

Chocolate Cake Please! Why Do Consumers Indulge More When It Feels More Expensive?

Rajesh Bagchi and Lauren G. Block

This article examines how imputed costs influence food consumption. Across one field study and three lab studies, the authors demonstrate that the greater the imputed cost of consumption, the greater is the likelihood of choosing a more indulgent, high-calorie food. Specifically, the authors show that when the imputed costs of payment are higher, such as when making purchases using cash (vs. a credit card) or when pain associated with cash spending is higher, consumers are more likely to purchase and consume higher-calorie foods. The authors provide evidence that consuming indulgent foods actually alleviates the pain of payment and leads to greater positive affect. These findings extend current research by demonstrating how method of payment affects consumption choice. They also provide an alternative explanation of why consumption of indulgent foods increases during economic downturns and why consumers who impute higher costs to payment indulge more.

Keywords: cash, credit, food choice, imputed cost, indulgence

As unemployment and financial worries steadily increase during this era of global recession, so too do sales of high-calorie, indulgence items. Manufacturers of high-calorie foods, such as chips, ice cream, and doughnuts, report healthy increases in sales; indeed, sales of junk food rose 10% in 2009, and doughnut sales alone rose almost 5% (Miles 2009). Sales of ice cream in May 2010 were 20% higher than sales in May 2009, with several ice-cream retailers reporting a 25% increase in sales over the past year (Gandel 2010). Nutritionists call this phenomenon “recession obesity” and attribute it to the low cost of junk food relative to more healthful and nutritional alternatives (Everett and Grogan 2009). For example, budget-friendly meals account for McDonald’s recent spike in same-store sales (Miles 2009). However, although the lower price is undoubtedly an economic factor motivating consumers’ food choices, we suggest there is also a psychological motivation that drives high-calorie indulgence choices. Specifically, we suggest that when the imputed costs of payment are higher, such as when making purchases using cash (vs. a credit card) or when pain associated with cash spending is higher, increasing the hedonic benefits of consumption blunts the pain of payment.

Although prior research has explored the use of cash or credit for purchases, the most ubiquitous finding from this

research is that when the decision to make a purchase has been made, the use of a credit card can lead to more spending than cash or checks (Prelec and Loewenstein 1998; Prelec and Simester 2001; Soman 2001). However, little research has explored whether cash (vs. credit) influences *what* people buy. Thomas, Desai, and Seenivasan (2011) find that the proportion of unhealthy, impulse purchases made when grocery shopping is higher when spending with a credit card. This research is important and should be recognized for opening avenues to study how payment mode affects what is purchased and not just overall dollars spent. With the current research, we demonstrate conditions under which a reversal of the Thomas, Desai, and Seenivasan findings obtain; specifically, we demonstrate that when consumers purchase food items for immediate consumption, the greater the pain of payment, the more indulgent are the foods chosen (higher in calories, fat, and sugars).

Across one field study and three laboratory studies, we demonstrate how a higher imputed cost of payment systematically influences consumer choice of snack foods for immediate consumption. Our field study, conducted in a frozen yogurt retail store, provides evidence that people consume more calories and impute higher costs when purchasing with cash rather than a credit card. We also find that imputed cost mediates the effect of method of payment on calorie consumption. We replicate this result in our first lab study, Study 2, in which we used a scenario-based approach.

Because our theorizing is predicated on differences in imputed costs associated with cash versus credit rather than the method of payment per se, in Study 3 we vary only imputed cost but keep method of payment the same. We thus compare cash conditions but manipulate imputed costs to be high or low by varying how difficult or easy it is to earn this money. Our findings suggest that consumers

Rajesh Bagchi is Assistant Professor of Marketing, Pamplin College of Business, Virginia Tech (e-mail: rbagchi@vt.edu). *Lauren G. Block* is Lippert Professor of Marketing, Zicklin School of Business, Baruch College, CUNY (e-mail: lauren.block@baruch.cuny.edu). Both authors contributed equally to this research. The authors thank Pragma Mathur and Dilip Soman for their insightful comments and Ibrahim Karabiyik, Chrissy Mitakakis, Katherine Olson, Melissa Ward, and Stephanie Wilkinson for their research assistance. Stacey Baker served as associate editor for this article.

indulge more when difficulty of earning is higher and that these imputed costs mediate the effect of difficulty of earning on calorie consumption. Finally, in Study 4, we provide more support for our theory by showing that consuming indulgent foods actually alleviates the pain of payment and leads to greater positive affect. We also rule out the alternative explanations that when imputed cost is high, consumers desire greater value for their money or that the hard work entitles them to indulge. We discuss the theoretical underpinnings of our research next. Subsequently, we describe our empirical work.

Conceptual Framework

Imputed Cost: Pain of Payment

To support the myriad anecdotal evidence that suggests that credit cards facilitate spending, early research on the effects of payment mechanism on consumer behavior reviewed actual transactions when consumers used credit cards compared with cash or checks in identical purchasing situations (Feinberg 1986; Hirschman 1979). For example, Feinberg (1986) demonstrated that restaurant patrons left higher tips when paying by credit card. In a series of follow-up studies, Feinberg (1986) then manipulated the presence or absence of credit card stimuli and demonstrated that credit cards increase the motivation to spend, the amount spent, the probability of spending, and the speed (decision time) of spending. Although a conditioning explanation was used to interpret these results, an emerging body of literature that demonstrates that consumers spend differently depending on the payment mode used relies on the psychological differences in pain of payment that underlie spending.

Prelec and Loewenstein (1998) introduced the pain-of-payment notion to spending behavior in their seminal article on mental accounting theory that describes the reciprocal interactions between the pleasure of consumption and the pain of paying for that pleasure. Central to their theory is the concept of coupling, which refers to the degree to which consumption brings to mind thoughts about paying for the item. Because credit card payments are temporally separated from the purchase, coupling is weakened compared with cash payments, which are tightly coupled (Prelec and Loewenstein 1998). Such tight coupling maintains even with retrospective evaluations of the pain of past payments (Soman 2001).

A recent explanation argues that the transparency, or vividness, with which the consumer experiences the outflow of money underpins the difference in payment mode (Raghubir and Srivastava 2008). These scholars suggest that cash is the most transparent form of money because its status as legal tender makes it more “real” and thus spending down cash is more salient, likened to a personal meter running. The more transparent the outflow, as in a cash payment (vs. credit), the greater is the pain of payment and the more difficult it is to part with the money. Less transparent payment modes, such as credit cards (or gift cards), are much more easily spent and might even be treated as play money or “monopoly money” (Raghubir and Srivastava 2008, p. 214). Expanding on their research, Raghubir and Srivastava (2009) show that some consumers prefer money in large denominations (e.g., \$100 compared with the

equivalent in smaller denominations, e.g., five \$20 bills) as a strategy to avoid spending because large denominations are more difficult to spend. However, because they also find that this holds true only for tightwads and not for spendthrifts, who show no preference for any particular denomination over another, they conclude (p. 712) that their pattern of results suggests that it is not the need to exert control over spending in general “(which is greater for spendthrifts vs. tightwads) but the need to avoid the pain of paying (which is greater for tightwads)” that drives spending decisions.

In summary, the resulting implication from the body of work on spending behavior is that the imputed cost of consumption (defined as the answer to a consumer’s question “How much is this pleasure costing me?” Prelec and Loewenstein 1998) is an important driver of spending and consumption decisions. Notably, imputed cost is greater for cash than for credit, and even specific cash bills themselves may differ in the pain of payment (e.g., denomination size of bills). Consequently, we suggest that the greater the imputed cost of consumption, the greater is the likelihood of choosing a more indulgent, high-calorie food. Our theorizing is driven by the literature on reparative negative affect, which we discuss next.

The Role of Affect Regulation

Support for this theorizing appears in a large body of literature on mood management that demonstrates that when people experience negative affect, they seek reparative action that serves as a mechanism to restore affect to a positive state (Bublitz, Peracchio, and Block 2010; Connolly, Ordóñez, and Coughlan 1997; Klinger 1975; Tice, Bratslavsky, and Baumeister 2001). Tice, Bratslavsky, and Baumeister (2001) theorize that emotional distress shifts priorities to the immediate present because when people feel bad, they want to feel better—urgently—at the expense of long-range goals, such as dieting, maintaining good health, and saving for retirement. Thus, negative affect gives priority to affect regulation strategies (over self-regulation strategies), which then motivates the desire for positive affect, or simply to feel good again. As Tice, Bratslavsky, and Baumeister note, the quest for pleasure then takes precedence over impulse control.

Notably, shopping and consumption activities often serve as one such reparative mechanism (Woodruff 1997). More specifically, people wanting to repair negative moods consume larger amounts of food and, particularly, foods that are hedonic, or indulgent, in nature (Tice, Bratslavsky, and Baumeister 2001; Garg, Wansink, and Inman 2007; Mick and DeMoss 1997). For example, Garg, Wansink, and Inman (2007) explore the influence of affect on food intake; in one exemplar study, they find that those watching a sad movie ate 28% more buttered popcorn than those watching a happy movie. Importantly, this effect is true only for hedonic products; those in the negative affect conditions ate significantly more M&Ms but fewer raisins than those in the positive affect conditions.

Also relevant to the current research is the recent research linking stress and daily hassles to the consumption of unhealthful snack foods. This body of work has found that when stressed, people consume more sweet, high-fat,

and energy dense foods (Grunberg and Straub 1992; Oliver, Wardle, and Gibson 2000). This extends to “daily hassles” as well; fast food is consumed more frequently the more hassles respondents reported (Steptoe, Lipsey, and Wardle 1998). Importantly, researchers have recently qualified this finding such that emotional/social daily hassles (e.g., interpersonal, ego-threatening, and work-related), but not physical daily hassles, are associated with increased consumption of high-fat, high-sugar snacks and decreased consumption of vegetables and main meals (O’Connor et al. 2008).

Pain of Payment and Affect Regulation

Taken together, the literature suggests that when the pain of payment is higher, consumers should choose more indulgent foods. Specifically, because the pain of payment is higher with cash than with other decoupled forms of payments (e.g., credit, debit), we posit that consumers will choose more indulgent foods when purchasing with cash than with other forms of payment. Furthermore, this reparative action should help assuage the pain of payment for those who impute higher costs to the consumption but have less of an effect on those who do not impute higher costs. Thus, consuming indulgent foods will have a stronger impact on the affective well-being of those who impute higher costs to the consumption than on the well-being of those who do not. More formally:

- H₁: When costs imputed to a purchase are higher, such as when paying with cash rather than credit, or when it is more rather than less difficult to earn money, consumers will choose the more indulgent foods.
- H₂: Consuming indulgent foods will have a beneficial effect on the affective well-being of those who impute higher costs to the consumption compared with those who do not.

Before we present our studies, which test and support our hypotheses, it is important to point out that these hypotheses are in direct contrast with the recent findings of Thomas, Desai, and Seenivasan (2011). These researchers find that the proportion of unhealthy, impulse purchases made when grocery shopping is higher when spending with a credit card than with cash. Several notable differences between that study and ours exist. They use grocery shopping scenarios and study cross-category purchases. Grocery shopping confounds the *purchasers* with the *consumers* of the foods. Seldom do shoppers buy a grocery basket of food for only self-consumption. For example, even in Study 1, which evaluates the purchase habits of single-member households, they identify baby foods, candies, and cookies as being in the top 100 categories of products purchased. It is very likely that some of these products (e.g., baby foods, candies) were purchased for others (perhaps children in the household). In their other studies, they do not restrict consumers to make purchases for themselves. Using a grocery store context also introduces a time delay factor; grocery items are not immediately consumed. This distinction is important because these researchers argue that consumers purchasing with cash cannot explain away the pain of payment when purchasing vices but can do so when buying virtues. In our context, the compensation is immediate. Thus, the need to explain away the pain of payment does not arise because the purchased product can be consumed

immediately to blunt the pain of payment, unlike in Thomas, Desai, and Seenivasan’s research in which compensation occurs in the future.

Study 1: Field Study

Participants, Design, and Procedure

The primary objective of this field study was to assess whether mode of payment could affect indulgence as measured by caloric intake and other nutritional measures as posited in H₁. We conducted this study at a large, national frozen yogurt franchise retailer. We selected this particular store not only because it was one of the largest stores in the locality but also because it catered to a diverse clientele. We recruited 125 customers (56% female; M_{age} = 36 years, range: 18–72 years; modal monthly income = \$2,001–5,000) in exchange for a \$1 discount voucher that could be applied toward their next purchase at the store.

The menu included a wide variety of products that consisted of soft-serve yogurts, sorbets, smoothies, and so forth. Customers ordered from the menu and were served at the counter. After customers made their purchase, research assistants discreetly asked them if they would be interested in participating in the survey. Sufficient care was taken to ensure that those still brooding over their choice were not informed of the survey opportunity. Furthermore, only those who bought a product for themselves were allowed to take part in the survey.

We calculated the caloric and nutritional value of the purchase from the nutritional information available on the brand’s website and used it as a measure of indulgence. Respondents reported the price paid (along with product information, including toppings and size), method of payment (cash, credit, debit, other), if they knew in advance which form of payment they would use (1 = “no, not at all,” and 7 = “yes, I was very sure”), and perceptions of imputed cost (how expensive they felt the purchased product was: 1 = “not expensive at all,” and 7 = “very expensive”). Participants also responded to several other measures (e.g., perceptions of taste, health, amount, liking, importance of value) on seven-point scales (e.g., for taste perceptions: 1 = “not at all tasty,” and 7 = “very tasty”). Individual analyses of covariance (ANCOVAs) with each of these variables as the dependent measures, payment method as the independent variable, and gender as the covariate did not elicit any significant effects (payment method: all $p > .60$; gender: all $p > .05$). Method of payment did not affect these perceptions, and thus we do not discuss these variables further. We measured indulgence as total calories, fat calories, total fat, saturated fat, trans fat, sodium, carbohydrates, and sugar consumed.

Results and Discussion

Calorie consumption is our primary dependent measure. These results also replicate for the other nutritional measures, as Table 1 reports. Because gender might affect the nature and amount of food consumed (e.g., men might consume more food than women), as well as the manner in which food is used as a coping mechanism (e.g., men consume less under stress, while women consume more; Grunberg and Straub

Table 1. Study 1: Additional Analyses of How Payment Method Affects Indulgence

Nutrition	Payment Method				Main Effect
	Cash		Credit		
	M	SD	M	SD	
Fat calories (kcal)	113.47	112.70	64.92	61.82	F(1, 122) = 7.78, $p < .01$
Total fat (g)	12.62	12.44	7.43	6.93	F(1, 122) = 7.24, $p < .01$
Saturated fat (g)	5.93	5.73	3.66	3.26	F(1, 122) = 6.40, $p < .02$
Sodium (mg)	263.13	168.35	192.34	126.17	F(1, 122) = 6.28, $p < .02$
Carbohydrates (g)	74.60	37.91	53.43	29.23	F(1, 122) = 10.88, $p < .005$
Sugar (g)	45.58	32.03	35.05	21.79	F(1, 122) = 4.02, $p < .05$
Trans fat (g)	.63	2.39	.95	5.00	F(1, 122) = .20, $p > .65$

Notes: Gender was not significant in any of these models (all $p > .18$).

1992), we included gender as a covariate in all our analyses (not including gender does not change the pattern of results). Although we also tested for the effects of several other demographics and psychographics-related variables (e.g., income, how often respondents ate out), these did not affect our pattern of results; thus, we do not include them as covariates in the model or discuss them further.

As we posited in H_1 , consumers who paid with cash consumed more total calories than those who paid with a card (credit or debit; $M_{\text{cash}} = 439.09$ kcal, $SD = 252.83$ vs. $M_{\text{card}} = 301.85$ kcal, $SD = 176.50$; $F(1, 122) = 10.85$, $p < .002$). Consumers paying with cash did not pay more than those paying with a card ($M_{\text{cash}} = \$4.51$, $SD = 2.76$ vs. $M_{\text{card}} = \$5.02$, $SD = 3.86$; $F(1, 117) = .69$, $p > .40$; five participants did not respond to this measure). As we expected, however, consumers believed that the imputed cost was higher when paying with cash (i.e., their chosen product was more expensive; $M_{\text{cash}} = 4.49$, $SD = 1.49$ vs. $M_{\text{card}} = 3.84$, $SD = 1.23$; $F(1, 122) = 6.40$, $p < .02$). This finding provides preliminary support for our view that cash spending feels more expensive, or painful, than credit card spending.

Furthermore, we expected these imputed costs to mediate the effects of the method of payment on calorie consumption. We followed the bootstrap procedure developed by Preacher and Hayes (2004, 2008) and recommended by Zhao, Lynch, and Chen (2010) to test for mediation. We specified a confidence interval of 95% along with the number of bootstrap resamples to 5000. We also included gender as a covariate in the model. We found that the mean indirect effect from the bootstrap process was positive and significant ($a \times b = 24.495$), with a 95% confidence interval excluding zero (5.173 to 67.531). All the coefficients related to the indirect effects ($a = .6499$, $p < .02$; $b = 37.689$, $p < .01$) and the direct effects ($c = 112.575$, $p < .01$) were also positive and significant, as Panel A of Appendix A shows. Because $a \times b \times c$ (2757.421) is positive, we find support for complementary mediation (Zhao, Lynch, and Chen 2010, p. 204).

Finally, a comparison with the mean of the seven-point scale ($M = 4.0$) revealed that participants knew in advance the method they would use to make their purchase ($M_{\text{Mechanism known}} = 6.67$, $SD = 1.17$ vs. $M = 4.0$; $F(1, 123) = 641.61$, $p < .0001$; one participant did not respond to this

measure), and this awareness did not vary as a function of payment mechanism ($p > .85$). Gender was not significant in any of the models reported in this study ($p > .85$).

Indeed, respondents consumed more calories and imputed higher costs when purchasing with cash rather than with a card, in support of H_1 . These imputed costs mediate the effects of the payment mechanism on choice, suggesting support for our hypothesis. Furthermore, as indicated by the high level of agreement to the question asking if consumers knew in advance the method of payment they would use, these data suggest that participants were indeed aware of their payment method. Thus, it is unlikely that choice of food items could have affected the method used to pay. In Study 2, we conclusively rule this explanation out by conducting a laboratory experiment in which we first make the payment method salient and then ask respondents to choose from a menu.

Study 2: Café Study: Cash Versus Credit

Participants, Design, and Procedure

In Study 2, we tested H_1 in a lab setting. Specifically, we investigated whether the pain associated with a cash payment or imputed cost leads to greater indulgence for cash than for credit purchases. This study used a single-factor design with payment mechanism (cash, credit) manipulated between subjects. We recruited 147 undergraduates (49% female; $M_{\text{age}} = 22$ years, range: 20–46 years; modal monthly income = less than \$1,000) to take part in this study in return for course credit.

The study consisted of two parts. The objective of the first part was to make the payment mechanism (cash or credit) salient. All participants were told that we were interested in understanding how consumers make purchase decisions. In the cash salient (credit salient) condition, participants were shown a picture of a \$10 bill (credit card) and asked to describe a recent situation in which they made a purchase of \$10 or less using cash (credit card) and to list some advantages of making cash (credit card) purchases.

In the second part of the study, participants in each condition were asked to choose products from a restaurant menu that they would be interested in eating for an

afternoon snack using the payment method that had been made salient to them. We adapted the menu from that of a large restaurant chain known for its wide selection of snacks (see Appendix B). All participants were asked to spend less than \$10 when selecting snack items.

After selecting the snacks, as in the field study, participants responded to several questions that gauged their perceptions of the purchased product and the importance of value in their decision-making process (e.g., perceptions of taste, health, amount). Individual ANCOVAs with these variables as the dependent measures, payment method as the independent variable, and gender as a covariate did not elicit any significant effects of payment method (all $p > .29$) or gender (all $p > .09$), suggesting that method of payment did not affect these perceptions. Thus, we do not discuss these variables further.

Participants also indicated their perceptions of imputed cost by rating their agreement with whether it was difficult to spend money in the café and if they felt they had a lot less money after the purchase (1 = “disagree,” and 7 = “agree”). We used the average of these two items as a measure of imputed cost, which provided a direct measure of how difficult it was to spend money to purchase the snacks.

Results and Discussion

The results are consistent with H_1 as well as the field study results. An ANCOVA with calories consumed as the dependent variable, payment method as the independent variable, and gender as a covariate elicited a significant main effect of payment method ($F(1, 144) = 4.60, p < .04$). Consumers who paid with cash selected foods with more calories than those who paid with a credit card ($M_{\text{cash}} = 500.92$ kcal, $SD = 258.74$ vs. $M_{\text{card}} = 423.49$ kcal, $SD = 211.44$). These effects also replicate for several of the other nutritional measures, as Table 2 shows. Participants spent more with cash than with a credit card ($M_{\text{cash}} = \$4.77$, $SD = 1.89$ vs. $M_{\text{card}} = \$4.07$, $SD = 1.75$; $F(1, 144) = 7.96, p < .01$). Imputed cost was higher when participants paid with cash than when they used a credit card ($M_{\text{cash}} = 3.70$, $SD = 1.43$ vs. $M_{\text{card}} = 3.25$, $SD = 1.37$; $F(1, 143) = 3.95, p < .05$; one participant did not respond to this measure). Gender was not significant in any of these models (all $p > .29$), except when amount spent was the dependent measure ($p < .01$).

These results provide further support for H_1 , indicating that cash purchases lead to greater indulgence than purchases made with a credit card. While Study 1 provided correlational support in a real-world setting, Study 2’s findings provide more conclusive evidence to demonstrate that consumers indulge more when spending with cash than with credit.

The findings from Studies 1 and 2 also indicated that the imputed costs were higher when consumers paid with cash than with credit. Our theorizing is predicated on differences in pain of payment, or imputed costs associated with cash versus credit, rather than on the method of payment per se. Therefore, our results should hold when we vary only imputed cost but keep method of payment constant. To test this, in Study 3, we only compare cash conditions that vary by how difficult it was to earn this money. The more difficult it is to earn money, the more painful it is to make a payment, and the higher the imputed cost should be.

Study 3: Café Study: Difficulty of Earning

Participants, Design, and Procedure

We conducted Study 3 as a single-factor study with imputed cost manipulated between subjects to be high or low. We recruited 229 undergraduates (74% female; $M_{\text{age}} = 21$ years, range: 19–28 years; modal monthly income = less than \$1,000) to take part in this study. As in Study 2, respondents were again asked to select food items for an afternoon snack from a menu. The menu was identical to the one used in Study 2 (see Appendix B). However, unlike in Study 2, in this study all participants were told that they would be paying with cash they just earned at their new job.

We manipulated imputed costs by varying how difficult it was to earn money. In the high-difficulty-of-earning condition, participants learned that the new job was very demanding, and though they only worked two days a week, the job completely exhausted them. In contrast, in the low-difficulty-of-earning condition, participants were told that they needed to expend very little effort at their new job, and though they worked only two days a week, the job completely rejuvenated them. To ensure that participants did not feel the need to compensate for a long, hard day at work, all participants were told that they were not scheduled to work that day.

Table 2. Study 2: Additional Analyses of How Payment Method Affects Indulgence

Nutrition	Payment Method				Main Effect
	Cash		Credit		
	M	SD	M	SD	
Total fat (g)	20.13	13.56	17.00	11.12	$F(1, 144) = 2.42, p = .12$
Saturated fat (g)	8.86	6.60	7.66	6.11	$F(1, 144) = 1.29, p > .25$
Sodium (mg)	876.41	552.86	724.67	532.51	$F(1, 144) = 4.46, p < .04$
Carbohydrates (g)	63.92	36.74	55.14	29.64	$F(1, 144) = 3.0, p < .09$
Sugar (g)	23.42	19.21	21.80	15.31	$F(1, 144) = .43, p > .50$
Trans fat (g)	.155	.23	.092	.20	$F(1, 144) = 3.93, p < .05$

Notes: Gender was not significant in any of these models (all $p > .15$), except when sodium was the dependent measure ($p < .02$), with men consuming more than women.

We also asked participants to indicate how enjoyable life was at the current moment on a seven-point scale (1 = “not enjoyable at all,” and 7 = “very enjoyable”). An ANCOVA with enjoyment as the dependent measure did not elicit a main effect of difficulty of earning ($F(1, 226) = .78, p > .35$) or gender ($F(1, 226) = .43, p > .50$), which we included as a covariate. Thus, our manipulation of pain did not affect participants’ overall assessments of life enjoyment. Participants also rated how difficult it was to earn the money that they spent at the café (1 = “not difficult at all,” and 7 = “very difficult”). This served as our manipulation check of earning difficulty. Furthermore, we asked participants to indicate their perceptions of imputed cost by rating how painful it was to spend money at the café (1 = “not painful at all,” and 7 = “very painful”). Finally, participants indicated their agreement with whether spending money in the café made them feel happy and if they felt good after spending money in the café (1 = “disagree,” and 7 = “agree”).

Results and Discussion

Manipulation Checks

An ANCOVA with perceived difficulty of earning the money as the dependent variable, imputed cost as the independent variable, and gender as a covariate elicited a significant main effect of imputed cost ($F(1, 226) = 312.54, p < .0001$). As we expected, participants in the high-imputed-cost condition believed that it was more difficult to earn the money ($M = 5.56$ vs. $M = 2.55$) than those in the low-imputed-cost condition. Gender was not significant in this model ($p > .06$).

Indulgence

An ANCOVA with calories as the dependent measure, imputed cost as the independent variable, and gender as a covariate elicited a significant main effect of imputed cost ($F(1, 226) = 6.82, p < .01$). Consistent with H_1 , when difficulty of earning was higher, consumers selected foods with more calories than when difficulty of earning was lower ($M_{\text{high difficulty}} = 430.77$ kcal, $SD = 233.27$ vs. $M_{\text{low difficulty}} = 348.57$ kcal, $SD = 168.04$). These results also replicate for several of the other nutritional measures, as Table 3 reports.

Imputed Costs

Consistent with our process explanation, participants’ perceptions of imputed costs were higher when difficulty of earning money was higher rather than lower ($M_{\text{high difficulty}} = 4.12, SD = 1.37$ vs. $M_{\text{low difficulty}} = 3.24, SD = 1.38$; $F(1, 226) = 24.50, p < .0001$). The actual price paid, however, did not vary ($M_{\text{high difficulty}} = 3.83, SD = 1.65$ vs. $M_{\text{low difficulty}} = 3.81, SD = 1.71$; $F(1, 226) = .02, p > .88$).

Mediation

To test whether imputed costs mediated the effects of difficulty of earning on indulgence, we followed the bootstrap procedure discussed previously (Preacher and Hayes 2004, 2008; Zhao, Lynch, and Chen 2010). We also included gender as a covariate. As in Study 1, we specified a confidence interval of 95% and set the number of bootstrap resamples to 5000. We found that the mean indirect effect from the bootstrap process was positive and significant ($a \times b = 20.2024$) with a 95% confidence interval excluding zero (5.6105 to 42.6003). Furthermore, although the coefficients related to the indirect effects ($a = .904, p < .0001$; $b = 22.3488, p < .02$) were significant, the direct effect ($c = 48.4852, p > .07$) was not. Thus, we find support for an indirect-only mediation (Zhao, Lynch, and Chen 2010, p. 204). The results appear in Panel B of Appendix A. Gender was significant in all the models described in this study thus far ($p < .0001$), except when amount spent and our measure of perceived imputed costs were the dependent measures ($p > .08$) and when specifically indicated otherwise.

Affect

In Study 3, we provide preliminary evidence that consumers attempt to assuage the pain of payment by selecting high-calorie options. To assess whether consuming high-calorie options indeed leads to higher levels of positive affect, as we posited in H_2 , we ran two models. The two indicators of positive affect (felt happy after spending at the store and felt good after spending at the store) were the dependent variables, imputed cost and calories were the independent variables, and gender was a covariate. In both models, imputed cost was significant (felt happy: $F(1, 224) = 8.44, p < .005$; felt good: $F(1, 224) = 11.93, p < .001$), suggesting

Table 3. Study 3: Additional Analyses of How Difficulty of Earning Affects Indulgence

Nutrition	Difficulty of Earning				Main Effect
	High		Low		
	M	SD	M	SD	
Total fat (g)	14.71	13.25	10.52	10.11	$F(1, 226) = 5.31, p < .03$
Saturated fat (g)	7.08	7.48	4.58	5.55	$F(1, 226) = 6.26, p < .02$
Sodium (mg)	756.58	549.29	622.16	421.48	$F(1, 226) = 3.10, p < .08$
Carbohydrates (g)	60.77	29.95	51.82	25.51	$F(1, 226) = 4.28, p < .04$
Sugar (g)	21.45	15.62	18.31	13.58	$F(1, 226) = 2.37, p > .10$
Trans fat (g)	.10	.20	.076	.18	$F(1, 226) = .72, p > .35$

Notes: Gender was significant in most of the models, with men indulging more than women (total fat: $F(1, 226) = 10.78, p < .002$; saturated fat: $F(1, 226) = 9.32, p < .005$; sodium: $F(1, 226) = 6.41, p < .02$; carbohydrates: $F(1, 226) = 9.25, p < .005$; sugar: $F(1, 226) = .27, p > .60$; trans fat: $F(1, 226) = 2.40, p > .10$).

that consumers had lower levels of positive affect when the difficulty of earning was higher (felt happy: $M_{\text{high difficulty}} = 3.82$, $SD = 1.28$ vs. $M_{\text{low difficulty}} = 4.05$, $SD = 1.41$; felt good: $M_{\text{high difficulty}} = 3.66$, $SD = 1.27$ vs. $M_{\text{low difficulty}} = 3.91$, $SD = 1.21$). However, as we predicted in H_2 , in each of these models, a significant two-way interaction of imputed cost \times calorie emerged (felt happy: $F(1, 224) = 7.5$, $p < .01$; felt good: $F(1, 224) = 10.2$, $p < .005$). The pattern of results suggests that consumers were happier when they consumed more calories in the high-imputed-costs condition than in the low-imputed-costs condition (felt happy: $b = .0025$; felt good: $b = .0027$). Gender was not significant in any of these models ($p > .09$). This basic pattern of results also replicates with other nutritional measures, as Table 4 shows. This is consistent with the extant literature that suggests that when people experience negative affect, they seek reparative action that serves as a mechanism to restore affect to a positive state. In other words, the pain of payment is mitigated by an increase in positive affect from consuming the indulgent item.

In Study 4, we aim to confirm H_2 by explicitly testing the change in positive and negative affect in a controlled choice environment. In addition to providing evidence of the specific affect processes underlying our findings, Study 4 simultaneously rules out two potential alternative explanations—namely, that when imputed cost is high, consumers desire greater value for their money or that the hard work entitles them to indulge. Therefore, in Study 4, we explicitly measure these and other related variables to detect any changes that might be occurring along these dimensions. Finally, in our previous studies, we sought an objective measure of indulgence—number of calories (and nutrients such as fat and sugar). However, it might be the case that indulgence varies across people and that what is indulgent to one person is not indulgent to another. Therefore, in Study 4, we also employed a design to manipulate indulgence that is grounded in the consumer behavior literature on indulgent choice (chocolate cake vs. fruit salad; see Shiv and Fedorikhin 1999).

Study 4: Indulgence and Affect

Participants, Design, and Procedure

We conducted Study 4 as a 2 (imputed cost: difficult vs. easy) \times 2 (food purchase: indulgent vs. not indulgent) between-subjects design. Seventy-three students enrolled in a marketing course (48% female; $M_{\text{age}} = 21$ years, range: 19–39 years) participated in the study in exchange for course credit. The basic scenario used in this study was identical to that in Study 3, and we manipulated difficulty of earning between subjects. The participants in the high-difficulty-of-earning condition were told that their new job was very demanding; in the low-difficulty-of-earning condition, participants were told that they needed to expend very little effort at their new job. However, rather than give participants a menu as we had done in the previous studies, we manipulated the indulgence of the food purchase. Half the participants were told that they purchased a slice of a very moist chocolate cake, and the other half were told that they purchased a fruit salad (for stimuli, see Appendix B).

Table 4. Study 3: Additional Analyses of How Imputed Costs (High Difficulty of Earning vs. Low Difficulty of Earning) and Indulgence Influence Positive Affect

Two-Way Interactions of	Dependent Measures	
	Felt Happy After Spending at Store	Felt Good After Spending at Store
Imputed cost \times total fat (g)	$F = 4.04$, $p < .05$, high (vs. low) diff. $b = .031$	$F = 3.27$, $p = .07$, high (vs. low) diff. $b = .026$
Imputed cost \times saturated fat (g)	$F = 3.77$, $p = .053$, high (vs. low) diff. $b = .055$	$F = 3.3$, $p = .071$, high (vs. low) diff. $b = .048$
Imputed cost \times sodium (mg)	$F = 20.51$, $p < .0001$, high (vs. low) diff. $b = .0016$	$F = 16.43$, $p < .0001$, high (vs. low) diff. $b = .0014$
Imputed cost \times carbohydrates (g)	$F = 3.19$, $p = .076$, high (vs. low) diff. $b = .012$	$F = 6.37$, $p < .02$, high (vs. low) diff. $b = .015$
Imputed cost \times sugar (g)	$F = .97$, $p = .33$, high (vs. low) diff. $b = -.012$	$F = 1.67$, $p = .20$, high (vs. low) diff. $b = -.015$
Imputed cost \times trans fat (g)	$F = 5.22$, $p < .03$, high (vs. Low) diff. $b = 2.12$	$F = 4.07$, $p < .05$, high (vs. low) diff. $b = 1.75$

Notes: High diff. and low diff. refer to high difficulty and low difficulty of earning, respectively. Gender was not significant in any of these models (all $p > .05$).

We measured affect by having participants complete the general positive and negative affect measures on the PANAS scale (1 = “very slightly or not at all,” and 5 = “extremely”; positive affect: happy/cheerful/joyful/attentive/excited/energy, Cronbach’s $\alpha = .83$; negative affect: irritable/guilty/ashamed/sad/blue/angry at self/downhearted, Cronbach’s $\alpha = .81$). To test whether positive affect increases after purchase of an indulgent item, as H_2 suggests, we asked participants to complete the PANAS scale twice, immediately after the pain-of-payment manipulation and then again after they were told what food item they had purchased with their hard (easily) earned cash. We used the difference between these two time measurements to indicate an increase (or decrease) in affect as a result of the purchase. In addition to the PANAS scale, we asked participants, “How much did eating the snack make you feel happier?” (1 = “not at all,” and 7 = “a lot”).

We included several items to rule out alternative explanations. Specifically, participants rated how much value for their money the snack provided (Value), whether they felt that the snack was a good deal (Deal), how much they deserved the snack they had bought (Deserved), and how justified they were in choosing the snack (Justified) (all on seven-point scales). We also asked participants to indicate how hard, how easy, and how enjoyable life is at the current

moment on seven-point scales (1 = “not at all,” and 7 = “very”). Finally, participants responded to manipulation check measures and indicated their age and gender.

Results

Manipulation Checks

We conducted separate ANCOVAs with perceived indulgence, healthfulness, taste, and difficulty of earning the money as the dependent variables; imputed cost and food purchase as the independent variables; and gender as a covariate. The results confirm that participants who purchased the chocolate cake rated it much greater in indulgence ($M = 5.80$) and less healthful ($M = 2.52$) than those who purchased the fruit salad (indulgent: $M = 4.16$; $F(1, 68) = 25.95$, $p < .0001$; healthful: $M = 6.11$; $F(1, 68) = 127.68$, $p < .0001$). Consistently, the results also indicated that participants found the chocolate cake more tasty ($M = 5.89$) than the fruit salad ($M = 4.73$; $F(1, 68) = 16.58$, $p < .0001$). Finally, the results also confirm that participants in the high-imputed-cost condition believed it was more difficult to earn the money ($M = 5.67$ vs. $M = 3.19$; $F(1, 68) = 56.06$, $p < .0001$) than those in the low-imputed-cost condition.

Affect

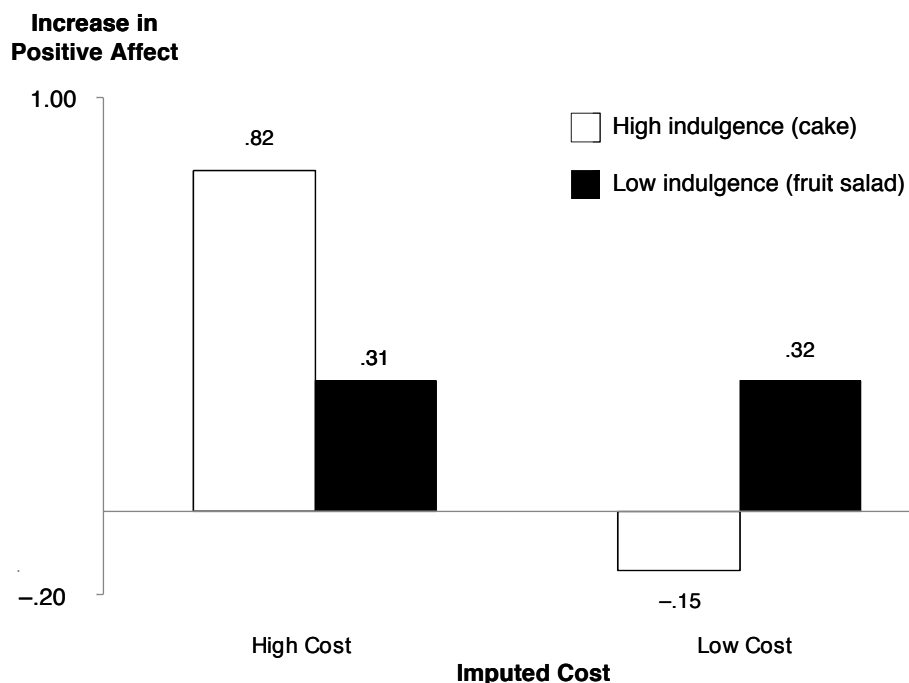
We conducted an ANCOVA with change in affect (pre- vs. postpurchase) as the dependent measure, imputed cost and food purchase as the independent variables, and gender as a covariate. Two respondents did not complete the PANAS scale and were dropped from this analysis. The results indicate a significant main effect of imputed cost ($F(1, 66) =$

3.81 , $p < .06$) and interaction of imputed cost \times food purchase ($F(1, 66) = 4.06$, $p < .05$). The purchase of an indulgent dessert increased positive affect when the imputed cost of payment was high versus low ($F(1, 66) = 7.75$, $p < .01$; for means, see Figure 1). There was no difference in positive affect for the nonindulgent dessert across levels of imputed cost of payment ($F < 1$). Furthermore, when imputed cost was high, choosing the chocolate cake led to a directionally higher increase in affect than when the fruit salad was chosen ($F(1, 66) = 2.27$, $p = .13$). These effects were not significant when imputed cost was low. The same pattern for the interaction replicates on the self-reported measure of how much eating the snack made participants feel happier, though the results are only marginally significant ($F(1, 68) = 2.83$, $p < .10$). As we expected, when imputed cost was high, respondents felt happier when they purchased the chocolate cake ($M = 5.34$) than when they purchased the fruit salad ($M = 4.27$; $F(1, 68) = 4.66$, $p < .05$). When imputed cost was low, there was no difference across choice conditions ($F < 1$). Thus, these findings support H_2 . We conducted similar analysis on the change in negative affect. The results indicate only a main effect of imputed cost such that participants in the high-imputed-cost condition felt less negative affect after making a food purchase than those in the low-imputed-cost condition ($F(1, 66) = 11.48$, $p < .001$).

Life Enjoyment

As in Study 3, our manipulation of pain did not affect participants' overall assessments of life enjoyment or how hard (easy) life is at the current moment. The ANCOVAs with

Figure 1. Study 4: Indulgence Affects Increase in Positive Affect



easy life and hard life as the dependent measures; imputed cost, food purchase, and their interaction as the independent variables, and gender as a covariate did not elicit any main effects or interaction effects. The ANCOVA on enjoy life indicated only a significant interaction of food purchase \times imputed cost ($F(1, 68) = 8.63, p < .01$). In support of our theorizing, when money was difficult to earn, purchase of an indulgent food made life more enjoyable than when a nonindulgent food was purchased. When imputed cost was high, respondents enjoyed life more when they purchased the chocolate cake ($M = 5.42$) than when they purchased the fruit salad ($M = 4.56; F(1, 68) = 3.89, p < .05$). When imputed cost was low, respondents indicated greater enjoyment when they purchased the fruit salad rather than the cake ($M = 5.10$ vs. $M = 4.13; F(1, 68) = 4.76, p < .05$). The purchase of an indulgent dessert increased life enjoyment when the imputed cost of payment was high ($M = 5.42$) than when it was low ($M = 4.13; F(1, 68) = 8.04, p < .01$). This is consistent with respondents' increased positive affect and happier feelings and provides triangulating evidence in support of H_2 that reparative affect is the underlying process driving our effects.

Alternative Explanations

We conducted the ANCOVAs with Value, Deal, Deserved, and Justified as the dependent measures; imputed cost and food purchase as the independent variables; and gender as a covariate. None of the effects of the independent variables or their interaction reached significance on any of the dependent measures (all $p > .10$), thus ruling these out as potential alternative explanations. Gender also was not a significant covariate in any analysis, with just one exception; women felt they deserved the snack more than men ($M = 5.5$ vs. $M = 4.5; F(1, 68) = 7.3, p < .01$).

General Discussion

Together, these studies suggest that imputed costs or pain of payment affects consumers' purchase decisions: When imputed costs are high, consumers indulge more. These imputed costs vary with the payment mode and also with how difficult it is to earn money. Thus, spending with cash (vs. credit) and spending cash that is more difficult to earn (rather than less difficult) result in more indulgent, high-calorie food consumption, as we posited in H_1 . These patterns of effects replicated across several studies, including a field experiment and three laboratory studies.

Our findings represent an important contribution to knowledge of how payment affects choice. Importantly, we demonstrate that it is not the payment mode per se that influences choice, but rather the imputed cost represented by that mode of payment. Thus, our contribution is broader than that of Thomas, Desai, and Seenivasan (2011). While these researchers show how payment method (cash vs. credit) affects indulgence in grocery store purchases, we document the influence of imputed costs on indulgence. Indeed, when imputed costs are higher, consumers indulge more. Furthermore, this indulgence blunts the pain of payment and leads to greater positive affect, as we posited in H_2 .

Our results replicate in Studies 3 and 4, in which we show that equivalent cash can be made more or less painful

depending on the source of the cash and that this subsequently influences choice. These findings represent the first evidence that source of income can affect cost perceptions. The relationship between consumers' perceptions of imputed cost based on how difficult it is to earn money and the choice of higher-calorie foods is a worthwhile factor to explore as scholars continue to make inroads toward understanding the intersection of poverty and health. Undeniably, people in poorer neighborhoods have less access to healthful foods, and by and large, these foods are more expensive than less healthful alternatives. Policy changes, such as those already underway in several U.S. cities to provide more equitable food access, are undoubtedly the key to breaking down these food barriers. However, we suggest that the psychological relationship between the pain of earning money and the subsequent food choices can also contribute to the cycle of poverty and food-related illnesses. This research and future studies that further define understanding of this relationship might help inform policy changes to build communities that promote greater health.

Relatedly, and consistent with H_2 , our studies provide the first documentation that people employ affect regulation strategies to compensate for the pain of paying. Consumers choose more indulgent options to feel better or offset the pain inherent with the high-imputed-cost payment. However, differences in sensitivity to pleasure versus pain may also exist, which might be an individual difference variable or a function of strata in society. Thus, additional research on these and other moderating factors would be a welcome addition to the literature.

To the best of our knowledge, the current research and the recent study by Thomas, Desai, and Seenivasan (2011) are the only two empirical explorations of how payment influences the specific choice of items purchased. As mentioned previously, several differences may explain the reversal of effects across these two studies—for example, the timing between purchase and consumption, in which consumption is immediate in our studies but delayed in the grocery shopping scenarios studies of Thomas, Desai, and Seenivasan. In our studies, we also analyzed food selections at the nutrient level, which enabled us to use an objective determination of “unhealthful” choices as those with higher calories and higher fat content. In Thomas, Desai, and Seenivasan's study, coders used a category-level coding scheme, which resulted in food items such as banana nut muffins being labeled as unhealthful and baked beans and packaged granola as healthful. This difference is important because it implies that marketers' advertising and positioning strategies may create context effects that make the influence of pain of payment more complex to study. For example, cereal manufacturers seem to have been successful in positioning boxed granola cereal as healthful despite the heavy use of sugar, corn syrup, and oils. Granola indeed may be healthful when compared with a doughnut for breakfast but unhealthful when compared with oatmeal. Similarly, what might be indulgent to one person might not be indulgent to another. Explicit study of context effects of payment mode, as well as the study of ambiguous foods or even functional foods, would also benefit all parties involved in helping consumers make more healthful food decisions.

Our findings have particular implications for low-income consumers, who tend to have less access to available credit and for whom earning sustainable wages is more difficult. Food assistance programs that reduce the imputed cost or provide alternative methods to cash payment might help decrease high-calorie food consumption and increase consumption of more healthful items. Three Massachusetts health centers recently announced one such initiative as part of a \$20,000 pilot program to increase consumption of fruits and vegetables for low-income patients. At each of these clinics, families are given “prescriptions” in the form of vouchers that they can exchange for fruits and vegetables at a local market. According to Oakes (2010), the program’s organizer reported, “There are over 200 sites and basically it works like cash. But it can only be redeemed for fruits and vegetables, so it’s not just any item at a farmer’s market.” Further research to assist food and health policy practitioners should explore other means of reducing the imputed cost of payments and thus reducing the tendency toward high-calorie indulgences. For example, making the payment transaction easier may lower the imputed cost of payment, even when the issue is not one of cash versus credit. For example, members of the federal Supplemental Nutrition Assistance Program (U.S. Department of Agriculture 2010) receive their benefits by swiping an electronic card much like a credit or debit card. However, because electronic card systems are expensive, farmers markets and fresh vendors are not equipped to accept this form of payment. To make fresh produce available, members can pay with a scrip (alternative currency) that the market organizers then exchange with the vendors for cash.

Our findings also reveal that there may be an unintended boomerang effect in programs that offer cash incentives for weight loss. Financial incentive websites, such as Healthy-Wage.com, get corporate sponsors to offer cash rewards to consumers who attain weight loss goals. Would this cash, which given the difficulty of losing weight is presumably “painful” to earn, ultimately be spent on higher-calorie food choices than might otherwise have occurred? This idea is also supported by research that shows that when consumers receive cash rewards, they spend this extra income on indulgent items (Kivetz 1999).

These examples cohere with our research findings regarding the major issues of cash versus credit and the notion of imputed cost. Our research also highlights one additional concern—namely, that of consumers’ beliefs that indulgent foods can potentially compensate for the pain of payment. Teaching consumers to recognize that indulgent foods only provide a temporary reprieve, which in the long run will lead to greater pain, might mitigate the effect of

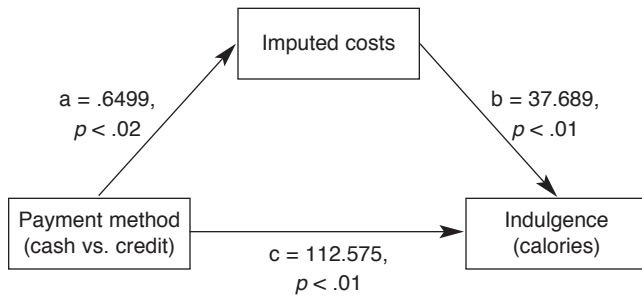
payment mode on choice. An analogy is Kellogg’s “Respect Yourself in the Morning” campaign for its Nutri-Grain breakfast bars. Kellogg research indicated that consumers having frenzied, hectic mornings would dismiss breakfast at home, instead opting for doughnuts or bear claws (Billboard 2003). The successful campaign playfully suggested that consumers simply stick the doughnuts and cinnamon buns directly on their hips and thighs—in other words, highlighting the long-term consequences of immediate indulgence due to a “painful” morning. Perhaps a similar educational campaign can teach consumers to consciously try to decouple choice from the method of payment. Alternatively, perhaps consumers can be taught to bracket their daily food purchasing, much like the daily bracketing of calorie intake (Khare and Inman 2009). Such education should start at a young age; Goldberg and Gunasti (2007, p. 163) note that the “broader culture is such that children have learned to associate fast food with rewards.”

Additional research on the psychological relationship between food and money is necessary to help explain consumer decisions and motivation to lead more healthful lifestyles. In a recent survey, the American Heart Association (2010) asked 1000 adults whether they would accept payment to forgo their favorite unhealthy food. The results indicated that 40% would not accept payment to give up favorites such as pizza and macaroni and cheese, and an additional 50% would require a minimum payment of \$100,000. Although this survey can be criticized for posing a purely hypothetical question, it nonetheless demonstrates that consumer researchers need to delve more deeply into the mode of payment–food relationships and identify boundary conditions.

Finally, our findings reveal that the method of spending may affect consumer choice in other purchase contexts. In these contexts, product features that provide immediate gratification or ease of justification may blunt the pain of payment when payments are made with cash (vs. credit). For example, consumers purchasing with cash may pay greater attention to the hedonic (vs. utilitarian) features and may prefer products that highlight these factors. It might also be the case that avoiding a vice in one decision context, perhaps perceived as a cost, leads to indulgence in another context; thus, the set of product decisions across domains might be relevant. These and other situational and individual difference variables (e.g., nutritional elitism: Andrews, Netemeyer, and Burton 2009; family socialization: Grier et al. 2007), which may also influence the relationship between payment mechanism and choice, provide fertile avenues for further research.

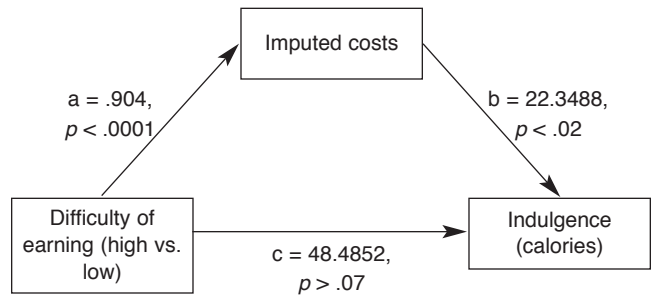
Appendix A. The Role of Imputed Costs in Mediating the Effects of Payment Method and the Difficulty of Earning, Respectively, on Indulgence

A: Imputed Costs Mediate the Effect of Payment Method on Indulgence (Study 1)



Mean indirect effect: $a \times b = 24.495$; 95% confidence interval = (5.173 to 67.531)

B: Imputed Costs Mediate the Effect of Difficulty of Earning on Indulgence (Study 3)





Mean indirect effect: $a \times b = 20.2024$; 95% confidence interval = (5.6105 to 42.6003)

Appendix B. Examples of Stimuli Used

A: Menu Used in Studies 2 and 3

Menu

<p>Coffee / Espresso Drinks</p> <table border="0"> <tr> <td></td> <td>12 oz.</td> <td>16 oz.</td> <td>20 oz.</td> </tr> <tr> <td>Hot Tea</td> <td>\$2.29</td> <td>\$2.69</td> <td>\$3.09</td> </tr> <tr> <td>Regular Coffee</td> <td>\$2.29</td> <td>\$2.69</td> <td>\$3.09</td> </tr> <tr> <td>Iced Cafe Latte</td> <td>\$3.49</td> <td>\$3.89</td> <td>\$4.29</td> </tr> <tr> <td>Cappuccino</td> <td>\$3.19</td> <td>\$3.59</td> <td>\$3.99</td> </tr> <tr> <td>Iced Chai Latte</td> <td>\$3.49</td> <td>\$3.89</td> <td>\$4.29</td> </tr> <tr> <td>Mocha Latte</td> <td>\$3.49</td> <td>\$3.89</td> <td>\$4.29</td> </tr> <tr> <td>Caramel Macchiato</td> <td>\$3.49</td> <td>\$3.89</td> <td>\$4.29</td> </tr> </table> <p>Bakery Items</p> <table border="0"> <tr> <td>Plain Bagel...</td> <td>\$1.09</td> </tr> <tr> <td>Asiago Cheese Bagel ...</td> <td>\$1.09</td> </tr> <tr> <td>Double Chocolate Chunk Muffin...</td> <td>\$2.19</td> </tr> <tr> <td>Low-Fat Triple Berry Muffin...</td> <td>\$2.19</td> </tr> <tr> <td>Ham and Cheese Croissant...</td> <td>\$2.19</td> </tr> <tr> <td>Almond Croissant...</td> <td>\$2.19</td> </tr> <tr> <td>Chocolate Orange Pecan Scone...</td> <td>\$2.52</td> </tr> </table> 		12 oz.	16 oz.	20 oz.	Hot Tea	\$2.29	\$2.69	\$3.09	Regular Coffee	\$2.29	\$2.69	\$3.09	Iced Cafe Latte	\$3.49	\$3.89	\$4.29	Cappuccino	\$3.19	\$3.59	\$3.99	Iced Chai Latte	\$3.49	\$3.89	\$4.29	Mocha Latte	\$3.49	\$3.89	\$4.29	Caramel Macchiato	\$3.49	\$3.89	\$4.29	Plain Bagel...	\$1.09	Asiago Cheese Bagel ...	\$1.09	Double Chocolate Chunk Muffin...	\$2.19	Low-Fat Triple Berry Muffin...	\$2.19	Ham and Cheese Croissant...	\$2.19	Almond Croissant...	\$2.19	Chocolate Orange Pecan Scone...	\$2.52	<p>Cookies and Snacks</p> <ul style="list-style-type: none"> Gingerbread Squares... \$1.99 Oatmeal Raisin Cookie... \$1.49 Shortbread Cookie... \$1.49 Rocky Road Brownie... \$2.52 Pecan Roll... \$2.52 White Chocolate Chunk Macadamia Nut Cookie... \$1.49 <p>Grab 'n Go Snacks</p> <ul style="list-style-type: none"> Small Fruit Cup (6 oz.)... \$2.29 Fresh Watermelon (8 oz.)... \$2.29 Lime Gelatin (6 oz.)... \$1.99 Small Vanilla Yogurt w/Blueberries (6 oz.) ... \$3.29 Chocolate Covered Pretzels... \$1.89 Chocolate Covered Almonds (1.4 oz) \$2.19 	<p>Portion Packages \$3.29 each</p> <ul style="list-style-type: none"> Chickpea and Tomato Salad (6 oz.) Watermelon, Feta, and Almonds (3.9 oz) Hummus and Cucumbers (4.3 oz.) Mediterranean Tuna Salad (4.4 oz.) Mango Coconut Mousse (2.1 oz.) Tiramisu (2.1 oz.) <p>Soups \$3.79 each</p> <ul style="list-style-type: none"> Carrot Ginger Soup Curried Rice and Lentil Soup Jamaican Black Bean Tomato Basil Bisque Beef Chili Macaroni and Cheese 
	12 oz.	16 oz.	20 oz.																																													
Hot Tea	\$2.29	\$2.69	\$3.09																																													
Regular Coffee	\$2.29	\$2.69	\$3.09																																													
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Almond Croissant...	\$2.19																																															
Chocolate Orange Pecan Scone...	\$2.52																																															

Appendix B. Continued

B: Stimuli for Study 4

Cake



Fruit Salad



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