus mismatch between the chosen product and the product actually consumed. None of the participants detected the discrepancy. We also confirmed in a pretest that this music piece was pleasant ($M = 7.39$, significantly higher than 5.5, the midpoint of a 10-point scale, $t(17) = 4.66$, $p < .001$).

Participants were led to think that they were paying either the full or a discounted (50% off) price for their chosen option. In the no-discount conditions, participants were told that the retail price of the recording was \$1 each and they paid that amount. In the discount conditions, the stated retail price was also \$1, but participants received a 50% discount, paying 50 cents. In the no-discount-reduced-price conditions, both the retail price and the paid price were 50 cents; therefore, participants were led to think that they did not receive any discount yet their paid price was identical to that in the discount conditions. After making their payment, half the participants listened to their purchased music recording immediately while the remaining half waited for 25 minutes before listening. We randomly assigned participants to one of the six conditions.

Procedure. An experimenter approached individuals seated alone in the university library and asked them if they would complete a short survey for \$1. The experimenter also asked them whether they would remain in the library for 30 minutes and skipped several students who were leaving soon. As in experiment 1, the survey was unrelated to the present research and was merely used to endow participants with money for the subsequent shopping study. After completing the survey, participants received \$1 each and proceeded to the shopping study.

In the shopping study, all participants first chose between two music recordings and paid for their choice (\$1 or 50 cents). Next, participants in the no-delay conditions listened to their chosen recording on an iPod Shuffle that the experimenter handed them as soon as they had made their payment, whereas participants in the delay conditions did not listen to the music until 25 minutes later. The experimenter explained to the latter group that she needed to go to a different location to get iPod Shuffles and asked the

participants to wait for her; these participants resumed their reading while waiting for the experimenter.

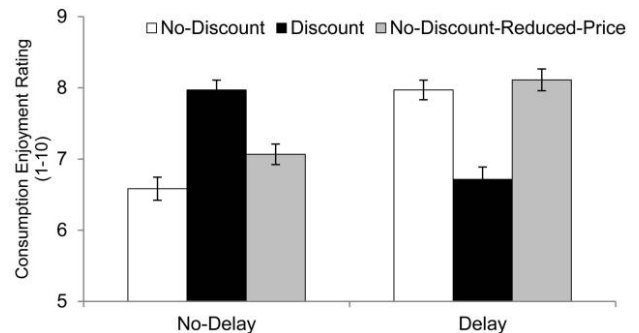
After listening to the music once, all participants reported how much they had enjoyed listening to the piece using the same 10-point scale as in experiment 1. Next, participants rated the quality of the music they had listened to and reported their current mood using 10-point scales with proper anchors for each item (quality: 1 = extremely poor quality, 10 = extremely high quality; two items for current mood: 1 = not happy/pleased at all, 10 = very happy/pleased). Finally, participants were asked to speculate the purpose of the experiment. None of them was able to guess the true objective of the experiment.

Results

Consumption Experience. The enjoyment ratings were submitted to a 3 (discount) \times 2 (consumption delay) ANOVA. The analysis revealed only a significant interaction between discount and consumption delay ($F(2, 149) = 10.18$, $p < .001$; see fig. 3); neither of the two main effects was significant (discount: $F(2, 149) = .59$, $p = .56$; consumption delay: $F(1, 149) = 2.21$, $p = .14$). Planned contrasts showed that when participants listened to the music immediately after they had paid for it, their consumption enjoyment differed by the discount level ($F(2, 149) = 5.71$, $p = .004$). Specifically, participants in the discount condition enjoyed the music more ($M_{disc} = 7.97$, $SD = 1.59$) than those who paid the full price of \$1 for the music ($M_{nodisc} = 6.58$, $SD = 1.72$; $p = .001$) and those who paid only 50 cents but were told they had paid the full price ($M_{nodiscrp} = 7.07$, $SD = 1.64$; $p = .03$), supporting hypothesis 1a. Conversely, the effect reversed in the delay conditions ($F(2, 149) = 5.15$, $p = .007$): participants who received a discount enjoyed the music less ($M_{disc} = 6.71$, $SD = 1.71$) than those who paid \$1 for the music ($M_{nodisc} = 7.95$, SD

FIGURE 3

COMPARISON OF CONSUMPTION ENJOYMENT
(EXPERIMENT 2)



NOTE.—Error bars denote standard errors.

= 1.50; $p = .01$) and those who paid only 50 cents but thought they had paid the full price ($M_{\text{nodiscrpt}} = 8.11$, $SD = 1.34$; $p = .003$), supporting hypothesis 1b. Importantly, among participants who were told that they were paying the full price, consumption enjoyment did not differ by retail price in the no-delay condition ($p = .27$) and the delay condition ($p = .73$). These results suggest that price promotions, rather than the absolute paid price, play an important role in the observed effects.

Perceived Quality. One participant failed to complete the perceived-quality rating, so we had 154 valid data points. A 3×2 ANOVA showed that our manipulation of discount did not significantly alter perceived quality ($M_{\text{disc}} = 8.04$, $SD = 1.44$ vs. $M_{\text{nodisc}} = 7.77$, $SD = 1.61$ vs. $M_{\text{nodiscrpt}} = 7.51$, $SD = 1.39$, $F(2, 148) = 2.04$, $p = .13$). The two-way interaction between discount and consumption delay was not significant either ($F(2, 148) = .04$, $p = .98$).

Further, we controlled for perceived quality by including it as a covariate in the 3×2 ANCOVA that analyzed the effect of price discount and consumption delay on consumption enjoyment. The analysis revealed a significant main effect of perceived quality ($F(1, 147) = 21.72$, $p < .001$), suggesting that participants who perceived the music recording to be of higher quality enjoyed it more. More important, the interaction between discount and consumption delay remained significant ($F(2, 147) = 11.97$, $p < .001$), confirming that the effect of discount and consumption delay operates independently of perceived quality.

Current Mood. The two current mood measures were highly correlated ($r = .82$, $p < .01$) and thus were averaged to form a mood index. The 3×2 ANOVA revealed that mood did not differ across conditions (all $p > .18$). For delayed consumption, mood did not differ across conditions ($M_{\text{nodisc}} = 6.45$ vs. $M_{\text{disc}} = 6.52$, vs. $M_{\text{nodiscrpt}} = 6.62$; $F < 1$, $p = .92$). For immediate consumption, however, one-way ANOVA showed that price discount enhanced mood ($F(2, 84) = 3.44$, $p = .04$). Planned contrasts further revealed that participants who received a discount were in a better mood ($M_{\text{disc}} = 7.03$, $SD = 1.56$) than those who paid \$1 for the music ($M_{\text{nodisc}} = 5.96$, $SD = 1.55$; $t(84) = 2.62$, $p = .01$). The average mood index of participants who paid only 50 cents but thought they had paid the full price ($M_{\text{nodiscrpt}} = 6.61$, $SD = 1.46$) was between the means of the two former conditions (compared with the discount condition: $t(84) = 1.08$, $p = .28$; compared with the no-discount condition: $t(84) = 1.58$, $p = .12$).

Mediation Analysis: Mood. Because price promotions did not have any effect on mood for delayed consumption, we focused on the no-delay conditions in the mediation analysis. We performed 5,000 bootstrap resamples using Preacher and Hayes's (2008) SPSS macro, as recommended by Zhao, Lynch, and Chen (2010), to test the indirect path (i.e., the path from discount to consumption enjoyment via mood). Regression analyses showed that price promotions increased enjoyment ($\beta = .70$, $p = .002$) and positive mood ($\beta = .53$, $p = .01$) and that positive mood increased en-

joyment ($\beta = .57$, $p < .001$). Given that the bias-corrected 95% confidence interval for the no-delay conditions (.073 to .704) did not include zero and that the significance of the effect of discount was reduced ($\beta = .70 \rightarrow .40$, $p < .002 \rightarrow p = .04$), we conclude that positive feelings partially mediated the effect of price promotions on consumption enjoyment in the no-delay conditions. For completeness, we conducted a similar mediation analysis for the three delay conditions; as expected, mood did not mediate the negative effect of price promotions on consumption enjoyment (confidence interval included zero: $-.164$ to $.182$).

Discussion

The results of experiment 2 attested to the robustness of our effects by replicating the interaction between discount and consumption delay in experiment 1 using a different sensory stimulus and a shorter delay between payment and consumption. This interaction manifested independently of perceived quality. Importantly, the mediation results implicate the role of mood in the immediate-consumption conditions but not in the delayed-consumption conditions, consistent with our theorizing. Finally, experiment 2 provided supporting evidence to disentangle the role of price promotions from that of (absolute) paid prices. That is, price promotion decreased enjoyment regardless of whether the retail (full) price was \$1 or 50 cents. While we support the view that price is an important determinant of experienced pleasantness (Plassmann et al. 2008), our results suggest that price promotions can operate independently of absolute paid prices to influence consumption enjoyment over time.

In the next experiment, we sought further evidence for the role of attention in explaining the results of delayed consumption. Studies on affective experiences over time often test the effect of attention on consumption experience by manipulating stimulus valence (Wilson and Gilbert 2008). Presumably, people's affective reactions toward an external stimulus weaken when they are not attending to it (less positive for a pleasurable event, less negative for an unpleasant event). We therefore adapted this paradigm to test our attention account by manipulating stimulus valence while continuing to rule out several alternative accounts.

First, one may argue that sunk-cost considerations alone may be sufficient to account for the effect of price promotions on delayed consumption experience. We posit, however, that sunk-cost considerations influence consumption experience by affecting attention during consumption, which, in turn, alters the intensity of the experience. If sunk cost has a direct effect on consumption experience, then people who receive a discount for a product would be less motivated to give it a higher rating and thus report enjoying it less regardless of its valence (Litt 2011). By contrast, if our hypothesized attention account is indeed the driving force, then price promotions should weaken consumption enjoyment over time, causing the consumption of a positive stimulus to be less pleasant and a negative stimulus less unpleasant.

Second, while the results of experiment 2 showed that

the interaction of price discount and consumption delay operates independently of price-quality inferences, we are wary of basing our conclusions only on null results. Manipulating product valence allows us to rule out perceived quality in accounting for the delayed-consumption results. If price promotions lower perceived quality and thus consumption enjoyment for delayed consumption, then people should find a negative product, purchased at a discount, to be of even lower quality and dislike it even more. That is, price discounts should reduce perceived quality for both positive and negative products, producing a negative main effect on consumption enjoyment. In comparison, our proposed attention account would predict an interaction between discounts and product valence, such that a discount renders a positive item less enjoyable and a negative item less unpleasant.

EXPERIMENT 3: TASTY VERSUS UNPLEASANT JUICE

In experiment 3, we tested in a controlled laboratory setting the effects of price discounts and consumption delay using yet another product category: orange juice, a product many consumers regularly consume. Further, we increased participants' budget from \$1 to \$6 to enhance ecological validity. Each participant was endowed with \$6 for completing a number of unrelated surveys prior to the subsequent shopping study; this amount was greater than the price of the orange juice (\$1 or 50 cents) that participants had to purchase in the shopping study. This design feature allows us to examine whether the observed effect would still manifest if the savings from the discount, 50 cents, become somewhat trivial given the increase in wealth from \$1 to \$6, providing a conservative test for the hypotheses.

Most importantly, we tested the hypothesized attention account by manipulating product valence. We expected the price discount to increase consumption enjoyment for both positive and negative items in the no-delay conditions and an interaction of valence and discount in the delay conditions. We also measured attention directly by including a self-reported measure and conducted mediation analysis.

Method

Participants, Design, and Stimuli. Two hundred and ninety-three students from the University of Toronto participated and received \$6 each. The experiment employed a 2 (product valence: positive vs. negative) \times 2 (discount: no discount vs. discount) \times 2 (consumption delay: no delay vs. delay) between-subjects design. Participants were randomly assigned to one of the eight conditions. All participants were told that they would choose between two beverages recently introduced to the market: light orange juice versus authentic orange juice. (No further product information was provided.) As in the previous experiments, we used the same "base" juice across all conditions regardless of participants' choice. However, to the small cup of orange juice we offered participants, we added a small amount of either honey (sweet, positive condition) or vinegar (sour,

negative condition). Because the fabricated labels of the juices were uninformative on taste or quality, we judged that participants would not be able to tell the difference between their chosen option and the actual juice they consumed. Indeed, none of the participants detected the discrepancy.

Procedure. Participants completed several unrelated surveys and received \$6 and instructions for the subsequent shopping study. In the shopping study, participants first chose an orange juice and paid for it (\$1 or 50 cents); they were told that the regular retail price of the juice was \$1. Next, they either received and drank the juice immediately or waited for 15 minutes (with the cover story that we had to obtain the juice after they made their choices). Participants in the delay conditions completed a 15-minute filler task while waiting for their juice, whereas participants in the no-delay conditions completed the same filler task after they had completed the juice study.

After drinking the juice, participants rated how much they had enjoyed it on the same 10-point scale as in the previous experiments. To explore potential downstream consequences, we asked participants to indicate how likely they were going to purchase the juice in the future (1 = very unlikely, 10 = very likely). Next, we measured attention by asking participants to rate the extent to which they agreed with the statement "I paid close attention to every little detail . . . the color, the aroma, the texture, the temperature, and the taste of the juice" (1 = strongly disagree, 10 = strongly agree). Finally, participants were asked to recall both the retail price and the paid price. More than 90% of the participants recalled both prices correctly, confirming that they had read the instructions and remembered the amount of discount (if any) they had received. Similar results were observed when participants who failed to recall the prices were excluded, so we included all participants in the analyses.

Results

Consumption Experience. We submitted the enjoyment ratings to a 2 (product valence) \times 2 (discount) \times 2 (consumption delay) ANOVA. The results revealed a main effect of product valence ($F(1, 285) = 376.38, p < .001$); a main effect of discount on consumption experience ($F(1, 285) = 6.21, p = .01$), with price promotion increasing consumption enjoyment ($M_{\text{nodisc}} = 5.37, SD = 2.84$ vs. $M_{\text{disc}} = 5.56, SD = 2.70$); and a main effect of consumption delay ($F(1, 285) = 6.87, p = .009$), with consumption delay reducing consumption enjoyment ($M_{\text{nodealay}} = 5.58, SD = 2.72$ vs. $M_{\text{delay}} = 5.34, SD = 2.82$). The results also revealed significant two-way interactions of valence and discount ($F(1, 285) = 6.54, p = .01$), valence and consumption delay ($F(1, 285) = 3.89, p = .05$), and discount and consumption delay ($F(1, 285) = 4.89, p = .03$). Overall, the sweet juice was rated as more enjoyable than the sour juice ($M_{\text{sweet}} = 7.64, SD = 1.51$ vs. $M_{\text{sour}} = 3.61, SD = 2.18$), with the average ratings for the sweet and sour juices being significantly above and below, respectively, 5.5 (midpoint of the

scale; both $p < .001$), confirming that our valence manipulation was successful.

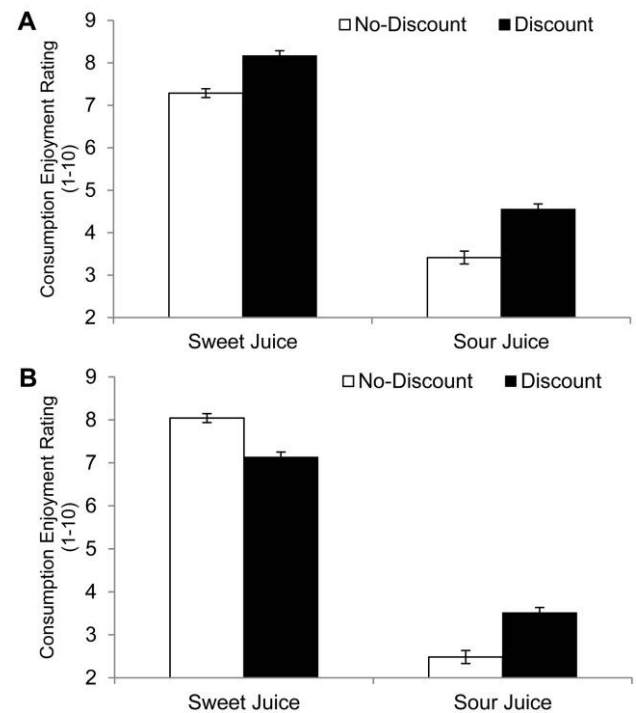
Most central to the main objective of this experiment, these main effects and two-way interactions were qualified by a three-way interaction ($F(1, 285) = 3.83, p = .05$). The results of the sweet juice (positive) conditions replicated the interaction effect of discount and consumption delay found in experiments 1 and 2 (see fig. 4). Specifically, planned contrasts showed that price discount increased enjoyment in the no-delay conditions ($M_{\text{nodisc}} = 7.29, SD = 1.51$ vs. $M_{\text{disc}} = 8.17, SD = 1.32; F(1, 285) = 3.80, p = .05$), but the effect was reversed for delayed consumption ($M_{\text{nodisc}} = 8.04, SD = .91$ vs. $M_{\text{disc}} = 7.13, SD = 1.91; F(1, 285) = 4.38, p = .04$). For the sour (negative) juice, however, we observed that price discount increased enjoyment in both the no-delay conditions ($M_{\text{nodisc}} = 3.41, SD = 2.16$ vs. $M_{\text{disc}} = 4.55, SD = 2.40; F(1, 285) = 8.61, p = .004$) and the delay conditions ($M_{\text{nodisc}} = 2.48, SD = 1.38$ vs. $M_{\text{disc}} = 3.51, SD = 1.99; F(1, 285) = 5.46, p = .02$).

To further examine the role of attention, we submitted the enjoyment ratings in the delay conditions to a 2 (valence) \times 2 (discount) ANOVA. If sunk-cost considerations have a direct effect on consumption enjoyment or if perceived quality plays a primary role, price discount should have a negative main effect on consumption enjoyment for both the sweet juice and the sour juice. However, if attention plays an important role, we should observe an interaction of valence and price discount because lower attention during consumption (as a result of the price discount and fewer sunk-cost considerations) should reduce the intensity of affective responses to the item being consumed, rendering the sweet juice less enjoyable and the sour juice less unpleasant. As expected, the analysis revealed a main effect of valence ($M_{\text{pos}} = 7.60, SD = 1.54$ vs. $M_{\text{neg}} = 3.09, SD = 1.82; F(1, 136) = 273.24, p < .001$) and a two-way interaction of valence and discount ($F(1, 136) = 12.19, p = .001$), further supporting the proposed attention account and ruling out direct sunk cost and perceived quality as alternative explanations. For completeness, we also submitted the enjoyment ratings in the no-delay conditions to a 2 (valence) \times 2 (discount) ANOVA. The analysis revealed a main effect of valence ($M_{\text{pos}} = 7.69, SD = 1.48$ vs. $M_{\text{neg}} = 4.02, SD = 2.35; F(1, 149) = 134.04, p < .001$) and a main effect of discount ($M_{\text{nodisc}} = 5.20, SD = 2.70$ vs. $M_{\text{disc}} = 5.96, SD = 2.70; F(1, 149) = 9.76, p = .002$) but not their two-way interaction ($F < 1, p = .69$), suggesting that attention played a lesser role in the no-delay conditions. We observed a similar pattern of results in participants' purchase intent. (Detailed results are available on request.)

Attention. Three participants failed to complete the questionnaire properly, so we had 290 valid data points. We submitted the attention ratings to a 2 (product valence) \times 2 (discount) \times 2 (consumption delay) ANOVA. The results revealed only a main effect of discount ($F(1, 282) = 15.81, p < .001$). The other independent variables and their interaction terms did not have a significant effect on attention (all $p > .22$). Consistent with our hypothesis, receiving a

FIGURE 4

THE EFFECTS OF PRICE PROMOTIONS AND PRODUCT VALENCE ON CONSUMPTION ENJOYMENT (EXPERIMENT 3)



NOTE.—A, Positive mood effect for immediate consumption. B, Depolarization for delayed consumption. Error bars denote standard errors.

discount lowered attention during consumption ($M_{\text{nodisc}} = 6.68, SD = 1.84$ vs. $M_{\text{disc}} = 5.77, SD = 1.95$). This pattern of the results held in both the no-delay conditions ($M_{\text{nodisc}} = 6.45, SD = 1.81$ vs. $M_{\text{disc}} = 5.78, SD = 1.92; F(1, 282) = 4.03, p = .05$) and the delay conditions ($M_{\text{nodisc}} = 6.95, SD = 1.85$ vs. $M_{\text{disc}} = 5.77, SD = 1.98; F(1, 282) = 12.79, p < .001$). This result is also consistent with our hypothesis that in the no-delay conditions, price promotions induce positive mood and reduce attention to consumption simultaneously, but the mood effect dominates the attention effect. However, as the mood effect diminishes over time, the negative attention effect prevails.

Mediation Analyses: Attention and Valence. We hypothesized that lower attention during consumption induced by discounts dampens consumption enjoyment for delayed consumption, rendering the sweet juice less enjoyable and the sour juice less unpleasant. We also hypothesized that, overall, attention plays a smaller role in immediate consumption than in delayed consumption. To test these predictions, we first conducted two separate mediation analyses for the positive/delay and negative/delay conditions. To test the indirect

path (i.e., the path from discount to consumption experience via attention), we performed 5,000 bootstrap resamples using Preacher and Hayes's (2008) SPSS macro, as recommended by Zhao et al. (2010), using consumption attention as the mediator. For the sweet (positive) juice, given that the bias-corrected 95% confidence interval (.003 to .296) did not include zero but the effect of discount remained significant ($\beta = -.52, p = .003$), we concluded that the direct path was partially mediated by consumption attention. For the sour (negative) juice, the bias-corrected 95% confidence interval (.004 to .410) did not include zero and the effect of discount was no longer significant ($\beta = .52 \rightarrow .38, p = .02 \rightarrow .09$); we thus conclude that the effect of price promotions on consumption experience was mediated by consumption attention.

We then tested whether consumption attention mediated the positive effect of discount on consumption enjoyment for the no-delay conditions. Following Zhao et al. (2010), we found that the bias-corrected confidence interval for each juice contained zero (sweet juice: $-.206$ to $.057$; sour juice: $-.167$ to $.132$), confirming that attention did not play an important role in the no-delay conditions. Together, these results confirmed that price promotions reduced consumption attention, which was the key driver for the negative effect of price promotions on delayed consumption experience but not for immediate consumption experience.

Discussion

Once again, experiment 3 replicated the basic interaction effect between discount and consumption delay on pleasurable consumption experience using a different stimulus in a controlled laboratory setting. More important, reduced consumption attention (as a result of price promotions) dampened consumption experience over time, rendering a positive experience less pleasurable and a negative experience less unpleasant, corroborating prior research on attention and affective experience over time. This result, as well as the mediation analyses, provides converging evidence to show that attention plays a central role in the observed effects and operates above and beyond alternative accounts including perceived quality and direct sunk cost.

Across experiments 1–3, we consistently found an increase in consumption enjoyment with time delay for participants who consumed a pleasant stimulus that they had purchased at full price. In accordance with our proposed mood-attention dual-process framework, this increase reflects the greater reliance on mood (and hence the negative impact of pain of payment on enjoyment) for immediate consumption on the one hand and the greater reliance on attention for delayed consumption on the other hand. In the final study, we further examined the validity of the dual-process account in explaining the interaction between discount and consumption delay on consumption experience.

EXPERIMENT 4: TASTY JUICE AND COGNITIVE LOAD

In experiment 4, we further tested the attention account by manipulating cognitive load during consumption in addition to discount and consumption delay. When individuals experience cognitive constraint and are not able to devote attention to a hedonic consumption episode, they may fail to appreciate the details and nuances of the consumption episode that trigger affective reactions (Wilson and Gilbert 2008). For example, people may find a television show less entertaining when others keep talking to them during the show. Thus, imposing cognitive load should reduce attention in both the discount and no-discount conditions and thus attenuate the negative attention-driven effect of price discount. Although we expect to observe this attenuation in the delay conditions, we do not expect cognitive load to moderate the positive effect of price discount in the no-delay conditions because that effect is driven by a spillover of positive mood that a discount induces and therefore does not require as much cognitive resources as consumption attention.

Further support for these predictions can be drawn on the extant literature on dual-process models (Nowlis and Shiv 2005; Rottenstreich et al. 2007; Shiv and Fedorikhin 1999). This literature shows that cognitive load inhibits cognitive processing (e.g., reasoning, trading off pros and cons) and facilitates affective processing (e.g., feeling-based choices). In one study by Shiv and Fedorikhin (1999), participants chose between two snacks—chocolate cake and fruit salad—while memorizing either a seven-digit number (high load) or a two-digit number (low load). Participants who had lower deliberative capacity (high load) were more likely to rely on affective processing and choose the affectively favorable chocolate cake over the cognitively favorable fruit salad. Because the negative effect of attention—which is driven by the motive to recover one's spending (deliberative evaluation of consumption)—is likely associated with cognitive processing, we expect that cognitive load would attenuate the negative attention effect in the delay conditions. However, because the spillover effect of mood onto consumption enjoyment is likely associated with automatic, affective processing and requires less cognitive resources, we expect that cognitive load would not influence the positive mood effect in the no-delay conditions. Formally,

- H3a:** For immediate consumption, price promotions will increase enjoyment in both the high- and low-load conditions because cognitive load will not impede the affective spillover mechanism underlying the positive (mood) effect.
- H3b:** For delayed consumption, price promotions will decrease enjoyment in the low-load conditions but will have no effect in the high-load conditions because cognitive load will reduce attention during consumption.

Method

Participants, Design, and Stimuli. One hundred and ninety-three students from the University of Toronto participated in this experiment and received \$6 each. The experiment employed a 2 (cognitive load: high vs. low) \times 2 (discount: no discount vs. discount) \times 2 (consumption delay: no delay vs. delay) between-subjects design. Experiment 4 is similar to experiment 3 except for one modification. In this experiment, we manipulated cognitive load instead of stimulus valence. As in experiment 3, all participants chose between two beverages (orange juice), but the juice did not contain honey or vinegar. Participants were randomly assigned to one of the eight conditions.

Procedure. As in experiment 3, participants completed several unrelated surveys and received \$6, a receipt, and instructions for the subsequent shopping study. In the shopping study, participants first chose and paid for a beverage (\$1 or 50 cents, with \$1 being the retail price). Half the participants received and drank the juice shortly after they had paid, whereas the remaining half completed a 15-minute filler task before the experimenter poured them the juice (with the cover story that we had to obtain the juice after they made their choices). Participants in the no-delay conditions completed the same filler task after they had finished the juice study.

Prior to drinking the juice, participants received either a high or a low cognitive load manipulation. We manipulated cognitive load by adapting a procedure involving a working memory task from previous studies (Drolet and Luce 2004; Shiv and Huber 2000). Specifically, participants assigned to the high-load condition were given 2 minutes to memorize a list of 20 words and were told that they had to recall these words later at the end of the study. Participants assigned to the low-load condition viewed the same list of words; however, instead of memorizing the words, we asked them to count the number of nouns, so the words should not occupy their working memory when they consumed the juice subsequently. This low-load manipulation ensured that any condition effect is attributed to consumption attention, which varies by the amount of cognitive resources available to participants during consumption, rather than to any potential confounds due to exposure to the words.

Next, participants drank and rated the juice on the same 10-point scale as in the previous experiments. Finally, participants were asked to recall both the retail price and the paid price. More than 90% of the participants recalled both prices correctly, confirming that they had read the instructions and remembered the amount of discount (if any) they had received. Similar results were observed when participants who failed to recall the prices were excluded, so we included all participants in the analyses.

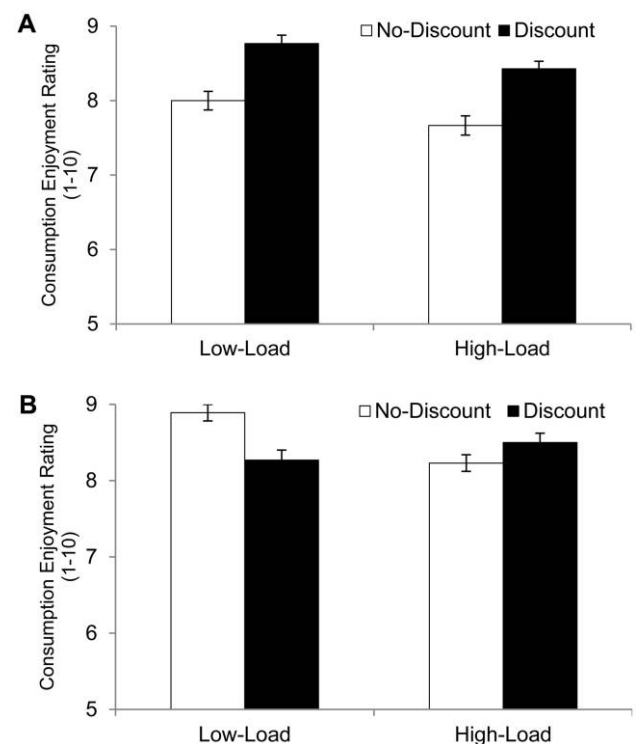
Results

Consumption Experience. We submitted the enjoyment ratings to a 2 (cognitive load) \times 2 (discount) \times 2 (con-

sumption delay) ANOVA. The results revealed only a significant two-way interaction of discount and consumption delay ($F(1, 185) = 7.49, p = .007$; see fig. 5). Planned contrasts showed that the results of the low-load conditions replicated those of experiments 1–3 for positive consumption experience. In particular, price discount increased enjoyment in the no-delay conditions ($M_{\text{nodisc}} = 8.00, SD = 1.27$ vs. $M_{\text{disc}} = 8.77, SD = 1.10$; $F(1, 184) = 6.04, p = .02$). However, the effect was reversed for delayed consumption ($M_{\text{nodisc}} = 8.89, SD = 1.12$ vs. $M_{\text{disc}} = 8.27, SD = 1.12$; $F(1, 184) = 3.68, p = .057$). When we imposed higher cognitive load during consumption, price discount increased enjoyment in the no-delay conditions ($M_{\text{nodisc}} = 7.67, SD = 1.24$ vs. $M_{\text{disc}} = 8.43, SD = 1.21$; $F(1, 184) = 4.07, p = .05$), as in the low-load conditions. However, the (negative) effect of discount disappeared for delayed consumption ($M_{\text{nodisc}} = 8.23, SD = 1.23$ vs. $M_{\text{disc}} = 8.50, SD = 1.14$; $F < 1, p = .44$).

FIGURE 5

THE EFFECTS OF PRICE PROMOTIONS AND COGNITIVE LOAD ON CONSUMPTION ENJOYMENT (EXPERIMENT 4)



NOTE.—A, Dominant positive mood effect for immediate consumption. B, Attenuation of attention effect for delayed consumption. Error bars denote standard errors.

Discussion

The results of experiment 4 further support our dual-process conceptualization of the effects of promotions on consumption experience, particularly our proposed attention account for delayed consumption. When consumption is decoupled from payment by a delay, price promotions reduce consumption enjoyment under low cognitive load, replicating the results of our previous experiments. However, this effect is muted under high cognitive load. That is, when participants in the delay conditions experienced cognitive constraint during consumption, those who had bought the juice at full price could not pay sufficient attention to the consumption experience and thus enjoyed the juice less. Similarly, those who had paid the discounted price would not pay much attention to the consumption experience anyway. Therefore, when participants were under high cognitive load, consumption enjoyment did not differ by discount level, supporting the attention-based account. By contrast, when consumption takes place shortly after payment, price discount increases consumption enjoyment under both low and high cognitive load. The results of the no-delay conditions are consistent with prior research showing that feeling-based choices are intuitive, are automatic, and require little cognitive processing, further supporting the role of mood for immediate consumption. Together, these results suggest that attention and mood play crucial roles in the interaction of price promotions and delay on consumption experience, with attention dominating in delayed consumption and mood in immediate consumption.

GENERAL DISCUSSION

While price promotions can affect consumption experience, how this influence manifests depends on when products are consumed after payment. Across four experiments involving real payment and consumption as well as distinct product categories—chocolate truffles (experiment 1), music (experiment 2), and orange juice (experiments 3 and 4)—we found that when product consumption occurs immediately after purchase, price discounts enhance consumers' enjoyment of the product. In contrast, when consumption is decoupled from the transaction by a time delay, price discounts reduce consumption enjoyment. The studies also provide process evidence for the dominant role of mood for immediate consumption (experiments 2 and 4) and the role of consumption attention for delayed consumption (experiments 3 and 4). We also ruled out alternative accounts including absolute price differences (experiment 2), pure sunk-cost considerations (experiment 3), and perceived quality (experiments 2 and 3).

Overall, these empirical findings highlight an important yet underexamined effect of price promotions—their impact on actual hedonic consumption experience. Our work offers an explanation for the extant finding that price promotions can have negative long-term effects on customer satisfaction and brand loyalty. Complementing prior work on price promotions that has relied on the analysis of archival transaction

records or scanner data, in the current work, we employed experiments that involved real spending and consumption over time, allowing us to investigate the psychological impact of price promotions.

Additionally, our findings highlight the dual roles of feelings and, importantly, attention during consumption in driving the impact of price promotions on hedonic consumption experience. That the duration of consumption delay may influence the relative strengths of these affective and cognitive factors further underscores the nuanced manner in which these factors may determine how much we enjoy a product that we have purchased at a discount.

Our findings complement prior work that examines the difference between prepayment and postpayment consumption experience (Patrick and Park 2006; Prelec and Loewenstein 1998) by investigating the effect of price promotions on consumption experience at different points in time after payment. Our findings also complement prior work on the placebo effect in which price discounts have been found to have a deleterious effect on consumers' perceived efficacy of utilitarian products (Shiv et al. 2005). Just as prior empirical evidence (Irmak et al. 2005) suggests that motivation may be an essential prerequisite for the placebo effect, our work identifies another price-driven motivation—the perceived need to recover one's expenditure—which may influence attention during consumption and thus hedonic consumption experience.

Our work advances the field in three important ways. First, the present research incorporates a temporal factor into the investigation of price promotion effects and provides a clearer picture of how price promotions influence hedonic consumption experience over time. Second, our results highlight the crucial role that attention plays in the impact of promotions on consumption experience: price promotion, rather than simply reducing enjoyment, weakens consumption experience over time, rendering a positive item less enjoyable and a negative one less unpleasant (experiment 3). The interaction of valence and price discount cannot be attributed to price-quality inference, the motivation for an experience to be positive, or other sunk-cost related considerations. Our findings implicate the importance of other antecedents of consumption experience beyond perceived quality, in particular, mood and attention. Third, and more generally, our work highlights the potential utility of approaching dual-process models from a temporal perspective. Our results suggest that, besides the well-documented finding that affective processing tends to be more automatic and cognitive processing more deliberative, the relative strengths of affective versus cognitive processing in responding to a stimulus can also depend on the time gap between acquisition and consumption.

Practical Implications

Given that consumption experience plays an essential role in influencing customer satisfaction, repeat purchase, word of mouth, and consumer loyalty (Chaudhuri and Holbrook 2001; Westbrook 1987), the current findings have broad

practical implications for both consumers and marketing practitioners. From a consumer's standpoint, our results suggest that consumers can maximize their consumption experience if they base their purchase decisions on criteria most relevant to consumption enjoyment rather than solely on price discounts, particularly for products they plan to consume later (e.g., music CDs, books, takeout). The present research, however, does not endorse excessive spending. Instead, the empirical findings suggest that consumers should exercise caution when encountering sales promotions. Rather than being tempted by good deals, consumers should also consider information central to their actual consumption experience. From a managerial perspective, our results underscore the fact that price promotions could be a double-edged sword: while price promotions could induce short-term sales and enhance consumption experience if the promotional products are consumed immediately after purchase, for products consumed later, price promotions can reduce enjoyment as a result of lower attention during consumption. This negative effect is likely to reduce repeat purchase and brand loyalty in the long run.

The Role of Expectations

Much work in the extant literature on price promotions has examined the influence of price discounts on expectations (Irmak et al. 2005; Shiv et al. 2005). As shown in another stream of research on affective experiences, consumption experiences are often systematically influenced by consumers' expectations prior to consumption (Lee et al. 2006; Litt and Shiv 2012; Wilson et al. 1989). One may therefore ask whether the findings in the present work could be explained by people's promotions-driven expectations about consumption enjoyment. When consumption is delayed, people may experience positive feelings by anticipating the pleasurable experience of consuming the purchased good (Loewenstein 1987). These anticipatory feelings may be assimilated into (Litt and Shiv 2012; Nowlis, Mandel, and McCabe 2004) or contrasted with (Loewenstein 1987; Smith et al. 2009; Zhao and Tsai 2011) the actual consumption experience.

On the one hand, one may argue that in the case of assimilation, price promotions can reduce the buildup of anticipatory feelings by lowering expectations, thereby decreasing consumption enjoyment for both positive and negative items. However, this account cannot explain the results in the sour juice conditions in experiment 3. On the other hand, in the case of contrast, lower expectations may increase consumption enjoyment regardless of valence. This account, however, cannot explain the results in the sweet juice conditions in experiment 3 as well as those in experiments 1 and 2. Therefore, without making some additional assumptions about how the net effect of assimilation and contrast depends on product valence, neither the contrast nor the assimilation mechanism can offer a parsimonious theoretical prediction to account for our findings.

Nonetheless, rather than directly challenging the validity of the proposed mood-attention account, expectations may

be conceptualized as an additional layer to the hypothesized dual-process model. In particular, expectations may be antecedent to attention such that when expectations are higher (as a result of having paid full price or sunk-cost considerations), so is the amount of attention paid to the consumption experience. (We thank an anonymous reviewer for this suggestion.) Future research could further examine the validity of this causal relationship between expectations and attention.

A Note on Price-Quality Inference

Our findings may appear at odds with prior research showing that price signals quality (e.g., Rao and Monroe 1989; Shiv et al. 2005). A closer examination of new directions in this literature, as well as the conceptual underpinnings of the current work, points toward at least two reasons for this seeming anomaly. First, several studies have indicated that price-quality associations are actually not as general as commonly assumed and occur only under certain conditions (e.g., Kardes et al. 2004). Consistent with this view, very recent work suggests that price does not signal quality when the quality of a product is unambiguous (Shen et al. 2012), when consumers make product judgments from their own perspective rather than from others' perspective (Yan and Sengupta 2011), or when consumers possess an independent (vs. interdependent) self-construal (Lalwani and Shivitt 2013). For example, Shen et al. (2012) observed that lowering the price of a shirt, in comparison with Coke, has a greater negative effect on perceived quality because the quality of products such as Coke is less ambiguous than the quality of a shirt. Second, given that people may not be sensitive to the true source of positive feelings (price promotions) during consumption, it is conceivable that price-driven mood effects spill over to perceived quality in the same way as they do to consumption enjoyment. Although the interaction between price-quality association and mood or consumption attention is beyond the scope of the present research, it is an interesting topic worthy of further investigation.

Future Research

Misforecasting the Negative Effect of Price Promotions. Consumers may possess some intuitions about the relationship between paid price and consumption experience. Nevertheless, how accurate really are these intuitions? While Diana might relish her good fortune of having gotten a great price for her music CD, it is unclear whether she can foresee how the price promotion would affect her enjoyment of the CD a week later.

To explore consumers' lay intuitions regarding the impact of price promotions on delayed consumption experience, we ran an auxiliary study in which 80 participants were asked to imagine that they were watching a movie they had rented 2 days ago (delayed consumption). Half the participants were told that they had rented the movie at the regular price of \$5, while the rest were told that they had rented the movie

at a discounted price of \$1. We found that the price discount increased predicted enjoyment of the movie ($M_{disc} = 8.05$ vs. $M_{nodisc} = 7.34$, $t(78) = 2.70$, $p < .01$). Contrary to our empirical findings, participants seemed oblivious of the diminishing emotional impact of the promotion on their (delayed) consumption experience. This lay intuition, however, is consistent with prior research showing that individuals are notorious forecasters who tend to overestimate the durability of their positive emotions (Gilbert et al. 1998; Hsee and Tsai 2008). In our case, the positive moods arose from having enjoyed a price promotion. Further research would be necessary to more closely examine the nature of this lay intuition, as well as both its antecedents and consequences.

Anticipating Negative Experiences. In the present work, we focus on the impact of price promotions on the consumption of positive experiences; even in the case of the sour juice in experiment 4, participants had paid for the juice expecting to consume a tasty drink. Although this context applies to many consumer experiences (e.g., grocery shopping, movies, vacation packages), in some real-life situations, however, consumers may knowingly purchase an unpleasant experience that serves a higher goal (e.g., joining a grueling weight loss program or enrolling in an intensive preparation course for the Law School Admission Test). How might obtaining a price discount on these products affect subsequent consumption experience? A careful consideration of this question suggests that its answer is not as straightforward as it might seem at first glance. On the one hand, consumers may cope with the negative experience by diverting their attention away from the experience, hence perceiving the experience to be less negative regardless of the paid price or the size of the discount. On the other hand, they may associate greater consumption unpleasantness with a greater likelihood of achieving the higher goal (Schrift, Netzer, and Kivetz 2011; Tsai and McGill 2011), hence perceiving the experience to be more negative. Paying a higher price may further exacerbate the negative experience (and, correspondingly, engender a greater chance of goal attainment). While we note that the present work focuses on the consumption of hedonic experiences with the goal of maximizing happiness instead of such "negative" products, it would be interesting to further examine how price promotions influence the consumption of such negative experiences.

Hedonic Adaptation. On a related note, our work has implications on the speed at which consumers adapt to hedonic consumption experiences. It is well established that when an external situation changes (e.g., moving from a small apartment to a larger one), consumers may feel strongly about the change initially, but its affective intensity tapers off over time, a process often referred to as hedonic adaptation (Frederick and Loewenstein 1999). Our studies show that price promotions can reduce consumers' attention during consumption. As discussed earlier, attention to an external stimulus intensifies the affective reaction toward the stimulus and impedes adaptation (Wilson and Gilbert

2008). We speculate that consumers may more quickly adapt to a positive experience if they receive a price discount for it. Although hedonic adaptation is beyond the scope of the present research, it is worthwhile studying how price promotions can influence affective experiences over time and the speed of adaptation. Relatedly, future research can also examine the longevity of the promotion-induced attention effects given that sunk-cost considerations might wear off after several months or years (Gourville and Soman 1998).

Although not the focus of the present work, across the experiments, we found that in the no-discount conditions, consumption enjoyment increased when there was a delay between payment and consumption. We posit that this increase reflects a reduced influence of the pain of payment over time (Prelec and Loewenstein 1998), a hypothesis that warrants validation in future research.

Experienced Utility and Summary Evaluations. In the present research, we have focused on examining how price promotions affect the enjoyment of a product consumed at a particular point in time, either immediately or after a delay following purchase. However, there are also many hedonic products that may be consumed both immediately and after a delay (e.g., a music recording, books, art). Related to the topic of hedonic adaptation, it would be interesting to explore how price promotions change the consumption experience of such a product over time with repeated consumption, as well as consumers' summary evaluation of the product.

Price Promotion as Memory Marker. Other promising research avenues include examining the immediate and delayed effects of different promotion tactics (e.g., bundling, coupons, rebates) on hedonic consumption experience. Methodological consistency considerations along with practical laboratory constraints have led us, across experiments, to control for the discount level (50% off) and type of promotion (simple cash discount commonly used in retail stores) and to choose product categories (juice, chocolate, music) to which a small discount amount (50 cents) commonly applies. Compared with simple cash discounts, certain promotion tactics (e.g., mail-in rebates, special sale events) and deeper discounts may be more memorable and exciting or require greater consumer effort and can thus create a more lasting positive effect.

To conclude, the next time Diana goes shopping and finds herself enticed by the dazzling display of sale signs and the tempting array of bargain products, she might wish to think twice before placing any of these promotional items into her shopping bag. Unless she is planning to consume these items soon, she might be better off buying what she really likes, needs, or wants.

DATA COLLECTION INFORMATION

The second author supervised the collection of data for all four experiments by research assistants at the University of Toronto from the spring of 2009 until the fall of 2012.

The second author analyzed these data. The first author collected and analyzed the data for the auxiliary study on people's intuition about the negative effect of price promotions under future directions in the general discussion. Both authors discussed the data and analyses for all the experiments on multiple occasions. All the research assistants worked at the University of Toronto.

APPENDIX

INSTRUCTIONS USED IN EXPERIMENT 1

No-Discount Condition

We are interested in how consumers make purchase decisions and evaluate the products subsequently. In this study, please use the money that you just earned to shop for chocolate. The retail price for these chocolates is \$1 each. You need to choose one chocolate and pay \$1 for it.

Discount Condition

We are interested in how consumers make purchase decisions and evaluate the products subsequently. In this study, please use the money that you just earned to shop for chocolate. The retail price for these chocolates is \$1 each. We are selling these chocolates for only 50 cents. You need to choose one chocolate and pay 50 cents for it. The rest of the money is yours to keep.

REFERENCES

- Arkes, Hal R., and Catherine Blumer (1985), "The Psychology of Sunk Cost," *Organizational Behavior and Human Decision Processes*, 35 (1), 124–40.
- Bar-Anan, Yoav, Timothy Wilson, and Daniel Gilbert (2009), "The Feeling of Uncertainty Intensifies Affective Reactions," *Emotion*, 9 (1), 123–27.
- Bonanno, George A., Camille B. Wortman, Darrin R. Lehman, Roger G. Tweed, Michelle Haring, John Sonnega, Deborah Carr, and Randolph M. Neese (2002), "Resilience to Loss and Chronic Grief: A Prospective Study from Preloss to 18-Months Postloss," *Journal of Personality and Social Psychology*, 83 (5), 1150–64.
- Chadhuri, Arjun, and Morris B. Holbrook (2001), "The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty," *Journal of Marketing*, 65 (2), 81–93.
- Chandon, Pierre, Brian Wansink, and Gilles Laurent (2000), "A Benefit Congruency Framework of Sales Promotion Effectiveness," *Journal of Marketing*, 64 (4), 65–81.
- Clore, Gerald L., Norbert Schwarz, and Martin Conway (1994), "Affective Causes and Consequences of Social Information Processing," in *Handbook of Social Cognition*, 2nd ed., ed. Robert S. Wyer and Thomas K. Srull, Hillsdale, NJ: Erlbaum, 323–417.
- Cohen, Joel B., Michel Tuan Pham, and Eduardo B. Andrade (2008), "The Nature and Role of Affect in Consumer Behavior," in *Handbook of Consumer Psychology*, ed. Curtis P. Haugtvedt, Paul Herr, and Frank R. Kardes, Mahwah, NJ: Erlbaum, 297–347.
- Davis, Scott, J. Jeffrey Inman, and Leigh McAlister (1992), "Promotion Has a Negative Effect on Brand Evaluations—or Does It? Additional Disconfirming Evidence," *Journal of Marketing Research*, 29 (1), 143–48.
- Dodson, Joe A., Alice M. Tybout, and Brian Sternthal (1978), "Impact of Deals and Deal Retraction on Brand Switching," *Journal of Marketing Research*, 15 (1), 72–81.
- Drolet, Aimee, and Mary Frances Luce (2004), "The Rationalizing Effects of Cognitive Load on Emotion-Based Trade-off Avoidance," *Journal of Consumer Research*, 31 (1), 63–77.
- Epstein, Seymour, Rosemary Pacini, Veronika Denes-Raj, and Harriet Heier (1996), "Individual Differences in Intuitive-Experiential and Analytical-Rational Thinking Styles," *Journal of Personality and Social Psychology*, 71 (2), 390–405.
- Frederick, Shane, and George Loewenstein (1999), "Hedonic Adaptation," in *Well-Being: The Foundations of Hedonic Psychology*, ed. Daniel Kahneman, Ed Diener, and Norbert Schwarz, New York: Russell Sage Foundation, 302–29.
- Gardner, Meryl Paula (1985), "Mood States and Consumer Behavior: A Critical Review," *Journal of Consumer Research*, 12 (3), 281–300.
- Gilbert, Daniel T., Elizabeth C. Pinel, Timothy D. Wilson, Stephen J. Blumberg, and Thalia P. Wheatley (1998), "Immune Neglect: A Source of Durability Bias in Affective Forecasting," *Journal of Personality and Social Psychology*, 75 (3), 617–38.
- Gourville, John, and Dilip Soman (1998), "Payment Depreciation: The Behavioral Effects of Temporally Separating Payments from Consumption," *Journal of Consumer Research*, 25 (2), 160–74.
- (2002), "Pricing and the Psychology of Consumption," *Harvard Business Review*, 80 (9), 90–96.
- Gupta, Sunil (1988), "Impact of Sales Promotions on When, What, and How Much to Buy," *Journal of Marketing Research*, 25 (4), 342–55.
- Heilman, Carrie, Kent Nakamoto, and Ambar Rao (2002), "Pleasant Surprises: Consumer Response to Unexpected In-Store Coupons," *Journal of Marketing Research*, 39 (2), 242–52.
- Hsee, Christopher K., and Claire I. Tsai (2008), "Hedonomics in Consumer Behavior," in *Handbook of Consumer Psychology*, ed. Curt Haugtvedt, Paul Herr, and Frank Kardes, Mahwah, NJ: Erlbaum, 639–58.
- Irmak, Caglar, Lauren G. Block, and Gavan J. Fitzsimons (2005), "The Placebo Effect in Marketing: Sometimes You Just Have to Want It to Work," *Journal of Marketing Research*, 42 (4), 406–9.
- Jedidi, Kamel, Carl F. Mela, and Sunil Gupta (1999), "Managing Advertising and Promotion for Long-Run Profitability," *Journal of Marketing Research*, 18 (1), 1–22.
- Kahneman, Daniel, Alan B. Krueger, David A. Schkade, Norbert Schwarz, and Arthur A. Stone (2004), "A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method," *Science*, 306 (5702), 1776–80.
- Kahneman, Daniel, and Richard H. Thaler (2006), "Anomalies: Utility Maximization and Experienced Utility," *Journal of Economic Perspectives*, 20 (1), 221–34.
- Kalwani, Manohar U., and Chi Kin Yim (1992), "Consumer Price and Promotion Expectations: An Experimental Study," *Journal of Marketing Research*, 29 (1), 90–100.
- Kardes, Frank R., Maria L. Cronley, James J. Kellaris, and Steven S. Posavac (2004), "The Role of Selective Information Processing in Price-Quality Inference," *Journal of Consumer Research*, 31 (2), 368–74.

- Knutson, Brian, Scott Rick, G. Elliott Wimmer, Drazen Prelec, and George Lowenstein (2007), "Neural Predictors of Purchases," *Neuron*, 53 (1), 147–56.
- Lalwani, Ashok K., and Sharon Shavitt (2013), "You Get What You Pay For? Self-Constraint Influences Price-Quality Judgments," *Journal of Consumer Research*, 40 (2), 255–67.
- Lee, Leonard, On Amir, and Dan Ariely (2009), "In Search of Homo Economicus: Cognitive Noise and the Role of Emotion in Preference Consistency," *Journal of Consumer Research*, 36 (2), 173–87.
- Lee, Leonard, Shane Frederick, and Dan Ariely (2006), "Try It, You'll Like It: The Influence of Expectation, Consumption, and Revelation on Preferences for Beer," *Psychological Science*, 17 (2), 1054–58.
- Levin, Irwin P., and Gary J. Gaeth (1988), "How Consumers Are Affected by the Framing of Attribute Information Before and After Consuming the Product," *Journal of Consumer Research*, 15 (3), 374–78.
- Liberman, Nira, and Yaacov Trope (2008), "The Psychology of Transcending the Here and Now," *Science*, 322 (5905), 1201–5.
- Lichtenstein, Donald R., Richard G. Netemeyer, and S. Burton (1990), "Distinguishing Coupon Proneness from Value Consciousness: An Acquisition-Transaction Utility Theory Perspective," *Journal of Marketing*, 54 (3), 54–67.
- Litt, Ab (2011), "Experience Distortion by Quality and Motivational Signals," doctoral dissertation, Graduate School of Business, Stanford University.
- Litt, Ab, and Baba Shiv (2012), "Manipulating Basic Taste Perception to Explore How Product Information Affects Experience," *Journal of Consumer Psychology*, 22 (1), 55–66.
- Loewenstein, George (1987), "Anticipation and the Valuation of Delayed Consumption," *Economic Journal*, 97 (387), 666–84.
- (1996), "Out of Control: Visceral Influences on Behavior," *Organizational Behavior and Human Decision Processes*, 65 (3), 272–92.
- Loewenstein, George, and Ted O'Donoghue (2004), "Animal Spirits: Affective and Deliberative Processes in Economic Behavior," Working Paper, Carnegie Mellon University.
- Mela, F. Carl, Sunil Gupta, and Donald R. Lehmann (1997), "The Long-Term Impact of Promotion and Advertising on Consumer Brand Choice," *Journal of Marketing Research*, 34 (2), 248–61.
- Metcalfe, Janet, and Walter Mischel (1999), "A Hot/Cool-System Analysis of Delay of Gratification: Dynamics of Willpower," *Psychological Review*, 106 (1), 3–19.
- Naylor, Rebecca Walker, Rajagopal Raghunathan, and Suresh Ramanathan (2006), "Promotions Spontaneously Induce a Positive Evaluative Response," *Journal of Consumer Psychology*, 16 (3), 295–305.
- Neslin, Scott A. (2002), *Sales Promotion*, Cambridge, MA: Marketing Science Institute.
- Nowlis, Stephen M., Naomi Mandel, and Deborah Brown McCabe (2004), "The Effect of a Delay between Choice and Consumption on Consumption Enjoyment," *Journal of Consumer Research*, 31 (3), 502–10.
- Nowlis, Stephen M., and Baba Shiv (2005), "The Influence of Consumer Distractions on the Effectiveness of Food-Sampling Programs," *Journal of Marketing Research*, 42 (2), 157–68.
- Oliver, Richard L., and William O. Bearden (1983), "The Role of Involvement in Satisfaction Processes," in *Advances in Consumer Research*, Vol. 10, ed. Richard Bagozzi and Alice Tybout, Ann Arbor, MI: Association for Consumer Research, 250–55.
- Ortony, Andrew, Gerald L. Clore, and Allan Collins (1990), *The Cognitive Structure of Emotions*, New York: Cambridge University Press.
- Papatla, Purushottam, and Lakshman Krishnamurthi (1996), "Measuring the Dynamic Effects of Promotions on Brand Choice," *Journal of Marketing Research*, 33 (1), 20–35.
- Patrick, Vanessa M., and C. Whan Park (2006), "Paying before Consuming: Examining the Robustness of Consumers' Preference for Prepayment," *Journal of Consumer Psychology*, 82 (3), 165–75.
- Pessoa, Luiz, Sabine Kastner, and Leslie G. Ungerleider (2002), "Attentional Control of the Processing of Neutral and Emotional Stimuli," *Cognitive Brain Research*, 15 (1), 31–45.
- Pham, Michel Tuan (1998), "Representativeness, Relevance, and the Use of Feelings in Decision Making," *Journal of Consumer Research*, 25 (2), 144–59.
- Plassmann, Hilke, John O'Doherty, Baba Shiv, and Antonio Rangel (2008), "Marketing Actions Can Modulate Neural Representations of Experienced Pleasantness," *Proceedings of the National Academy of Science*, 105 (3), 1050–54.
- Pocheptsova, Anastasiya, and Nathan Novemsky (2010), "When Do Incidental Mood Effects Last? Lay Beliefs versus Actual Effects," *Journal of Consumer Research*, 36 (6), 992–1001.
- Preacher, Kristopher J., and Andrew F. Hayes (2008), "Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models," *Behavior Research Methods*, 40 (3), 879–91.
- Prelec, Drazen, and George Loewenstein (1998), "The Red and the Black: Mental Accounting of Savings and Debt," *Marketing Science*, 17 (1), 4–28.
- Rao, Akshay R., and Kent B. Monroe (1989), "The Effect of Price, Brand Name, and Store Name on Buyers' Perceptions of Product Quality: An Integrative Review," *Journal of Marketing Research*, 89 (3), 351–57.
- Rescorla, Robert A., and Allan R. Wagner (1972), "A Theory of Pavlovian Conditioning: Variations in the Effectiveness of Reinforcement and Nonreinforcement," in *Classical Conditioning II: Current Research and Theory*, ed. Abraham H. Black and William F. Prokasy, New York: Appleton-Century-Crofts, 64–99.
- Richins, Marsha L., and Peter H. Bloch (1991), "Post-purchase Product Satisfaction: Incorporating the Effects of Involvement and Time," *Journal of Business Research*, 23 (2), 145–48.
- Rottenstreich, Yuval, Sanjay Sood, and Lyle Brenner (2007), "Feeling and Thinking in Memory-Based versus Stimulus-Based Choices," *Journal of Consumer Research*, 33 (4), 461–69.
- Schrift, Rom Y., Oded Netzer, and Ran Kivetz (2011), "Complicating Choice," *Journal of Marketing Research*, 48 (2), 308–26.
- Schwarz, Norbert, and Gerald L. Clore (1983), "Mood, Misattribution, and Judgments of Well-Being: Informative and Directive Functions of Affective States," *Journal of Personality and Social Psychology*, 45 (3), 513–23.
- Shen, Luxi, Christopher K. Hsee, Qingsheng Wu, and Claire I. Tsai (2012), "Overpredicting and Underprofiting in Pricing Decisions," *Journal of Behavioral Decision Making*, 25 (5), 512–21.
- Shiv, Baba, Ziv Carmon, and Dan Ariely (2005), "Placebo Effects of Marketing Actions: Consumers Get What They Pay For," *Journal of Marketing Research*, 42 (4), 383–93.

- Shiv, Baba, and Alexander Fedorikhin (1999), "Heart and Mind in Conflict: The Interplay of Affect and Cognition in Consumer Decision Making," *Journal of Consumer Research*, 26 (3), 278–92.
- Shiv, Baba, and Joel Huber (2000), "The Impact of Anticipating Satisfaction on Consumer Choice," *Journal of Consumer Research*, 27 (2), 202–16.
- Small, Deborah A., George Loewenstein, and Paul Slovic (2006), "Sympathy and Callousness: The Impact of Deliberative Thought on Donations to Identifiable and Statistical Victims," *Organizational Behavior and Human Decision Processes*, 102 (2), 143–53.
- Smith, Dylan M., George Loewenstein, Aleksandra Jankovich, and Peter A. Ubel (2009), "Happily Hopeless: Adaptation to a Permanent, but Not to a Temporary, Disability," *Health Psychology*, 28 (6), 787–91.
- Thaler, Richard H. (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (3), 199–214.
- Tsai, Claire I., and Ann L. McGill (2011), "No Pain No Gain? How Fluency and Construal Level Affect Consumer Confidence," *Journal of Consumer Research*, 37 (5), 807–21.
- Wathieu, Luc, and Marco Bertini (2007), "Price as a Stimulus to Think: The Case for Willful Overpricing," *Marketing Science*, 26 (1–2), 118–29.
- Wegner, Daniel M. (1994), "Ironic Processes of Mental Control," *Psychological Review*, 101 (1), 34–52.
- Westbrook, Robert A. (1987), "Product/Consumption-Based Affective Responses and Postpurchase Processes," *Journal of Marketing Research*, 24 (3), 258–70.
- Wilson, Timothy D., David Centerbar, Deborah Kermer, and Daniel Gilbert (2005), "The Pleasures of Uncertainty: Prolonging Positive Moods in Ways People Do Not Anticipate," *Journal of Personality and Social Psychology*, 88 (1), 5–21.
- Wilson, Timothy D., and Daniel Gilbert (2008), "Explaining Away: A Model of Affective Adaptation," *Perspectives on Psychological Science*, 3 (5), 370–86.
- Wilson, Timothy D., Douglas J. Lisle, Dolores Kraft, and Christopher G. Wetzel (1989), "Preferences as Expectation-Driven Inferences: Effects of Affective Expectations on Affective Experience," *Journal of Personality and Social Psychology*, 56 (4), 519–30.
- Yan, Dengfeng, and Jaideep Sengupta (2011), "Effects of Construal Level on the Price-Quality Relationship," *Journal of Consumer Research*, 38 (2), 376–89.
- Zhao, Min, and Claire I. Tsai (2011), "The Effects of Duration Knowledge on Forecasted versus Actual Affective Experiences," *Journal of Consumer Research*, 38 (3), 525–34.
- Zhao, Xinchu, John J. Lynch, and Qimei Chen (2010), "Reconsidering Mediation: Tests, Claims and Implications for Theory Building," *Journal of Consumer Research*, 37 (2), 197–206.