JEFFREY S. LARSON and RYAN HAMILTON*

A common strategy for controlling spending is to impose a price restraint on oneself. For example, a consumer who is concerned with limiting expenses may decide before going shopping that he or she only wants to spend approximately $100 for a particular purchase. Although conventional wisdom predicts that self-imposed price restraints will decrease consumer spending, the authors show that salient price restraints can actually increase consumers' preferences for high-priced, high-quality items. The authors propose that making a price restraint salient has the effect of partitioning consumers' evaluations of price and quality, leading to larger differences in perceived quality between options and a greater focus on quality during the final decision. Thus, while budgets and other types of price restraints can limit spending by eliminating some high-priced options from consideration, this research suggests that they can also have the ironic effect of increasing consumers' spending relative to a situation in which consumers have not imposed a price restraint.

Keywords: budgets, consumer spending, price restraints, quality perceptions, consideration sets

When Budgeting Backfires: How Self-Imposed Price Restraints Can Increase Spending

Common advice given to consumers who want to control their expenses is to decide how much they want to spend before they begin shopping. A brief search through the popular press devoted to personal finance reveals that experts recommend setting a budget to restrain spending as an important first step for any major purchase: a home, a car, jewelry, appliances, electronics—even a horse (Country Wisdom Bulletins 2004). Making a price restraint salient is almost universally encouraged as a method for reducing expenditures.

What makes this advice interesting from the standpoint of consumer choice theory is that although price restraints are widely acknowledged drivers of consumer choice (i.e., consumers do not make choices as if they had unlimited funds), the *salience* of price restraints is not integral to

many theories of consumer behavior. For example, budget constraints are fundamental to microeconomic theory, in which competitive budget sets (Walrasian sets) are a function of market prices and the constraint imposed by the consumer's wealth level. In this paradigm, decision making does not depend on whether the consumer happens to be thinking about his or her wealth level at the time. On the contrary, the implicit assumption in this model is that the budget constraint is always salient because it is a necessary input to choice. As we discuss subsequently, other consumer choice theories built on various types of price restraints are similarly insensitive to the salience of these restraints (e.g., Hauser and Urban 1986; Janiszewski and Lichtenstein 1999; Monroe 1973).

This article examines the salience of price restraints as a driver of consumer evaluations and choice. We provide evidence that in contrast to conventional wisdom, salient price restraints can actually increase consumers' spending by increasing their preference for high-priced, high-quality offerings relative to an otherwise-identical scenario in which price restraints are not salient. The counterintuitive

*Jeffrey S. Larson is Assistant Professor of Marketing, Marriott School of Management, Brigham Young University (e-mail: jeff_larson@byu.edu). Ryan Hamilton is Assistant Professor of Marketing, Goizueta Business School, Emory University (e-mail: ryan_hamilton@bus.emory.edu). The authors contributed equally to this work. Author order was determined by height. Chris Janiszewski served as associate editor for this article.

result is that a consumer who sets a budget before a shopping trip may ultimately spend more than a consumer who has not previously made an explicit decision about how much to spend.

THEORETICAL BACKGROUND

Price restraints are limits that consumers impose on themselves to check their spending. A price restraint need not be a hard spending limit that a consumer absolutely cannot go above, such as when a consumer has only $20 in his or her pocket and thus is unable to spend more (though, as we argue subsequently, such hard constraints still fit our definition of a price restraint). Rather, these restraints are often soft boundaries that consumers can exceed if they choose to but are initially set to curb subsequent spending. Price restraints come in many forms but may be categorized into two broad types: upper restraints and target restraints.

Upper restraints take the form of a spending limit. When a consumer sets an upper restraint, he or she will typically only consider options below the restraint. An example of an upper restraint is a maximum willingness to pay, in which a consumer considers the most he or she is willing to spend on a particular type of offering. Budget constraints or wealth constraints, such as those fundamental to micro-economic choice theories, are another kind of upper restraint. Mental accounts (Heath and Soll 1996) can also serve as upper restraints on spending.

In contrast to upper restraints, target restraints are not a maximum price but rather a central acceptable price. When a consumer decides that he or she wants to spend "about $100" on some purchase, the consumer is establishing a target restraint. Unlike upper restraints, prices within some distance above a target restraint may still be considered acceptable. Thus, a consumer with a target restraint of $100 may consider a price a few dollars above $100 acceptable because it is sufficiently close to the target, but at some point above $100, prices would become unacceptably high. Both individual prices (e.g., about $100) and price ranges (e.g., about $40–$50) can serve as target restraints.

How do salient price restraints affect consumer choice? Previous research has suggested three possible outcomes. One prediction is that making price restraints salient will have no effect on choice. As we already mentioned, economic theories of rational choice seem to leave no room for salience to influence consumption decisions. The implicit assumption of these models is that price restraints are always salient. Similarly, many reference price theories, which define reference prices alternatively as a weighted average of previously encountered prices (Winer 1986), an expected price (Monroe 1973), a range of acceptable prices (Janiszewski and Lichtenstein 1999), a "fair" price (Xia, Monroe, and Cox 2004), or a maximum willingness to pay (Thaler 1985), implicitly assume that making these price restraints salient will not change their influence on decision making. In contrast to the rational decision models that assume that price restraints are always salient, many reference price theories accommodate evidence of consumers' poor price knowledge (Dickson and Sawyer 1990) by acknowledging that reference prices are often *not* salient. However, even theories that acknowledge that reference prices may be either explicit or implicit (e.g., Monroe and

Lee 1999) do not predict that making a price restraint salient will change its influence on choice.

A second possible prediction is that making price restraints salient will tend to decrease the preference for higher-priced options. This hypothesis underlies the conventional wisdom that personal finance experts often espouse. There is some evidence to support this prediction. Making a price restraint salient is likely to draw attention to prices, thus increasing the weight given to prices in a decision (Fiske 1980). This would tend to decrease preference for more expensive alternatives. A similar prediction can be derived from research on mental accounting (Thaler 1985). Evidence suggests that consumers create mental budgets for different categories of consumption and that these price restraints lead to "underconsumption," or a decrease in spending (Heath and Soll 1996). Similarly, consumers with salient shopping budgets exhibit greater estimation biases when tracking their spending, which can result in lower spending (Van Ittersum, Pennings, and Wansink 2010).

A third possible prediction, and the one that we advance in this research, is that salient price restraints can actually lead to an increased preference for higher-priced, higher-quality alternatives. We propose that salient price restraints partition evaluations of price and quality and that this partitioning influences choice in two ways. First, price restraints lead consumers to focus on products near the restraint, effectively screening out products that are not sufficiently close to the target price or upper bound. We argue that this narrowed focus leads to a scaling effect, such that consumers will perceive larger differences in quality among the options they are considering. Second, price restraints create consideration sets that consist of options that all have "acceptable" prices. As a result, price becomes less diagnostic in subsequent choice from the price-homogenized set. We argue that this diminished usefulness of price as a way of discriminating among options leads to a weighting effect, such that greater weight is placed on quality relative to price in choice.

To illustrate, imagine a situation in which a consumer makes a choice after imposing a maximum willingness to pay, a target price, or some other price restraint on the purchase. When the consumer goes to the store and sees the options available, the price restraint allows the consumer to focus attention on products near that price level, either at and below the restraint (for upper restraints) or in a limited range above and below the restraint (for target restraints).

Range theory predicts that when evaluating a set of objects on a physical dimension, such as size or weight, consumers' judgments are strongly influenced by the range of values in the local set. For example, the smallest or heaviest member of the set is likely to be judged as smaller or heavier than it would be in a larger set in which it is not the most extreme option (Parducci 1965). In a similar vein, we argue that when consumers focus on the narrower set of products defined by a salient price restraint, the lowest-quality product (of that limited set) will tend to be perceived as having lower quality, and the highest-quality product will be perceived as having higher quality than they would for consumers who have a broader focus on a wider range of products.

We also propose that a salient price restraint changes a consumer's attribute weighting, such that quality becomes more important relative to price in the final decision. The process we propose here is consistent with previous work

on multistage decision making. In particular, previous research has found that when consumers use an attribute to prescreen alternatives in the first stage, they tend to neglect that attribute in the second stage when they make a choice (Chakravarti, Janiszewski, and Ulkumen 2006). In this context, we argue that salient price restraints effectively serve as a screen, allowing consumers to quickly form a consideration set containing options with acceptable prices. The neglect of pricing information in the second stage leads to a relative increase in the importance of nonprice, quality information in making a choice (Diehl, Kornish, and Lynch 2003). In contrast to previous work on two-stage decision processes, we argue that a formal screening of decision options is not required to elicit a weighting effect. Instead, we propose that simply increasing the salience of a price target or an upper spending bound is enough to reduce the importance of price relative to quality in subsequent decision making.

The mechanism that we propose for this effect also distinguishes our work from previous work on reference prices (Adaval and Monroe 2002; Nunes and Boatwright 2004), which shows that exposure to reference prices can alter price perceptions, thereby increasing participants' willingness to pay. In contrast to previous research, we propose that the increased spending caused by salient price restraints is driven not by price perceptions but by quality considerations. We argue that salient price restraints have two intermediate effects: They alter consumers' quality perceptions and increase the weight given to quality information. Neither of these intermediate effects relies on changes to price perceptions.

We propose that both of the intermediate effects of salient price restraints—that is, the scaling of quality perceptions and the weighting of quality information—contribute to increased preference for higher-priced, higher-quality options. However, we do not argue that both mechanisms are required to be active simultaneously to increase spending. For example, even without a scaling effect on quality, increased weighting on perceived quality would lead to an increased propensity for choice of the higher-quality, higher-priced item. Although both mechanisms are not simultaneously required to increase spending, we argue that both are natural side effects of a salient price restraint; thus, we endeavor to provide evidence that both can play a role in increasing consumer spending.

In summary, we propose that contrary to conventional wisdom and prevailing theory, salient price restraints can lead to an increase in preference for higher-priced, higher-quality options. This shift in preference leads to the counterintuitive result that consumers who self-impose a price restraint to save money can ultimately spend more than consumers choosing from the same set without imposing a restraint. In a series of six experiments, we show that price restraints can increase spending, and we provide evidence for the two intermediary effects that cause this increase.

EXPERIMENT 1

The goal of Experiment 1 is to examine whether the salience of a price restraint will influence choice from a set of options. We hypothesize that making a price restraint salient will cause a general shift in preference toward higher-priced, higher-quality alternatives relative to a situation in which price restraints are not salient.

Method

One hundred eight students were recruited to participate in a half-hour study in exchange for $6. The experiment was conducted on computers in groups of three to eight. Near the end of the study session, participants were given the option of making a real purchase. That is, they were told that they could choose a product, which they would receive at the end of the experiment, that they would pay for from their $6 participation fee. Twenty-three participants chose to forgo this real choice portion of the study, leaving 85 participants. These 85 participants were then told that they would be choosing from a set of retractable ballpoint pens with black ink and that all pens were discounted to approximately half their usual price. At this point, participants randomly assigned to the salient-price-restraint condition were asked how much they planned to spend on the pen, after which they were shown the choice set of four pens. The rest of the participants, those in the no-price-restraint condition, saw the four-pen choice set without stating how much they planned to spend.

Participants chose from a set of four pens described with a brand and model name, a picture, and a price: $.99, $1.99, $2.99, or $3.99, which was roughly half the price we paid for each pen on Amazon.com. Pretesting revealed that the more expensive pens were perceived as being of higher quality than the less expensive pens. After participants made their pen selection, they checked out with the research assistant, who gave them their chosen pen and the $6 less the price of the pen.

Results

We predicted that making a price restraint salient would result in a general shift in preference toward higher-priced, higher-quality alternatives. Consistent with this prediction, we found that participants in the salient-price-restraint condition tended to prefer more expensive pens than participants in the no-price-restraint condition, as the histogram in Figure 1 shows. On average, participants who indicated how much they planned to spend before they saw the choice

Figure 1

EXPERIMENT 1: A SALIENT PRICE RESTRAINT CAUSES A SHIFT IN PREFERENCE TOWARD HIGHER-PRICED OPTIONS
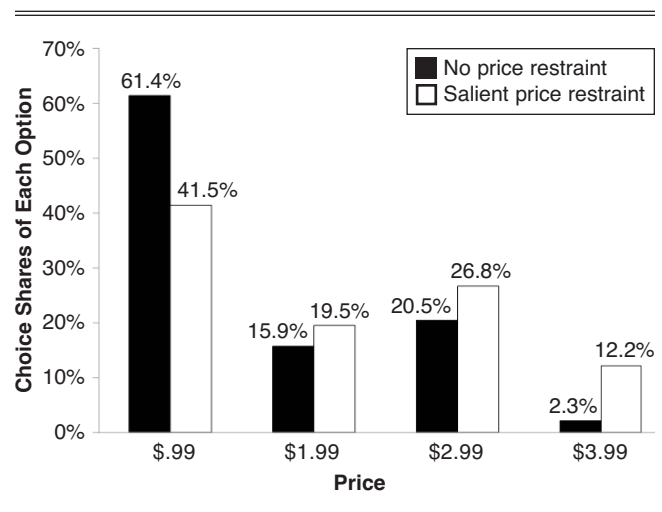
set spent significantly more on a pen than those who made a choice from the same set without first thinking about how much they would spend ($2.10 vs. $1.64; t(83) = 2.10, p < .05).

As an alternative test of our hypothesis, we examined the difference in choice shares of each of the options across conditions. An ordered logit revealed a significant difference between the no-price-restraint condition and the salient-price-restraint condition ($\chi^2(1) = 4.15$, p < .05). As an illustration, consider the choice share of all the pens priced higher than the lowest-priced option. Among participants in the no-price-restraint condition (i.e., those who simply chose without explicitly considering price beforehand), 38.6% chose a pen priced higher than $.99. For participants in the salient-price-restraint condition, (i.e., those who indicated how much they planned to spend before making a choice), the choice share of the higher-priced pens increased to 58.5%.

Discussion

The data from Experiment 1 suggest that making a price restraint salient—in this case by doing something as simple as first stating a nonbinding, planned spending amount—can influence subsequent preferences for high- or low-priced goods. In particular, this experiment shows that a salient price restraint leads to an increase in preference for higher-priced offerings. We have argued that a salient price restraint leads to scaling and weighting effects on perceived quality. Although the results of Experiment 1 are consistent with our theoretical explanation, this experiment does not provide direct evidence of these effects. In the next experiment, we explore the predicted scaling effect by examining differences in perceived quality as a function price restraint salience.

EXPERIMENT 2

The goal of Experiment 2 is to explore the influence of salient price restraints on both consumer choice and perceived quality. This experiment also examines the influence of salient price restraints in a binary choice context.

Method

One hundred three adults from an online subject pool were assigned to one of two conditions in sequential order. Participants were asked to imagine they wanted to buy a 32-inch HDTV. In the salient-price-restraint condition, participants were asked, "If you really were buying a 32-inch HDTV today, about how much would you plan on spending?" They were given five target prices to choose from: $300, $350, $400, $450, and $500. After selecting a price, these participants were asked to choose between a Vizio model priced at $18 below the target price they had just selected and a Panasonic model priced at $18 above the target price. Thus, if the participant indicated that he or she planned to spend approximately $400, the Vizio was priced at $382 and the Panasonic was priced at $418. Pretesting revealed that, in general, Panasonic televisions were perceived as being of higher quality than Vizio televisions. In addition to price and brand name, each option included a picture, model name, and five attributes: aspect ratio, display format, contrast ratio, resolution, and brightness.

In the no-price-restraint condition, participants were simply asked to choose between a Vizio and a Panasonic television without first being asked how much they would plan to spend. To maintain similar numbers of participants at each price level across the two conditions, each participant in the no-price-restraint condition was matched to the price level of the most recent participant in the salient-price-restraint condition. For example, a participant in the salient-price-restraint condition who indicated that he or she planned to spend approximately $400 chose between two options priced at $382 and $418. The next participant, assigned to the no-price-restraint condition, chose between the same two options also priced at $382 and $418. (This procedure did not result in perfectly balanced cells. Participants began the study at irregular intervals, and if a participant began the experiment before the previous participant had advanced to the second page of the survey, the computer assigned both to the same condition.) After making their selections, participants in both conditions rated the perceived quality of both options on a seven-point scale anchored by 1 = "very low quality" and 7 = "very high quality."

Results

We predicted that higher-priced, higher-quality options would be more preferred when consumers had a salient price restraint than when they did not. The results of Experiment 2 are consistent with this prediction (see Table 1). In particular, summing across the five price levels, when simply choosing a television without first indicating approximately how much they planned to spend, 31.3% of participants selected the higher-priced, higher-quality Panasonic brand. In contrast, when participants first indicated how much they intended to pay, the choice share of the more expensive Panasonic increased to 54.5%.

To test the significance of this result, we ran a logistic regression predicting brand choice (Vizio vs. Panasonic) as a function of price restraint salience (no price restraint vs. salient price restraint) and price level ($300–$350, $400, $450, or $500; we combined the $300 and $350 price levels because the Panasonic brand was never selected at the $300 price level in either condition). Consistent with our predictions, price restraint salience was a significant predictor of brand choice, such that the higher-priced, higher-quality Panasonic brand was significantly more preferred when a price restraint was salient ($\chi^2(1) = 5.09$, p < .05). Price level was not a significant predictor of brand choice, and neither was the interaction between price level and price restraint salience (ps > .2), indicating that the effect was consistent across price levels.

In addition to making a choice, participants rated the perceived quality of both brands. We predicted that the difference in perceived quality would be greater among participants who had a salient price restraint than among those who did not. The results are consistent with this prediction. In particular, in the no-price-restraint condition, participants rated the quality of the Vizio option as 5.5 and the quality of the Panasonic option as 6.0, for an average perceived quality difference of .5. In contrast, in the salient-price-restraint condition, participants rated the Vizio as 4.8 and the Panasonic as 5.9, for an average perceived quality difference of 1.1.

Table 1

EXPERIMENTS 2, 3, AND 4: THE HIGHER-PRICED OPTION IS MORE POPULAR WHEN A PRICE RESTRAINT IS SALIENT

A: Experiment 2: Choice Share of the More Expensive Brand of HDTV					
Target Price	*$300*	*$350*	*$400*	*$450*	*$500*
Option Prices	*$282 vs. $318*	*$332 vs. $368*	*$382 vs. $418*	*$432 vs. $468*	*$482 vs. $518*
No price restraint	0%	21.4%	40.9%	33.3%	25.0%
	(n = 2)	(n = 14)	(n = 22)	(n = 6)	(n = 4)
Salient price restraint	0%	60.0%	63.6%	42.9%	80.0%
	(n = 6)	(n = 15)	(n = 22)	(n = 7)	(n = 5)
B: Experiment 3: Choice Share of the More Expensive Brand of HDTV					
Target Price	*$300*	*$350*	*$400*	*$450*	*$500*
Option Prices	*$304 vs. $332*	*$354 vs. $382*	*$404 vs. $432*	*$454 vs. $482*	*$504 vs. $532*
No price restraint	35.7%	27.8%	48.0%	70.0%	28.6%
	(n = 14)	(n = 18)	(n = 25)	(n = 10)	(n = 7)
Salient price restraint	28.6%	60.0%	71.4%	70.0%	42.9%
	(n = 14)	(n = 15)	(n = 28)	(n = 10)	(n = 7)
C: Experiment 4: Choice Share of the More Expensive Brand of Netbook					
Maximum Price	*$300*		*$400*	*$500*	*$600*
Option Prices	*$220 vs. $285*		*$320 vs. $385*	*$420 vs. $485*	*$520 vs. $585*
No price restraint	52.6%		60.0%	54.5%	50.0%
	(n = 19)		(n = 15)	(n = 11)	(n = 4)
Salient price restraint	47.4%		76.5%	100%	75.0%
	(n = 19)		(n = 17)	(n = 11)	(n = 4)

We tested the significance of this difference in quality ratings using a mixed model analysis of variance with price restraint salience (no price restraint vs. salient price restraint) and price level ($300, $350, $400, $450, or $500) as between-subject factors and brand (Vizio vs. Panasonic) as a within-subject factor. Not surprisingly, the results showed a significant main effect of brand, such that the lower-priced Vizio was perceived as being of lower-quality than the higher-priced Panasonic ($F(1, 88) = 16.87$, $p <$ .001). More important, consistent with our prediction, this main effect was qualified by a significant interaction between brand and price restraint salience, such that the difference in perceived quality was indeed larger in the salient-price-restraint condition ($F(1, 88) = 4.16$, $p <$ .05). The three-way interaction of brand, price restraint salience, and price level was not significant ($p >$ .4), suggesting that this difference in perceived quality was consistent across price levels.

We have argued that the increased difference in perceived quality among those who have articulated a price restraint (in part) drives the increased preference for the higher-priced option. To test this proposition, we conducted a mediation analysis, examining the difference in the perceived quality of the Vizio and Panasonic brands as a mediator of brand choice. The results indicate that the price-restraint-salience condition predicts both brand choice ($t(88) = -2.35$, $p <$ .05) and the difference in perceived quality ($t(88) = 2.79$, $p <$ .01). Furthermore, the difference in perceived quality, our proposed mediator, predicts brand choice ($t(88) = -3.82$, $p <$ .001). However, when we include both the difference in perceived quality and the price-restraint-salience condition in the same model, price restraint salience is no longer a significant predictor of brand choice ($t(88) = -1.11$, $p >$ .25), suggesting the difference in perceived quality is indeed a mediator. A significant Sobel test ($Z = -2.21$, $p <$ .05) and a bootstrap mediation

analysis (Preacher and Hayes 2004) significant at $p <$ .01, 95% confidence interval = (–2.33, –.06), both confirm the role of difference in perceived quality as a mediator between price restraint salience and preference for a more expensive option.

Discussion

Experiment 2 shows that a salient price restraint increases preference for a higher-quality, higher-priced option. These findings suggest that when participants set price restraints, they focus their attention on options that are proximal to the price restraint. This has the effect of exaggerating the perceived range of quality of the focused-on products. As we hypothesized, participants in the salient-price-restraint condition perceived a greater difference in quality between the two options, which mediated the influence of a salient price restraint on choice.

The quality ratings reported in Experiment 2 revealed an asymmetry not predicted by our proposed theory. Specifically, the difference in quality ratings was driven by the change in the evaluation of the low-priced option (5.5 vs. 4.8) and not by a difference in the perceived quality of the high-priced option (6.0 vs. 5.9). Although it is possible that changes in quality perception are indeed asymmetric and more fluid for low-quality options, these data are also consistent with a simple ceiling effect because the high-priced Panasonic was rated near the top of the seven-point scale. Perceived quality data, which we report subsequently (Experiment 6), further suggest that a ceiling effect is the most likely explanation of this result.

We have argued that the increased preference for high-priced alternatives observed in Experiments 1 and 2 results, in part, from a difference in quality perceptions when a price restraint is made salient. However, there is an alternative explanation for these findings. Previous research has documented that consumers frequently assimilate prices to

salient reference prices (e.g., Adaval and Monroe 2002). Consider the $400 price in Experiment 2. An assimilation account would predict that in the salient-price-restraint condition, the $382 Vizio would be perceived as relatively more expensive and the $418 Panasonic would be perceived as relatively less expensive because both are likely to be assimilated to the $400 reference. This assimilation would decrease the perceived price difference between the options, making the more expensive option relatively more attractive. Thus, an assimilation account would also predict the increase in preference for of the more expensive options we found in Experiments 1 and 2. We designed Experiment 3 to rule out this alternative explanation.

EXPERIMENT 3

Method

The goal of Experiment 3 is to rule out an assimilation account for the findings reported in Experiments 1 and 2. One hundred forty-eight adults from an online subject pool participated in this experiment. The method was identical to Experiment 2, except that the prices of the two choice options were both priced higher than the target price restraint. Instead of the $18 below and above the restraint used in Experiment 2, prices were $4 above and $32 above the restraint. To illustrate, in Experiment 2, participants who indicated that they planned to spend approximately $400 chose between a Vizio priced at $382 and a Panasonic priced at $418. In Experiment 3, participants who indicated they planned to spend about $400 chose between a Vizio priced at $404 and a Panasonic priced at $432. Thus, because both options are above the price restraint, an assimilation account would predict one of two possibilities. The first possibility is that the lower-priced ($404) option alone would be assimilated to the salient price restraint value ($400), leading to an increase in choice of the lower-priced option. The second is that both options would be assimilated to the lower price restraint, yielding no change in the choice shares. Either way, an assimilation effect cannot account for an increase in the choice of the more expensive option, as our model predicts, allowing us to discriminate between these two competing explanations for the observed effects.

Results

We predicted that salient price restraints would lead to an increased preference for higher-priced options by altering quality perceptions. If this account is accurate, the effect should still hold even when the target price restraint is below the prices of the options being considered and not just when the restraint falls between or above the options in the choice set. Consistent with this account, the data reveal that the more expensive Panasonic brand was more likely to be chosen when participants first indicated approximately how much they planned to spend (58.1%) relative to when a price restraint was not salient (41.9%; see Table 1). A logistic regression confirmed that this difference was significant ($\chi^2(1) = 3.86, p < .05$).

Discussion

The findings from this experiment are not consistent with an assimilation account. It is important to note that this experiment does not show that assimilation plays no part in

consumer price evaluations and choice. Indeed, the finding that the difference in choice shares across conditions is smaller in Experiment 3 (a 16.2% difference in choice share) than in Experiment 2 (a 23.2% difference) suggests that assimilation may have contributed to the size of the effect in Experiment 2. However, the account we propose, which is based on changes in perceived quality, is a more parsimonious explanation for all the data presented thus far than one based on assimilation.

We have argued that salient price restraints increase spending through a scaling effect (alteration of quality perceptions) and a weighting effect (increased importance given to quality information). The experiments presented thus far provide evidence of a scaling effect. The remaining experiments show evidence of the hypothesized weighting effect. One way to implicate attribute weighting in a choice is to reduce the likelihood that scaling effects are contributing to the selection. Experiment 4 takes this approach by using a design that makes scaling effects less likely.

EXPERIMENT 4

The goal of Experiment 4 was to examine the role of attribute weighting in the influence of salient price restraints on choice. In this experiment, we give participants only unambiguous quality information. Because scaling effects require distortion of quality information, we anticipate that scaling will be less likely and less pronounced when the quality information is unambiguous. Thus, by providing only unambiguous quality information, we make it more likely that any increased spending can be attributed to weighting.

Method

One hundred adults from an online subject pool were randomly assigned to either the no-price-restraint or the salient-price-restraint condition. The design and method of Experiment 4 is similar to those of Experiments 2 and 3. Participants were asked to imagine they wanted to buy a netbook computer (a very small laptop). In the no-price-restraint condition, participants simply selected one of two options. In the salient-price-restraint condition, participants were first asked to indicate the *most* they would be willing to spend for a netbook: $300, $400, $500, or $600. Participants were then shown two netbooks, priced at $15 and $80 below the upper price restraint they had previously indicated. Participants in the no-price-restraint condition were assigned to a price level using the same procedure we described in Experiment 2.

Unlike Experiments 2 and 3, the options were labeled only with letters (as opposed to actual brand names), and participants were only given two pieces of information on which to base their decisions: the price and a *Consumer Reports* quality rating. The lower-priced option had a quality rating of 7/10, while the higher-priced option had a rating of 8/10. Thus, unlike the previous experiments, in which participants were given somewhat ambiguous criteria on which to base quality evaluations (e.g., brand names, pictures, unfamiliar attributes), this experiment allowed decisions based only on objective, expert quality ratings and price—nothing else. After making a choice, participants in both conditions rated the perceived quality of each brand on a seven-point scale.

Results

We have argued that price restraints operate by affecting both the scaling of quality evaluations and the weighting of price and quality attributes in choice, such that quality is relatively more important when a price restraint is salient. If this account is accurate, we expect that a price restraint will still result in an increased preference for higher-priced, higher-quality options, even when quality information is objective and unambiguous. Consistent with this prediction, the results revealed that 55.1% of participants in the no-price-restraint condition preferred the more expensive, higher-quality option, compared with 70.6% in the salient-price-restraint condition. A logistic regression predicting choice based on experimental condition and price level revealed the predicted significant main effect of price restraint condition ($\chi^2(1) = 3.98$, $p < .05$; see Table 1). Price level and the interaction between price restraint condition and price level were not significant, suggesting the effect was consistent across price levels.

Because we provided only unambiguous quality information, we expected that quality perceptions would not differ significantly between conditions. This would be consistent with a choice caused by weighting rather than scaling. Thus, we also measured participants' perceptions of the quality of the available options. In the no-price-restraint condition, participants rated the quality of the less expensive option as 5.2 and the quality of the more expensive option as 6.0, for an average perceived quality difference of .8. In the salient-price-restraint condition, participants rated the less expensive option as 4.9 and the more expensive option as 5.9, for an average perceived quality difference of 1.0. Analysis revealed a significant main effect of objective quality ($F(1, 92) = 153.0$, $p < .001$). However, as we predicted, this main effect was not qualified by significant interactions with price restraint condition, price level, or both in a three-way interaction (all $Fs < 1$). The unambiguous quality information seems to have prevented a scaling effect, suggesting instead that the increased choice of the more expensive option was caused by a weighting effect.

Discussion

Experiment 4 demonstrates that a salient price restraint leads to an increased preference for higher-priced, higher-quality options, even in a setting in which quality information is objective and unambiguous—a setting in which scaling effects are less likely to occur. We argue that these results are consistent with a weighting account but note that Experiment 4 provides only indirect evidence of weighting. Experiment 5 seeks to provide more direct evidence of a weighting effect in two ways. First, it measures participants' own rating of the relative importance of price and quality in their decisions. Second, Experiment 5 examines the role of weighting by manipulating the relative importance participants place on quality and price.

One way to increase the relative importance that consumers place on an attribute is to increase the attention they pay to that attribute when they are evaluating the choice set (Fiske 1980). The attribute-weighting account we have described suggests that because consumers have already used price information in setting a restraint, they will shift their focus to the more diagnostic nonprice information when making their choices. We anticipate that if consumers are encouraged to pay more attention to price information after they have set a restraint, these weighting effects will be reduced: By drawing attention back to price, consumers will be less likely to overweight the nonprice information in choice. Experiment 5 tests this prediction.

EXPERIMENT 5

The goal of Experiment 5 was to examine the role of attribute weighting in driving the previously documented influence of salient price restraints on choice. In particular, this experiment examines whether drawing attention to the price attribute, and thereby increasing its importance in choice, moderates the increased preference for higher-priced options caused by a salient price restraint.

Method

One hundred twelve adults drawn from an online subject pool were randomly assigned to three conditions. All participants were asked to imagine they wanted to buy some new earbud-style earphones. In the no-price-restraint condition, participants were shown six earphones, ranging in price from $3.95 to $23.95 in $4 increments. Pretesting revealed that, in general, higher-priced earphones were perceived as being of higher quality. All earphones were described by real brand and model names and included a picture taken from the website of a national retailer. In the salient-price-restraint condition, before participants saw the choice set, they were asked, "If you really were buying earbud-style earphones today, about how much would you plan on spending?" Participants were given a space to input any amount they wanted. After articulating a target price restraint, participants were asked to choose from the same set of six earphones.

The third condition served as a test of the notion that salient price restraints influence choice by decreasing the decision weight placed on price. In the concealed-price condition, participants first made a price restraint salient by indicating the approximate amount they planned to spend, just like those in the salient-price-restraint condition. They then saw the same six options, but in this set, all prices were concealed with boxes. Participants could reveal the prices by moving the mouse over the appropriate box. Prices were only visible one at a time and only when participants moused over each price location. Only the prices were concealed; the brand names and pictures were always visible. Our intention with this manipulation was to increase the attention and effort required to evaluate the prices in the choice set. We predicted that increasing attention to price would increase its weight in the decision, thereby reducing the weighting effect caused by the salient price restraint. As a result, choices in the concealed-price condition should resemble those in the no-price-restraint condition.

After making a choice, participants were asked to rate the relative importance of price and quality in the decision they had just made. They were given an unmarked 101-point slider anchored at 0 = "price was the only thing that mattered," 50 = "price and quality were equally important," and 100 = "quality was the only thing that mattered."

Results

Consistent with the previous experiments, we found that participants in the salient-price-restraint condition tended to prefer more expensive earphones than participants in the no-price-restraint condition, as shown in the histogram in Figure 2. On average, participants in the salient-price-restraint condition spent significantly more than participants in the no-price-restraint condition ($14.79 vs. $11.51; t(72) = –2.22, p < .05). As we predicted, the influence of a salient price restraint was reduced when participants' attention was drawn to price information, such that there was no difference between the no-price-restraint condition and the concealed-price condition ($11.51 vs. $12.49; t(71) = –.71, p > .45). Consistent with our prediction, a planned contrast revealed that participants in the salient-price-restraint spent significantly more than those in the other two conditions (F(2, 108) = 5.07, p < .05).

As an alternative test of our hypotheses, we examined the difference in choice shares across conditions. An ordered logit revealed a significant difference between the no-price-restraint condition and the salient-price restraint condition ($\chi^2(1) = 4.47, p < .05$), a finding consistent with the previous experiments. As we predicted, this difference was eliminated when extra attention was required to evaluate prices, as revealed by a nonsignificant difference in choice shares between the no-price-restraint condition and the concealed-price condition ($\chi^2(1) = .53, p > .45$). This difference in choice share is clearly illustrated by examining the preference for higher-priced earphones (the top three in the choice set) across conditions. Among participants in the no-price-restraint condition—those who simply chose earphones without previously considering price—30.6% preferred higher-priced earphones. For participants in the salient-price-restraint condition—those who indicated how much they were likely to spend before making a choice—the choice share of the higher-priced earphones increased to 51.3%. In the concealed-price condition, in which attention was drawn to the price attribute, the preference for the higher-priced earphones dropped back down to 35.1%.

Finally, participants rated the relative importance of price and quality in their decision. The results reveal that in the no-price-restraint condition, the average rating was 46.0, just to the price side of the scale. In contrast, when participants chose their headphones under a salient price restraint, the average shifted to 58.9, indicating that quality was significantly more important in the decision (t(70) = –2.39, p < .05). When prices were concealed, the average rating shifted back to the price side of the scale, at 47.7, statistically no different from the no-price-restraint condition (t(68) = –.34, p > .70). This pattern of results is consistent with the predicted attribute weighting effect.

We conducted a mediation analysis to determine whether attribute weighting mediated the relationship between price restraint condition and brand choice. The results indicate

Figure 2

EXPERIMENT 5: THE INFLUENCE OF A SALIENT PRICE RESTRAINT IS REDUCED WHEN ATTENTION IS DRAWN TO PRICE
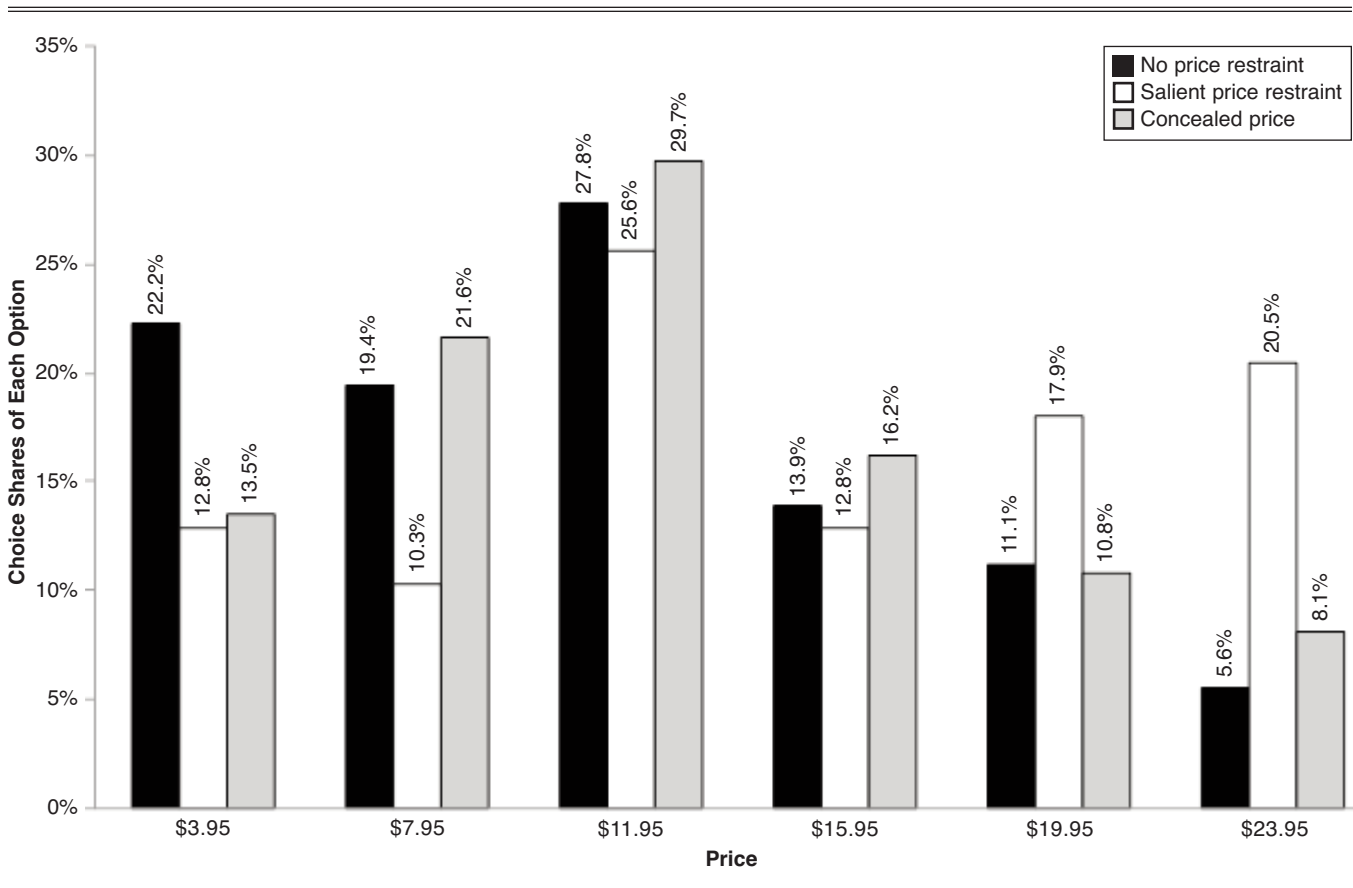
that the price restraint condition predicts both brand choice (t(72) = 2.21, *p* < .05) and price/quality weighting (t(72) = 2.40, *p* < .05), and price/quality weighting predicts brand choice (t(72) = 8.96, *p* < .001). Including attribute weighting in the same model reduced the significance of price restraint condition (t(72) =.65, *p* > .50), suggesting the difference in perceived quality mediates, as confirmed by a significant Sobel test (Z = 2.30, *p* < .05) and a bootstrap mediation analysis significant at *p* < .05, 95% confidence interval = (.12, 1.21).

Discussion

Experiment 5 provides evidence that the increase in spending that results from a salient price restraint is caused by a greater weighting of quality information. Consistent with our previous experimental findings, participants who indicated approximately how much they planned to spend were more likely to prefer higher-priced options than participants who simply chose from the same set. However, this change in preference was eliminated by increasing participants' attention to price, which increased its importance in the decision. This finding was further evidenced by participants' own reports of the relative importance of price and quality: Price was a more important factor in the decision for participants without a salient price restraint and for participants whose attention was drawn to price than for participants with a salient price restraint.

An alternative method for examining the relative importance of price and quality in a consumer's decision is to measure some of the downstream correlates of attention to quality information. In particular, if a salient price restraint causes consumers to focus relatively more on nonprice, quality information than they would if no price restraint were salient, we might expect consumers to better remember quality information when they have first imposed a price restraint on themselves. Experiment 6 tests this hypothesis.

Experiment 6 also provides additional evidence of the proposed scaling effect. Salient price restraints encourage consumers to focus attention on products near the restraint, which alters price perceptions. As a result, the quality perceptions of products near the restraint should be altered, while perceptions of products far from the restraint should not. Experiment 6 also examines this effect.

EXPERIMENT 6

Experiment 6 provides additional tests of our proposed mechanism while providing further insights into the effects of price restraints on choice. A memory measure taken at the end of the experiment allows for a further examination of the relationship between price restraints and attribute weighting. In addition, Experiment 6 provides a within-subject test of price restraints' effects on quality perceptions to complement the between-subjects test we reported in Experiment 2.

Method

A survey on consumer products was administered to 201 adults from an online subject pool. Participants in the salient-price-restraint condition were asked to "indicate how much you will budget for your next purchase" of six products—a garage door (for a two-car garage), a king-size mattress, a 32-inch LCD (liquid crystal display) television,

a surround sound system, a Blu-ray player, and a stand-up carry-on luggage piece. Participants in the no-salient-price-restraint condition were simply asked whether they had ever made a purchase in each of the same six categories. Thus, in both conditions, participants were exposed to the product categories before seeing the set of options, but only in the salient-price-restraint condition were they explicitly instructed to set a budget.

All participants then saw five products per category, with the category order randomized across participants. The product pictures, prices, and brands were culled from various Internet retail sites. All brands were real, and all products were appropriately priced. Products were displayed in order of increasing price for a randomly selected half of the participants, and in order of decreasing price for the other half. Participants first rated the quality of each of the five products on a ten-point semantic differential scale anchored by the labels "extremely low quality" and "extremely high quality." After participants rated all the products, they were asked to select the one they would be most likely to buy.

After rating and choosing products in all six product categories, participants were given an unannounced memory test of the brand names of each product set. Participants were shown the same five pictures in the same order as before, but this time with the brand names deleted. They were asked to fill in all the brand names they could remember.

Results

Consistent with the findings of the previous experiments, the data reveal that across the six product categories, participants in the salient-price-restraint condition were more likely to select a more expensive product. An ordered logistic regression with condition as the only independent variable (category intercepts were all nonsignificant and thus dropped from the model) showed a significant shift in choices toward more expensive options in the salient-price-restraint condition ($\chi^2(1) = 4.76$, *p* < .05). Across the five choices, participants in the salient-price-restraint condition selected one of the two most expensive products 42.9% of the time. This choice share was 32.9% for participants in the no-price-restraint condition.

The quality ratings that participants in the salient-price-restraint condition gave for the various products add insight into the effect of price restraints on quality perceptions. We hypothesized that a price restraint would affect the quality ratings of products within the consideration range. If our scaling-effect account is correct, participants should perceive a greater difference in quality between the pair of options closest to the price restraint than between any other option pairs.

To test whether a planned budget affected quality perceptions, we first standardized each person's quality perceptions to remove any differences in scale usage (Rossi, Gilula, and Allenby 2001), according to the following formula: $TR_x = [R_x - Min(R_c)]/[Max(R_c) - Min(R_c)]$, where TR_x is the transformed rating for product x, R_x is the original rating for product x, $Min(R_c)$ is the minimum rating of the five products in the category, and $Max(R_c)$ is the maximum rating of the five products. Thus, the transformed ratings reflect the relative quality perceptions on a scale from 0 to 1. From the five transformed quality perception scores in each category, we created four difference scores: the dif-

ference between Product 1 and Product 2, the difference between Product 2 and Product 3, and so forth. Table 2 shows three illustrations of these calculations. As the first two examples illustrate, the transformation normalizes scale usage differences—the resulting differences are identical whether a respondent favored lower or higher scale values. In these two examples, the difference scores are all positive, indicating a monotonic relationship between price and quality perception. As the third example shows, when a lower-priced product is perceived as having a higher quality than a higher-priced product, the difference score will be negative.

For the 97 participants in the salient-price-restraint condition, the average difference score was .177 for the two options closest to the price restraint. In contrast, the average difference score for all the pairs farther from the restraint was .110. Analysis revealed that this difference (in difference scores) was significant ($t(2309) = 2.47, p < .05$).

We complement this within-subject test of perceived quality differences with a between-subjects test by comparing the perceived quality differences of the options closest to the price restraint to the average difference in perceived quality scores in the no-price-restraint condition. For the 104 participants in the no-price-restraint condition, the average perceived difference score was .105. Consistent with our hypothesis, this difference in perceived quality was significantly smaller than the perceived quality difference between options close to the price restraint ($t(4787) = 2.68, p < .01$). Furthermore, note that the average difference score in the no-price-restraint condition (.105) was almost identical to the nontarget difference scores of the salient-price-restraint condition (.110). Consistent with our proposed mechanism, it appears the scaling effect only affects quality perceptions of products near the price restraint.

After rating the options and making their choices, participants were asked to recall the brand names of the products in each choice set. We hypothesized that because a salient price restraint leads to an increased use of nonprice information, participants in the salient-price-restraint condition would be more likely to remember the brand names of the options in the choice set. This hypothesis was borne out. A logistic regression predicting memory for brand names as a function of the experimental condition and control variables for each of the 30 brands showed that participants in the salient-price-restraint condition remembered more brands than the no-price-restraint condition participants ($t(5798) = 1.78, p < .05$, one-tailed). This is consistent with the evidence from Experiments 4 and 5 that participants with a salient price restraint pay more attention to nonprice information, such as brand name, when making their choices.

Discussion

We have argued that shopping with a budget in mind for a given purchase changes the consumer's decision process. Perversely, the salient price restraint causes the consumer to focus less on price information and more on nonprice, quality information. This leads to an increased preference for higher-quality products, which are typically more expensive. It also focuses attention on products within the allotted budget, causing an exaggeration of the quality differences between products in this narrowed range.

Experiment 6 reveals evidence in support of all three effects. Participants who reported their budget before evaluating products chose significantly more expensive options than participants who only reported whether they had ever purchased something in each category. The salient-price-restraint participants were also more accurate in their brand recall, evidence of paying greater attention to nonprice information (weighting effect). Finally, their quality ratings reflected greater differences in quality perceptions between products near their allotted budget, evidence of a narrowed focus on these products (scaling effect).

GENERAL DISCUSSION

There is no shortage of advice for consumers seeking to curb their spending. A common thread running through the diverse guidance of personal finance experts is the importance of knowing how much one is willing to spend *before* venturing onto the showroom floor. Conventional wisdom, some theory, and common sense all suggest that being more aware of one's price limits when making a decision should decrease consumer spending. In contrast, we report evidence that salient price restraints can increase preference for

Table 2

EXPERIMENT 6: ILLUSTRATIONS OF TRANSFORMED PERCEIVED QUALITY SCORES

A: Example 1					
Option Number	1	2	3	4	5
Original rating	1	2	3	4	5
Transformed rating	.00	.25	.50	.75	1.00
Difference score	—	.25	.25	.25	.25

B: Example 2					
Option Number	1	2	3	4	5
Original rating	6	7	8	9	10
Transformed rating	.00	.25	.50	.75	1.00
Difference score	—	.25	.25	.25	.25

C: Example 3					
Option Number	1	2	3	4	5
Original rating	5	1	3	7	10
Transformed rating	.44	.00	.22	.67	1.00
Difference score	—	−.44	.22	.44	.33

higher-quality offerings. When price and quality are positively correlated, as typically happens in well-functioning markets, the counterintuitive result is that salient price restraints can actually increase spending relative to a case in which price restraints are less salient.

We found that the effect of price restraint salience on choice is not limited to one particular type of price restraint. Across the six experiments we report in this article, four different manipulations of price restraint salience led to convergent results. In particular, whether participants selected a target price (Experiments 2 and 3), used a maximum willingness to pay (Experiment 4), or generated their own target price (Experiments 1 and 5) or planned budget (Experiment 6), the results were always the same: Salient price restraints led to an increased preference for higher-priced, higher-quality offerings.

We account for these findings by noting that imposing a price restraint on oneself encourages consumers to establish a range of "acceptable" prices, thereby narrowing the set of options considered. We predicted and found that this narrowed focus resulted in greater differences in perceived quality for those with a salient price restraint compared with those without (Experiment 2), as well as for options proximate to a price restraint compared with prices further from the restraint (Experiment 6). The finding that quality perceptions mediated price restraints' effect on choice (Experiment 2) is evidence that this change in perceived quality contributes to increased spending

We also proposed that a salient price restraint increases the relative importance of perceived quality in choice. This attribute-weighting account was supported by the finding that the effect held even when quality was objective and unambiguous (Experiment 4); that increasing the effort needed to evaluate price, and increasing attention paid to price, ameliorates the effect (Experiment 5); and that participants with salient price restraints reported that quality was relatively more important in their decisions (Experiment 5). We also found evidence of mediation by attribute weighting (Experiment 5). Finally, we found that participants with a salient price restraint were better able to remember nonprice information (Experiment 6), suggesting that they paid more attention to this information during choice. We summarize the evidence for both scaling and weighting effects in Table 3.

Price Restraints and Theories of Consumer Choice

This research makes several contributions to consumer choice theory. Perhaps the most important is in providing evidence that the salience of price restraints is a factor that should be considered in models of consumer choice. Although price restraints are integral to many choice theories, few of them account for the influence of the accessibility or prominence of these restraints as a moderating factor. Even theories that allow price restraints to be either explicit or implicit (e.g., Monroe and Lee 1999) do not explore the influence of salience as a moderator of consumer evaluations and choices. We concur with the consensus view that price restraints, such as internal reference prices, need not be explicit to influence consumer behavior. However, our research suggests that making implicit price restraints salient before consumers consider a set of alternatives can influence their evaluations and choices in counterintuitive ways. Whereas previous research has demonstrated the effect of reference prices on *price* perceptions, we demonstrate that reference prices can affect choice by changing *quality* considerations.

This research also contributes to our understanding of multistage decision making. Previous research has found that when consumers consider a set of options and use a screening mechanism to reduce the size of the consideration set, they subsequently neglect the information they used as a screen in the second stage of the decision (Beach 1993; Chakravarti, Janiszewski, and Ulkumen 2006). Our findings are consistent with these results even though (1) participants did not see any options for consideration when they imposed price restraints on themselves, (2) participants were never explicitly instructed to screen options on the basis of price, and (3) participants received all information about choice options at the time of choice (in other words, they did not receive some information on which they screened options before receiving additional information). Our results imply that an informal screening process may result from something as simple as having previously made a restraint salient on one dimension.

Finally, this research contributes to our understanding of the effect of preference articulation on evaluations and choice. Previous research has identified some positive results of preference articulation. To illustrate, consumers who have fully articulated their preferences before evaluating options are better able to cope with the negative consequences of larger assortments (Chernev 2003). Our research shows one possible negative consequence of articulating a price preference: increased spending. On a more general level, this research suggests that the way preferences are articulated (e.g., before encountering the choice options or after) and the extent to which preferences are articulated

Table 3

SALIENT PRICE RESTRAINTS AFFECT BOTH THE SCALING OF PERCEIVED QUALITY AND THE DECISION WEIGHTS PLACED ON PRICE AND QUALITY ATTRIBUTES

Evidence of Scaling Effect	
Larger difference in perceived quality of options when price restraint salient	Experiment 2
Perceived quality mediates effect of price restraint on choice	Experiment 2
Larger differences in perceived quality of options proximate to the price restraint than of options more distant from the restraint	Experiment 6
Evidence of Weighting Effect	
Salient price restraint influences choice even when quality information is objective and unambiguous	Experiment 4
Increased attention to price moderates effect of price restraint on choice	Experiment 5
Self-reported decision weights reveal quality relatively more important when price restraint is salient	Experiment 5
Self-reported decision weight mediates effect of price restraint on choice	Experiment 5
Better memory for quality information when price restraint salient	Experiment 6

(e.g., articulating preference levels for all important dimensions vs. only for price) can influence consumer choice and should be investigated further.

Self-Imposed Price Restraints and Consumer Welfare

The research in this article should not be taken as a repudiation of budgeting as a means of curbing expenditures. Rather, the data reported in this article offer evidence of an unintended negative side effect of self-imposed price restraints. Setting a price restraint on oneself can lead to increased spending, even when the consumer is faithful to the constraint. One might ask, Is the positive effect of budgeting enough to overcome these negative consequences, leading to a net benefit? We believe that it often is, and our findings offer some guidance for consumers hoping to reap the benefits of salient price restraints (i.e., decreased expenditure) instead of incurring the costs (i.e., increased expenditure).

According to the data we report, the ironic effect of salient price restraints is caused by the partitioning of price and quality evaluations. This suggests that consumers may be able to overcome the pernicious effects of salient price restraints by focusing on prices during choice. In other words, there seems to be a natural inclination to largely ignore information that has already been used in decision making (Chakravarti, Janiszewski, and Ulkumen 2006). As we have argued, a consumer who has set a budget may consider all alternatives that come in under budget as acceptably priced and focus on quality when making a choice. However, if the consumer were to explicitly refocus on price when making the choice, he or she may be able to break the partition between price and quality, thereby increasing the relative importance of price in the decision (Fiske 1980). Experiment 5 offers some evidence in support of this strategy. When participants were forced to expend just a little extra effort in evaluating prices, a salient price restraint no longer led to more expensive choices.

The mechanism we propose for these salient price restraint effects also suggests that not all types of price restraints will be equally likely to lead to increased spending. For example, a common type of budget is an aggregate spending goal for a category, such as spending no more than $100 on a particular grocery trip (Heath and Soll 1996; Van Ittersum, Pennings, and Wansink 2010). Our research suggests that unless the entire budget is likely to be consumed with a single purchase, these aggregate, category-level budgets are less likely to lead to an increase in spending. This is because an aggregate budget does not partition price and quality considerations for a given purchase decision unless that purchase is consuming most or all the planned budget. For example, a $100 budget for a grocery trip would not partition price and quality considerations for cheeses priced between $3 and $5.

Salient price restraints may also not lead to increased spending when prices take alternate forms. If a consumer budgets $20,000 for the purchase of a new car and then goes to a dealership that translates all car prices into a monthly loan payment, the consumer will be forced to reevaluate prices. Thus, the consumer's budget will not lead to a partitioning of price and quality, so we would not expect this consumer to overspend. Likewise, a consumer who specifies a budget for a new cellular phone is less likely to overspend on this purchase if he or she must simultaneously choose a new calling plan. The combination of a one-time cost (of the phone) and ongoing costs (for the calling plan) would also force the consumer to reexamine prices, which should decrease the tendency to overspend.

Finally, our findings suggest that the negative effects of salient price restraints may be reduced in categories in which choice is largely a matter of personal taste or idiosyncratic preferences. In our studies, price and perceived quality were correlated, meaning that an increase in the importance of quality caused an increase in the preference for more expensive options. Clearly, however, choice is not always driven by quality concerns. In situations in which choice is largely a function of attributes not correlated with price (e.g., flavor, color, design), we would not expect an increased preference for higher-priced options.

To illustrate this idea, we examined preferences for sofas,[1] a category in which choices tend to be made more based on style preferences than perceived quality. The design of the study was similar to that of Experiments 2, 3, and 4: Participants either set a price restraint or not and then chose between a more and a less expensive sofa. Unlike all the other experiments reported in this article, the preference for the more expensive option did not vary with price restraint salience (56.1% vs. 62.8%; $\chi^2(1) < 1$, $p > .50$) nor did perceived quality (F(1, 80) = 1.84, $p > .15$). However, if we consider the perceived attractiveness of the sofas, a different pattern emerges. We found that participants who had set a price restraint perceived a greater difference in attractiveness between the sofas (6.0 vs. 3.8, difference = 2.2) than participants who had not set a price restraint (6.1 vs. 4.7, difference = 1.5). A mixed design analysis of variance revealed that this difference was significant (F(1, 75) = 3.49, $p < .05$, one-tailed).

We segregated customers into two groups based on whether they rated the more expensive sofa as more attractive than the less expensive sofa ("high-price, attractive" group) or not ("low-price, attractive" group). In the no-price-restraint condition, people in the high-price, attractive group were more likely to choose the higher-priced sofa (82.6%) than those in the low-price, attractive group (22.2%). More important, and consistent with the theory we propose, these preferences become even more pronounced when participants set a price restraint: 96.3% of those in the high-price, attractive group chose the higher-priced sofa, compared with only 6.3% in the low-price, attractive group. The interaction between price restraint salience and perceived attractiveness of the sofas was significant ($\chi^2(1) = 5.90$, $p < .05$). These results suggest that attractiveness influenced the choices more (relative to price) when a price restraint was salient. In short, we found that although salient price restraints still influence choice in categories when decisions were based less on quality than on taste, this influence does not result in the consumer spending more money. In such cases, budgeting does not backfire.

REFERENCES

Adaval, Rashmi and Kent B. Monroe (2002), "Automatic Construction and Use of Contextual Information for Product and Price Evaluations," *Journal of Consumer Research*, 28 (March), 572–88.

---

[1]We thank an anonymous reviewer for suggesting this.

Beach, Lee Roy (1993), "Broadening the Definition of Decision Making: The Role of Prechoice Screening of Options," *Psychological Science*, 4 (4), 215–20.

Chakravarti, Amitav, Chris Janiszewski, and Gulden Ulkumen (2006), "The Neglect of Prescreening Information," *Journal of Marketing Research*, 43 (November), 642–53.

Chernev, Alexander (2003), "When More Is Less and Less Is More: The Role of Ideal Point Availability and Assortment in Consumer Choice," *Journal of Consumer Research*, 30 (2), 170–83.

Country Wisdom Bulletins (2004), *Country Wisdom & Know-How*. New York: Black Dog & Leventhal.

Dickson, Peter R. and Alan G. Sawyer (1990), "The Price Knowledge and Search of Supermarket Shoppers," *Journal of Marketing*, 54 (July), 42–53.

Diehl, Kristin, Laura J. Kornish, and John G. Lynch Jr. (2003), "Smart Agents: When Lower Search Costs for Quality Information Increase Price Sensitivity," *Journal of Consumer Research*, 30 (1), 56–71.

Fiske, Susan T. (1980), "Attention and Weight in Person Perception: The Impact of Negative and Extreme Behavior," *Journal of Personality and Social Psychology*, 38 (6), 889–906.

Hauser, John R. and Glen L. Urban (1986), "The Value Priority Hypotheses for Consumer Budget Plans," *Journal of Consumer Research*, 12 (4), 446–62.

Heath, Chip and Jack B. Soll (1996), "Mental Budgeting and Consumer Decisions," *Journal of Consumer Research*, 23 (1), 40–52.

Janiszewski, Chris and Donald R. Lichtenstein (1999), "A Range Theory Account of Price Perception," *Journal of Consumer Research*, 25 (March), 353–68.

Monroe, Kent B. (1973), "Buyers' Subjective Perceptions of Price," *Journal of Marketing Research*, 10 (February), 70–80.

—— and Angela Y. Lee (1999), "Remembering Versus Knowing: Issues in Buyers' Processing of Price Information," *Journal of the Academy of Marketing Science*, 27 (April), 207–225.

Nunes, Joseph C. and Peter Boatwright (2004), "Incidental Prices and Their Effect on Willingness to Pay," *Journal of Marketing Research*, 41 (November) 457–66.

Parducci, Allen (1965), "Category Judgment: A Range-Frequency Model," *Psychological Review*, 72 (6), 407–418.

Preacher, Kristopher and Andrew Hayes (2004), "SPSS and SAS Procedures for Estimating Indirect Effects in Simple Mediation Models," *Behavior Research Methods*, 36 (4), 717–31.

Rossi, Peter E., Zvi Gilula, and Greg M. Allenby (2001), "Overcoming Scale Usage Heterogeneity: A Bayesian Hierarchical Approach," *Journal of the American Statistical Association*, 96 (453), 20–31.

Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (3), 199–214.

Van Ittersum, Koert, Joost M.E. Pennings, and Brian Wansink (2010), "Trying Harder and Doing Worse: How Grocery Shoppers Track In-Store Spending," *Journal of Marketing*, 74 (March), 90–104.

Winer, Russell S. (1986), "A Reference Price Model of Brand Choice for Frequently Purchased Products," *Journal of Consumer Research*, 13 (September), 250–56.

Xia, Lan, Kent B. Monroe, and Jennifer L. Cox (2004), "The Price Is Unfair! A Conceptual Framework of Price Fairness Perceptions," *Journal of Marketing*, 68 (October), 1–15.