When “More” Seems Like Less: Differential Price Framing Increases the Choice Share of Higher-Priced Options

Thomas Allard, David J. Hardisty, and Dale Griffin

Abstract

Four experiments supported by six supplemental studies show that premium but higher-priced products (e.g., direct flights, larger-capacity data storage devices) are more popular when the additional cost is made explicit using differential price framing (DPF; e.g., “for $20 more”) rather than being left implicit, as in standard inclusive price framing (IPF; e.g., “for $60 total”). The DPF effect is driven by pricing focalism: relative to IPF, DPF creates a focus on the price difference, which, because it is smaller than the total price, leads to lower perceived expensiveness and thus greater choice share for the premium option. This price framing effect is robust to displaying the total cost of the purchase, bad deals, and easy-to-compute price differences, and it appears to be uniquely effective in pricing contexts. However, DPF effects are reduced among consumers who adopt a slow and effortful decision process. These findings have implications for research on price partitioning, the design of effective pricing strategy, the sources of expensiveness perceptions in the marketplace, and consumer welfare.

Keywords
attribute framing, expensiveness, heuristic processing, price partitioning, pricing strategy

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Chattopadhyay 2007), the display of the smaller focal amount Δ$X in the DPF condition leads to the perception of the premium product as less expensive (than in the IPF condition), thereby increasing the choice share of the premium option under DPF relative to IPF.1,2

We provide support for the proposed focalism mechanism by demonstrating that the DPF effect is mediated through perceived expensiveness judgments and moderated by decision-making speed. Specifically, heuristic decision makers (i.e., those assigned to faster decision processes) show a marked difference in preference for the premium product between the DPF and IPF conditions because those in the DPF condition immediately form a judgment of expensiveness based on the focal price difference, whereas those in the IPF condition are likely to use the upgrade’s total price as a basis for their expensiveness judgments. Put another way, the DPF condition—but not the IPF condition—makes the information about price difference easily accessible and, thus, influential in heuristic thinkers’ expensiveness assessments and product choices. In contrast, systematic decision makers (i.e., those assigned to slower decision processes) show little or no difference between DPF and IPF because they take the time to compute the price difference Δ$X when evaluating the cost of the premium option in both conditions.

By defining and analyzing DPF, a pricing technique that makes the price difference associated with premium products more salient, we make four main contributions to the literature. First, this research adds a new branch to the rich literature on price presentation formats (e.g., price partitioning [Abraham and Hamilton 2019; Greenleaf et al. 2016], add-on pricing [Ellison and Ellison 2009]). Second, the research highlights the benefit of going beyond the standard mental accounting explanation of the benefits of product bundling (e.g., Thaler 1985; Thaler and Johnson 1990), which relies on the curvature of the utility function to explain the value of bundled prices and instead highlights the importance of understanding a consumer’s perception and representation of price information. Third, the research illuminates the targeted nature of DPF by showing how its effects on consumer preferences are primarily found when choice processes are heuristically based. Finally, this research offers straightforward and easy-to-implement managerial recommendations for optimal pricing strategy, particularly important given the complex nature of price inferences in consumption. We next turn to our theoretical framework.

Theoretical Development

From fuel surcharges to resort fees, retailers have used various approaches that separate the total cost of products into multiple components, with the goals of reducing consumer price sensitivity and increasing demand. An extensive literature on the partitioning of price information (e.g., “$10.80 including tax” vs. “$10.00 plus $.80 sales tax”) has demonstrated how price partitioning often shifts attentional focus away from the total price of operation and increases focus on, and thus memory for, the base price of the core product (Morwitz, Greenleaf, and Johnson 1998). For example, Hamilton and Srivastava (2008) have shown that price partitioning increases product evaluation when the mandatory partitioned surcharge (e.g., the tax) offers low consumption benefits. In the extreme case, some consumers completely ignore the cost of the partitioned elements when determining bundle value (Gabaix and Laibson 2006; Morwitz, Greenleaf, and Johnson 1998). A related literature stream on add-on pricing (and its drip pricing extension) shows that consumers’ purchase decisions are often driven by low base prices, even when high prices for add-ons such as mandatory printer ink make the purchase uneconomical (Ellison and Ellison 2009). Essentially, add-on pricing takes advantage of consumers’ “myopic” focus on up-front payments rather than downstream costs.

Bertini and Wathieu (2005, 2008) describe another important variant on price partitioning, distinguishing between aggregate or all-inclusive pricing (a single total price that includes the focal good plus a variety of mandatory infrastructural elements such as shipping, handling, etc.) and disaggregate or partitioned pricing (separating the price for each of the infrastructure elements). Drawing on the assumption that consumers minimize cognitive effort, they argued that an aggregate price leads to a focus on the base product only, whereas the

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1 Note: we do not argue that consumers explicitly compare ΔX with X2, but rather that people base their decisions—and their underlying expensiveness perceptions—on the available information. As such, we contend that people decide by explicitly comparing X1 with X2 in the IPF condition and implicitly comparing X1 with AX in the DPF condition, but that because ΔX << X2, the premium product appears cheaper in the DPF condition.

2 Although this process superficially resembles an anchoring and adjustment heuristic (Tversky and Kahneman 1974), we rule out such a general adjustment-based process (e.g., Study 2). Indeed, using this framing method with differential quality does not appear to affect perceived quality or product choices (for replications of this effect, see also Web Appendices C and D), further supporting our pricing focalism account.
disaggregated price leads to a disproportionate focus on the infrastructural elements.

**Pricing Focalism and Selective Information Processing**

In the current research, we examine the choice between (low-priced) basic and (higher-priced) premium models and introduce the concept of DPF. Differential price framing occurs when the price of the premium product in a vertically differentiated set is described in relative or incremental terms (e.g., “$20 more”). Figure 1 presents the conceptual model guiding this research and illustrates the central theme of each study. According to our pricing focalism account, DPF makes the price difference between the available choice options more salient. Because this price difference is always lower than the total price, a focus on the price information as given (i.e., the price difference) increases consumer evaluations of the price–quality value (for a similar account on product attributes, see Bertini and Wathieu [2008]). Thus, unlike price partitioning or add-on pricing techniques, which work by reducing consumers’ focus on additional charges relative to the focal price, DPF functions by increasing the focus on specific additional charges, which, by virtue of always being smaller than the total price, effectively increases perceptions of the value of the premium option.

People often selectively base their judgments on the most salient information cues presented to them (e.g., Bettman, Luce, and Payne 1998; Hutchinson and Alba 1991; Kahneman and Tversky 1979; Wilson et al. 2000) and rarely transform the presented information into an inclusive “canonical” representation (Tversky and Kahneman 1986). This information processing tendency was originally defined as the “concreteness” principle (Slovic 1972): decision makers tend to use only the information that is explicitly displayed to them and will use it only in the form in which it is displayed. For example, the same total price is perceived to be cheaper when it is divided into multiple temporal partitions (e.g., the “just pennies a day” phenomenon, also known as temporal reframing; Gourville 1998) because small units of money appear inexpensive and thus influence the overall price judgment through an association with “petty cash” (Gourville 1999).

In the case of a premium product with a higher price, the price difference will always be smaller than the total price of the premium option, and thus we expect DPF (relative to IPF) to reduce the perceived expansiveness of premium quality options and increase the proportion of consumers selecting such options. In other words, we expect consumers facing the price/quality trade-off in the DPF condition to think to themselves, “The better model is only $20 more than the standard model”—that doesn’t seem so expensive,” leading to greater preference for the premium product compared with the IPF condition. Put another way, DPF reduces the perceived cost of the premium option (e.g., Erickson and Johansson 1985; Völckner, Rühle, and Spann 2012) without affecting the perceived quality (e.g., Cronley et al. 2005; Kardes, Posavac, and Cronley 2004).

Differential price framing works in the opposite direction to a classic mental accounting model of price bundling (Thaler 1985), which rests on the assumption that a single inclusive price creates less negative utility than the sum of the negative utilities obtained from two or more separate prices (see also Greenleaf et al. 2016). According to the mental accounting model, inclusive prices should be judged as less expensive than the sum of the standard and differential prices. However, according to our focal pricing account, by highlighting the differential cost of the premium option (vs. total cost), the DPF makes premium options appear relatively less expensive. Whether this price difference also drives expensiveness judgments in the IPF condition depends on the processing effort consumers spend to evaluate the expansiveness of the (implicit) difference between the two total prices.

**Processing Effort**

Information processing is often conceived as falling along a continuum between more heuristic versus more systematic types of processing (e.g., Chaiken 1980; Petty and Cacioppo 1984), where heuristic processing is a less effortful and less capacity-limited type of decision making (e.g., Chaiken and Maheswaran 1994). Decision makers relying on heuristic processing are more likely to make inferences using only the information directly available to them (e.g., Bodenhausen and Wyer 1985; Schwarz 1998), often leading to less accurate judgments (e.g., Payne, Bettman, and Johnson 1988). The type of processing a decision maker adopts has been shown to vary based on motivational (e.g., involvement; Maclnnis and Park 1991), situational (e.g., time constraints; Suri and Monroe 2003), and individual (e.g., need for cognition; Cacioppo et al. 1996) factors.

In the context of consumer choice, we expect that participants relying on heuristic processing will be more likely to base their perceived value judgments on the price frame presented to them (i.e., the standard price and total premium price in the IPF condition, and the standard price and differential price in the DPF condition). Specifically, we expect that rapid decision makers—manipulated by a belief that faster decision making results in better decisions (Inbar, Botti, and Hanko 2011)—will choose the premium product more often when price information is presented using DPF because they will focus on the prices as shown. In contrast, we expect that slower (and presumably more careful and effortful) decision makers naturally compare the standard and premium prices to assess the cost of the premium option. We posit that because of this ability to shift the focus toward the price difference even in the total price (IPF) condition, systematic decision makers will show a similar degree of preference for the premium option regardless of whether they are exposed to DPF or IPF.

Note that these moderation predictions for DPF are the opposite of those that would be expected in the price partitioning context, where separating the base and add-on prices has a greater effect for consumers with a high motivation to deliberate about price information (i.e., high effort) compared with
those with low motivation. For instance, Burman and Biswas (2007) show an attenuated effect of price partitioning under low effort conditions (measured as lower need-for-cognition scores). They propose that this occurs because investing cognitive effort in a purchase decision is necessary for participants to draw inferences about the desirable versus undesirable nature of surcharges. In contrast, because our effect relies on relatively quick perceptual processes to assess perceived expensiveness, we instead predict that more cognitive effort will reduce the effect of DPF on judgments of expensiveness and resulting preferences.

More formally, we predict,

\[ H_1: \text{DPF increases the choice of premium (higher-priced, higher-quality) products compared with IPF.} \]

\[ H_2: \text{Judgments of perceived expensiveness mediate the relationship between price framing and the choice share of the premium option, such that premium options are judged as relatively less expensive when presented with DPF compared with IPF.} \]

\[ H_3: \text{Cognitive effort moderates the effect of a DPF on consumer preferences. In particular, more effortful processing (i.e., slow decision times) is associated with a weaker relative preference for the premium product under DPF than under IPF.} \]

We test these three hypotheses in a series of four studies. In Study 1, we show the basic DPF effect and demonstrate that it occurs even when the total cost of the premium product is made salient (thus ruling out the possibility that the effect is driven by confusion or deception). Study 2 uses a differential quality frame to rule out other alternative explanations (such as DPF activating a general trade-off mindset) and provides mediational support for the proposed mechanism, showing that DPF influences consumer choice by reducing the perceived expensiveness of the premium option. Study 3 provides further evidence for the perceived expensiveness model of DPF on premium product choice by showing that the pattern of results is reversed when goods are sold (rather than bought). In Study 4, we demonstrate the heuristic nature of the proposed process, showing that the DPF effects are mitigated for those who make a slower—and more deliberative—decision. Supplementary studies in Web Appendix A, B, C, D, E, and F (introduced subsequently) further extend these results and rule out several alternative explanations. See Table 1 for a summary of all results.

### Study 1

Study 1 provides support for our primary DPF hypothesis by showing that DPF increases the choice of premium options, and that this is true even when the total price of the purchase is presented along with the differential price frame. Our price focalism account predicts that when the prices are presented together, the differential price is more salient than the total price (because it is more relevant to assessing the upgrade decision). This focus on the differential price leads consumers to evaluate the premium option as less expensive in both the DPF and DPF + total price conditions. From a theoretical perspective, showing that the DPF is robust to displaying the total price of the purchase helps clarify the mechanism underlying the effect by providing evidence against a confusion or misinformation explanation (i.e., consumers confused the price difference with the total price for the premium option) for the observed shift in preferences.

### Method

**Participants and design.** Five hundred forty-six undergraduate students took part in a laboratory experiment (58% female, Mage = 20.5 years). The experimental design was a one-factor, three-level (framing: inclusive price vs. differential price vs. differential price + total price) between-participants design. The dependent variable of interest was the proportion of participants selecting the premium choice option.

**Procedure.** Participants were instructed to imagine themselves shopping for a new computer monitor and shown two different monitor options on one web page (see Web Appendix G). Both monitors were identical in every feature (i.e., brand, resolution, display type, aspect ratio, refresh rate) except for screen size, wherein larger is generally considered to be more desirable. The first monitor was the basic or standard 23-inch version and retailed for $199.99. The second monitor was a larger (premium) 27-inch version and thus had a higher retail price. In the IPF conditions, the 27-inch monitor was available for “$259.99,” whereas the same premium product in the DPF condition was offered for “$60.00 more.” In the DPF + total price condition, the monitor was offered for “$60.00 more ($259.99 total).” Participants were instructed to select the monitor they would normally choose.

### Results

Results from a logistic regression with two dummy-coded variables revealed a significant effect of the framing condition in predicting the proportion of participants selecting the premium choice option (\( \chi^2(2) = 10.14, p < .01 \)). In support of H1, the proportion of participants selecting the premium option in the DPF condition (P = 58%) was significantly higher than in the IPF condition (P = 42%; b = .67, SE = .21, Wald \( \chi^2(1) = 9.81, p < .01; \) Cohen’s d = .37). Notably, the choice of the premium product in the DPF + total price condition was also higher than in the IPF condition (P = 53%; b = .44, SE = .21, Wald \( \chi^2(1) = 4.19, p < .05 \)). Finally, there was no significant difference in the proportion of premium choice options selected between the DPF and the DPF + total price conditions (b = .23, SE = .21, Wald \( \chi^2(1) = 1.23, p > .75 \)).

### Discussion

Study 1 provides an initial demonstration showing that DPF (compared with IPF) increases consumers’ preferences for...
### Table 1. Proportions and Means by Study Condition.

#### Study 1
(basic effect; computer monitors; N = 546, 56% female, Mage = 20.5 years; undergraduate students)

<table>
<thead>
<tr>
<th></th>
<th>IPF</th>
<th>DPF</th>
<th>DPF + Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium option</td>
<td>42%</td>
<td>58%</td>
<td>53%</td>
</tr>
</tbody>
</table>

Main finding: DPF increases the choice share of premium options. This effect is robust to the total cost of the premium option, ruling out the possibility that the effect is driven by confusion or deception.

#### Study 2
(moderated mediation by perceived expensiveness; newspaper subscription; N = 253, 59% female, Mage = 20.9 years; undergraduate students)

<table>
<thead>
<tr>
<th></th>
<th>IPF</th>
<th>DPF</th>
<th>DPF + QF</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium options</td>
<td>23%</td>
<td>47%</td>
<td>22%</td>
</tr>
<tr>
<td>Expensiveness (premium – standard)</td>
<td>1.23 (1.41)</td>
<td>1.51 (1.08)</td>
<td>.20 (1.40)</td>
</tr>
</tbody>
</table>

Main finding: DPF increases the choice share of premium options by lowering their perceived expensiveness. This framing effect appears uniquely sensitive to price contexts.

#### Study 3
(moderated mediation by perceived expensiveness; bicycles; N = 221, 44% female, Mage = 19.6 years; undergraduate students)

<table>
<thead>
<tr>
<th></th>
<th>Buyer</th>
<th>Seller</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium options</td>
<td>50%</td>
<td>70%</td>
</tr>
<tr>
<td>Expensiveness (relative)</td>
<td>2.98 (1.31)</td>
<td>2.40 (1.26)</td>
</tr>
</tbody>
</table>

Main finding: DPF works by increasing the focus on the price difference, which leads to a larger choice share of the premium option in a buying context, but a lower choice share in a selling context.

#### Study 4
(moderated-mediation by perceived expensiveness; wine glass set; N = 571, 52% female, Mage = 37.3; Prolific Academic)

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Fast</th>
<th>Slow</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium options</td>
<td>52%</td>
<td>68%</td>
<td>63%</td>
</tr>
<tr>
<td>Expensiveness (premium – standard)</td>
<td>−1.19 (1.63)</td>
<td>−1.09 (1.42)</td>
<td>−20 (1.59)</td>
</tr>
<tr>
<td>% of successful price recall</td>
<td>69%</td>
<td>76%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Main finding: DPF is mitigated for systematic (slow) decision making, supporting our focalism process model of the price difference effect, suggesting that slow decision makers were able to represent, and focus on, the price difference in both the price framing conditions. The recall result also rules out consumer confusion as an alternative causal explanation.

#### Web Appendix A
(robust to bad deals; train route; N = 517, 67% female, Mage = 36.7 years; Prolific Academic)

<table>
<thead>
<tr>
<th></th>
<th>8-Hour Journey (Bad Deal)</th>
<th>7-Hour Journey</th>
<th>6-Hour Journey (Good Deal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium options</td>
<td>19%</td>
<td>27%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Main finding: DPF effect is distinct from a price partitioning effect. Whereas price partitioning leads to a reversal effect in the presence of bad deals, the DPF effect is robust to bad deals.

#### Web Appendix B
(robust to bad deals; computer monitor; N = 404, 47% female, Mage = 35.7 years; Amazon Mechanical Turk)

<table>
<thead>
<tr>
<th></th>
<th>$379.99/$180.00 More (Bad Deal)</th>
<th>$319.99/$120.00 More (Bad Deal)</th>
<th>$259.99/$60.00 More (Good Deal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium options</td>
<td>9%</td>
<td>16%</td>
<td>42%</td>
</tr>
<tr>
<td>Expensiveness (relative)</td>
<td>5.91 (85)</td>
<td>5.73 (88)</td>
<td>4.45 (1.23)</td>
</tr>
</tbody>
</table>

Main finding: Conceptual replication of Web Appendix A—DPF is robust across good and bad deals—keeping quality constant and varying price—differentiating this from a price partitioning effect where a bad-deal reversal effect would have been expected.

(continued)
premium options over standard options. It supports our focalism account—that consumers naturally focus on the price difference when it is presented to them—by showing that the DPF effect is robust to displaying the total cost information along with the cost of the premium product, illustrating that the differential pricing effect is not simply a result of consumer confusion or lack of numeracy skills. This result showing that DPF shifts preferences even when all the price information is prominently displayed carries important implications for managers and public-policy makers: the DPF effect on consumers’ product decisions is robust and does not arise from consumer confusion.

**Study 2**

Just as the differential *price* of a premium newspaper subscription can be represented as “+$7.00/month,” so too can the differential *features* be represented as “+print, podcast, and crosswords,” isolating (and highlighting) the marginal improvement in product features rather than the marginal increase in price. In Study 2, we add such a new framing condition, differential quality framing (DQF), to test pricing focalism against two alternative mechanisms that may contribute to the DPF effect—compensatory decision making and general attribute salience—as we explain next.

**Table 1. (continued)**

<table>
<thead>
<tr>
<th>Web Appendix C</th>
<th>(nonprice context replication 1; hard drives; N = 235, 62% female, M_{age} = 19.5 years; undergraduate students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium options</td>
<td>IPF</td>
</tr>
<tr>
<td>% premium options</td>
<td>33%</td>
</tr>
<tr>
<td><strong>Main finding:</strong> Conceptual replication of Study 2—the DPF effect appears uniquely sensitive to price contexts.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Web Appendix D</th>
<th>(nonprice context replication 2; flights; N = 400, 39% female, M_{age} = 19.5 years; Prolific Academic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% premium options</td>
<td>Inclusive</td>
</tr>
<tr>
<td>Expensiveness (premium – standard)</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Main finding:</strong> Conceptual replication of Study 2—the DPF effect appears uniquely sensitive to price contexts.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Web Appendix E</th>
<th>(robust to Δ$X &gt; $X_i; train routes; N = 621, 67% female, M_{age} = 35.5 years, undergraduate students)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Level (vs. €30)</td>
<td>€60 Total/€30 More</td>
</tr>
<tr>
<td>% premium options</td>
<td>IPF</td>
</tr>
<tr>
<td>Expensiveness (relative)</td>
<td>68%</td>
</tr>
<tr>
<td><strong>Main finding:</strong> Conceptual replication of Study 2—the DPF effect appears uniquely sensitive to price contexts.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Web Appendix F</th>
<th>(robust to easy-to-compute prices; flights; N = 611, 57% female, M_{age} = 37.7 years, Prolific Academic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computation Difficulty</td>
<td>Easy-Low ($150.00–$200.00)</td>
</tr>
<tr>
<td>% premium options</td>
<td>IPF</td>
</tr>
<tr>
<td>Expensiveness (relative)</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Main finding:</strong> Conceptual replication of Study 2—the DPF effect appears uniquely sensitive to price contexts.</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:** Standard deviations in parentheses.
Second, according to the compensatory decision-making hypothesis (e.g., Payne, Bettman, and Johnson 1988), many (heuristic) consumers who see the total prices in the IPF may instead simply choose the cheapest option (a noncompensatory process), whereas consumers seeing the DPF may be more likely to adopt a trade-off mindset (e.g., “Is the upgrade worth the price?”) and thus increase their preference for the premium option. Following this logic, using DQF to focus consumers on the marginal quality difference should also induce a trade-off mindset, increasing compensatory decision making, and so increase the choice of the premium option. Therefore, if the compensatory/trade-off salience model is driving the effects in Study 1, DQF should influence the choice of the premium option just as DPF does, as both frames make the price/quality trade-off more salient and thus both should increase premium choices.

Third and finally, according to the generic attribute salience hypothesis (e.g., Hardisty, Johnson, and Weber 2010; Schkade and Kahneman 1998), consumers base judgments on the most salient information presented, without much regard for meaning or context. This account suggests that just as the lower price number in DPF leads to lower judgments of expensiveness (“+$7.00/month” is smaller than “$16.99/month”), so too may the fewer features presented in DQF lead to lower judgments of quality (the number of individual features appears smaller in the DQF compared to the IPF), and so decrease preference for the premium option. Therefore, if the effect relies on a generic salience (or counting) heuristic, smaller quantities associated with either the differential price number or the differential quality attributes should lead to lower judgments on the relevant dimension (price or quality). That is, whereas DPF should increase premium product choices (because the price difference is smaller than the total, and decreased expensiveness is desirable), DQF may decrease premium product choices (because the quality difference is smaller than the total, and decreased quality is undesirable; for a discussion on numeric ranking orders and quality inferences, see also Kyung, Thomas, and Krishna [2017]).

In summary, while all three theories make the same prediction for the effect of DPF on upgrade choices, they all make different predictions for the effect of DQF. The pricing focalism hypothesis predicts no effect of DQF on upgrades, the compensatory decision-making hypothesis predicts a positive effect of DQF on premium product choices, and the generic salience theory predicts a negative effect of DQF on premium product choices.

Furthermore, in Study 2 we test two alternative mediators of the DPF effect. First, it could be perceptions of value rather than the price that are driving the effect in the previous study. If the extra quality gained by paying a higher price makes the offer a “good deal” (Bertini and Wathieu 2008), the offer may be perceived as “less expensive” because it is a good value. Therefore, we tested whether DPF influences the perceived value of the products and whether value ratings, in turn, predict choices. Second, it could be that DPF makes the pricing or value easier (or harder) to evaluate, which could influence preferences through fluency (Novemsky et al. 2007). Therefore, we also test whether DPF influences the evaluability of the product attributes and whether evaluability predicts choices.

Method

Participants and design. Two hundred fifty-three undergraduate students took part in a laboratory experiment (59% female, Mage = 20.2 years). The experimental design was a one-factor, three-level (framing: inclusive-price vs. differential-price vs. differential-quality) between-participants design. The dependent variable of interest was the proportion of participants selecting the premium option.

Procedure. Participants were first informed that we would randomly select 1 out of every 100 participants to execute their purchase for real; we endowed them with $20, used a portion of that to purchase the option they selected, and let them keep the leftover endowment. Therefore, participants’ choices were incentive compatible.

Next, participants chose whether to buy a cheaper versus more expensive one-month subscription to The New York Times. The cheaper Option A was the same in all conditions: “$9.99/month New York Times web and app.” In the inclusive price frame, the premium Option B was described as “$16.99/month New York Times web, app, print, podcast, and crossword,” in the differential price frame it was “+$7.00/month New York Times web, app, print, podcast, and crossword,” and in the differential quality frame it was “$16.99/month +print, podcast, and crossword” (for stimuli, see Web Appendix G). Finally, participants answered on a series of seven-point scales (1 = “not at all,” and 7 = “very much”) questions about how expensive each option was, how valuable the services offered in each option were, and how easy it was to evaluate the price and services of each option.

Results

Choices. Results from a logistic regression with two dummy coded variables (using IPF as the reference category) revealed a significant effect of the framing condition in predicting premium option choices (Wald $\chi^2(2) = 14.72, p = .001$). In support of H1, the proportion of participants selecting the premium option in the DPF condition (P = 47%) was significantly higher than in the IPF condition (P = 23%; b = 1.09, SE = .34, Wald $\chi^2(1) = 10.29, p = .001, d = .62$). In contrast, there was no difference between the DQF condition (P = 22%) and the IPF condition (b = -.04, SE = .36, Wald $\chi^2(1) = .01, p = .96$). Thus, consistent with our pricing focalism account, DPF influenced choice but DQF did not.

Perceived expensiveness. Next, we turn to our proposed mediator, perceptions of expensiveness. Notably, DPF both decreased the perceived expensiveness of the premium option, the framing of which was manipulated (pairwise comparison between IPF and DPF, t(166) = 2.54, p = .01), and increased the
perceived expensiveness of the standard option, which was not manipulated (pairwise comparison between IPF and DPF, t(166) = 2.26, p = .03), consistent with perceptions of expensiveness being relative judgments, depending on context. Because of this dual effect, the largest impact of DPF on expensiveness judgments is evident in the difference scores: DPF decreases the difference in perceived expensiveness between the premium and standard option substantially (t(166) = 4.76, p < .001), in support of H2. In contrast, DQF did not influence judgments of perceived expensiveness relative to IPF (all n.s.). For detailed results, see Web Appendix G.

Mediation. Using an indirect effect analysis with two dummy coded variables for the framing conditions and continuous expensiveness judgments (difference scores) predicting choice, we tested whether perceived relative expensiveness mediated the effect of DPF (dummy coded as 1 vs. the two non-DPF conditions coded as 0) on choices. Consistent with H2, the mediation pathway between DPF (vs no DPF) and premium product choice through expensiveness judgments was significant (b = .70, SE = .20, CI95 = [.38, 1.18]; note that a pairwise model with just DPF vs. IPF yields the same results). In contrast, the mediation between DQF (vs non-DQF) and choice through perceived expensiveness was not significant (b = -.19, SE = .15, CI95 = [-.51, .07]).

Perceived value and evaluability. Next, we examined two possible alternative mediators for the DPF effect: perceived product value judgments and evaluability. These did not vary significantly by condition, nor did they mediate the results (see Web Appendix G).

Discussion

Study 2 replicated the effect of DPF, cast doubt on the ability of the compensatory trade-off and generic salience models to explain the effect, and showed significant mediation by perceived relative expensiveness, supporting the pricing focalism model: DPF increases the focus on the price difference and thus lowers the perceived expensiveness of the premium option (because the displayed price difference under DPF is always numerically smaller than the displayed total price under IPF). Note that because the completely null effect of DQF in Study 2 was somewhat surprising, and because null results can be difficult to interpret (e.g., perhaps consumers found the verbally described product features hard to understand, and so quality difference framing had no impact), we ran two replication studies comparing IPF, DPF, and DQF, using different stimuli and testing purely numerically smaller descriptions of quality (storage space for hard drives [in TB; see Web Appendix C] and travel times for flights [in hours; see Web Appendix D]). The results were the same: DPF influences choices, but DQF does not, even when all attributes are presented numerically. In the “General Discussion” section, we further discuss why price appears to be more sensitive to our DPF effect. Finally, Study 2 rules out self-reported differences in perceived value or evaluability as mediators.

The next study further supports the role of perceived expensiveness in price framing by testing a theoretically predicted reversal that should occur when sellers (rather than buyers) receive an offer using DPF or IPF. For a seller motivated by high earnings, an apparently inexpensive selling price is unattractive, and therefore sellers should be more likely to reject a given price under DPF than under IPF.

Study 3

In Study 3, we provide another test of the expensiveness mechanism underlying the DPF effect by examining the moderating role of buyer versus seller perspective. So far, we have shown that using DPF increases the attractiveness of the premium option because consumers focus on the price difference and consequently perceive the price of the premium object as relatively less expensive. By the same logic, we should observe the opposite effect—lower preference for the premium option—when the participant acts as a seller and receives an offer using the DPF. This reversal of the DPF effect is predicted because the offered price (a gain) will appear smaller in the DPF condition (because of the focus on the price difference), leading the seller to be more willing to sell the premium product (for the same price) in the IPF condition, where total prices are displayed. In addition, this study eliminates a possible confound present in previous studies, the differential effect of round (e.g., $40) versus exact numbers (e.g., $41; Manning and Sprott 2009; Wadhwa and Zhang 2014; Yan and Pena-Marin 2017).

Method

Participants and design. Two hundred twenty-one undergraduate students took part in this laboratory experiment (44% female, Mage = 19.6 years). This experiment uses a 2 (framing: inclusive price vs. differential price) × 2 (transaction role: buyer vs. seller) between-participants design. The dependent variable of interest was the choice to sell (or buy) the premium option.

Procedure. Participants read a scenario about a buyer–seller interaction for a used bicycle sold through classified ads. Participants were randomly assigned to the role of a buyer or seller. In the buyer scenario, participants learned that they were interested in purchasing one of two secondhand bicycles a seller had put up for sale. In the seller condition, a buyer had shown interest in purchasing one of two secondhand bicycles the seller had put up for sale. One bicycle, the premium product, was superior because it had better gear options (21-speed model vs. 3-speed model) and better parts (brand-name parts vs. generic parts). In the IPF condition, the standard bicycle was offered for $150 and the premium bicycle for $210. In the DPF condition, the price of the premium bicycle was described as “for $60 more” (for stimuli, see Web Appendix G). Participants were instructed to select which of the two bicycles they would buy [sell] given the two offers. Participants also rated
Mediation. Next, we conducted an indirect effect analysis to test whether the difference in perceived expensiveness between the price framing conditions could explain the observed reversal between the selling and buying condition. Consistent with our prediction in H2, perceived expensiveness mediated the effect; results suggested two equal and opposite significant indirect effects of perceived expensiveness depending on the participant’s role (buyer: $b = .33, SE = .17, CI_{95} = [.07, .75]$; seller: $b = -.29, SE = .14, CI_{95} = [-.68, -.09]$; index of moderated mediation: $b = .62, SE = .26 CI_{95} = [.21, 1.23]$), in support of H2. Specifically, while the premium option always appeared less expensive in DPF than in IPF (a-path: $b = -.69, SE = .19, t(219) = 3.69, p < .001, CI_{95} = [-1.06, -.32]$), we observed a significant two-way interaction between the perceived expensiveness of the premium option and transaction role in predicting product choice (b-path interaction term: $b = -.90, SE = .22, Z = 4.07, p < .001, CI_{95} = [-1.34, -.47]$).

Discussion

Study 3 provided evidence that because DPF makes premium options appear cheaper for both consumers and sellers, it simultaneously leads to an increased preference for premium products for buyers and a decreased preference for premium products for sellers, further supporting our explanation based on perceived expensiveness. Study 4 focuses on illustrating the heuristic nature of the processes underlying the effects of DPF versus IPF by manipulating participants’ effort invested in the decision making as a moderator of the effect of DPF on consumer choices for upgrades.

Study 4

In Study 4, we examine how high-effort decision making moderates the effect of the DPF. We expect that participants assigned to spend more time and effort on their choice will be more likely to spontaneously compute and focus on the price difference in the IPF conditions than those in a standard effort (control) condition. As a result, high-effort participants will see the premium product as equally (in)expensive across the two framing conditions and thus will be equally likely to choose the premium product across the two conditions. However, we expect that those assigned to spend less time and effort (heuristic decision makers) will, like those in the control condition, be unlikely to compute the price difference in the IPF condition as well. 

Perceived expensiveness. As expected, there was no significant two-way interaction on the perceived expensiveness of the premium bicycle ($b = .20, SE = .38, t < 1$) and no main effect of the buyer–seller role ($b = -.04, SE = .19, t < 1$). There was, however, a main effect of the price framing condition ($b = -.09, SE = .19, t(217) = 3.67, p < .001$) suggesting that, across both buyers and sellers, the incremental price asked (or offered) for the premium bicycle appeared smaller in the DPF condition (M = 2.36, SD = 1.41) than in the IPF condition (M = 3.05, SD = 1.37), consistent with H2.

Results

Product choice. There was a significant two-way interaction between the price framing condition and the buyer–seller role condition in determining the choice of the premium option ($b = 1.69, SE = .57, Z = 2.98, p < .01$; see Figure 2), consistent with the predicted reversal between the buyer and seller roles. As in previous studies, buyers in the DPF condition were significantly more likely to purchase the premium bicycle (P = 70%) than those in the IPF condition (P = 50%; $b = .84, SE = .41, Z = 2.05, p < .05$; Cohen’s $d = .30$), in support of H1. However, sellers in the DPF condition were significantly less likely to sell the premium bicycle (P = 26%) than those in the IPF condition (P = 46%; $b = -.86, SE = .40, Z = 2.15, p < .05$). In addition, there was a significant main effect of the role condition ($b = 1.02, SE = .29, Z = 3.56, p < .001$) such that the premium option was chosen more often for buyers than sellers, but there was no significant main effect of price framing ($b = -.05, SE = .29, Z = .19, p > .85$).
Study 4 also provides additional evidence for our shift in expensiveness account by collecting separate assessments of the perceived expensiveness of each of the two choice options. Furthermore, this study rules out an additional alternative explanation: trust in the retailer (e.g., Cheema 2008).

Method

Participants and design. Five hundred seventy-one online panel participants recruited through Prolific Academic took part in this experiment (52% female, M_age = 37.3 years) in exchange for payment. This experiment used a 2 (framing: inclusive price vs. differential price) × 3 (speed of processing: slow vs. fast vs. control) between-participants design. The dependent variable of interest was the proportion of participants choosing the premium choice option.

Procedure. Participants were instructed to imagine themselves shopping for new wine glasses. They were told that they had settled on a specific model (e.g., classic shape, made in Italy, shatter and dishwasher resistant) and told that it was available in two different set sizes. Before they made their choice, participants received a speed-of-processing manipulation adapted from Inbar, Botti, and Hanko (2011). In the “slow-is-accurate” belief condition, participants were told that recent psychological research has shown that “making better choices often takes more time and effort. Taking your time often leads to making the best choice possible”; the summary concluded with the instruction to “fully consider the available options before making your selection.” Alternately, in the “fast-is-accurate” condition, participants read that “people often make better choices when they decide quickly and effortlessly. A quick response often leads to making the best choice possible”; the summary instructed them to “quickly consider the options and immediately make your selection” (for details, see Web Appendix G). In the control condition, participants did not receive such manipulation. They instead proceeded directly to choosing between the two wine-glass set options.

The standard option was a set of four wine glasses for $29.00. The premium option was a set of eight wine glasses of the same model. Depending on the experimental condition, participants were offered the premium (i.e., larger) set for either “$41.00” (IPF condition) or “$12.00 more” (DPF condition). Participants selected the wine glass set they normally would have chosen and proceeded to the next screen when done with the selection task. As a manipulation check, we measured the time spent on that web page. Decision-making duration values were log-transformed for the inferential tests reported in the “Results” subsection to correct for nonnormality in response times (skewness = 9.29). For ease of interpretation, we present descriptive statistics in standard time units (based on geometric means).

As a mediating variable, participants then rated from memory the expensiveness of the two wine glass set options they reviewed using a five-point scale (1 = “strongly disagree,” and 5 = “strongly agree”): “The set of 4’s [8’s] price is high” (Thomas and Morwitz 2005). These two ratings were used to create a difference score between the perceived expensiveness of the premium and the standard options (M_{premium} - M_{standard}). We also asked participants to assess their trust in the website using a five-item scale (1 = “strongly disagree,” and 7 = “strongly agree”) from Bart et al. (2005; e.g., “This site appears to be more trustworthy than other sites I have visited,” α = .92). Finally, to rule out memory bias, we asked participants to recall the total (inclusive) price of each option. We categorized participants’ responses as a successful recall when both reported prices came within ±$1 of the actual prices.

Manipulation Check

Decision-making duration. There was no significant price framing by processing speed interaction in predicting decision-making duration (F < 1). Importantly, there was a main effect of the processing speed manipulation (F(1,565) = 131.37, p < .001. Contrast analysis revealed that participants overall took longer to reach a decision when given the slow accuracy belief instructions (M = 34.26, SD = 48.22) compared with the control instructions (M = 20.71, SD = 35.61; t(565) = 6.99, p < .001) and the fast accuracy belief instructions (M = 8.87, SD = 7.09; t(565) = 16.17, p < .001). The latter two conditions were also significantly different from each other (t(565) = 9.03, p < .001). These results support the validity of our processing speed manipulation. There was also a main effect of the price framing manipulation (F(1,565) = 19.10, p < .01), such that participants in the DPF condition (M = 22.13, SD = 22.81) took longer than those in the IPF condition (M = 20.38, SD = 46.15) to make a decision, suggesting that the DPF format may be less familiar to participants and requires greater processing.

Results

Product choice. Using logistic regression with two dummy-coded variables (dummy 1 = fast; dummy 2 = slow), we found no significant dummy 1 × price framing interaction (Z < 1) and a significant dummy 2 × price framing interaction (b = -1.00, SE = .42, Z = 2.37, p < .05), suggesting no difference in the price framing effect between the control and fast conditions but a difference between the control and slow condition (for detailed results, see Web Appendix G). Specifically, we replicated the usual pattern where a significantly higher proportion of people selected the premium choice option in the DPF condition compared with the IPF condition in both the control condition (b = .65, SE = .30, Z = 2.15, p < .05; Cohen’s d = .32) and fast processing condition (b = .75, SE = .30, Z = 2.55, p = .01). However, this effect was much smaller and largely disappeared in the slow processing condition (b = .35, SE = .29, Z = 1.19, p > .20). These results support H3.
Perceived expensiveness. Consistent with our previous findings, DPF both decreased the perceived expensiveness of the premium option (i.e., eight glasses; main effect: $F(1,565) = 9.72$, $p < .01$) and increased the perceived expensiveness of the standard option (i.e., four glasses; main effect: $F(1,565) = 8.09$, $p < .01$). When we combined the expensiveness ratings in the form of a difference score and included it as a dependent variable in a regression analysis, we again found no significant dummy $1 \times$ price framing interaction ($t < 1$), but a significant dummy $2 \times$ price framing interaction ($b = .80$, $SE = .32$, $t(565) = 2.51$, $p = .01$). That is, we found no difference in the magnitude of the price framing effect on perceived expensiveness between the control and fast processing conditions, but a significant difference between the control and the slow processing conditions. Importantly, the DPF condition (compared with the IPF condition) increased the choice of the premium option just where expensiveness differences between the premium and the standard options appeared smaller in the DPF compared with the IPF condition: in the control ($b = -.90$, $SE = .23$, $t(565) = 4.00$, $p < .001$) and fast processing ($b = -.69$, $SE = .22$, $t(565) = 3.11$, $p < .01$) conditions. The effects on choice—as well as on expensiveness—almost fully disappeared in the slow processing condition ($b = -.10$, $SE = .22$, $t < 1$), consistent with $H_3$.

Mediation. Next, we conducted an indirect effect analysis with multicategorical predictors (see Hayes and Preacher [2013]) to test whether the difference between the price framing conditions on the perceived expensiveness difference score could explain the selection of the premium over standard choice option at each level of processing speed. Consistent with our prediction, we first observed a significant index of moderated mediation when comparing the effect of the slow processing and control conditions, using the dummy for the fast condition as a covariate ($b = -.56$, $SE = .23$, $CI_{95} = [-1.07, -1.15]$). That is, whereas the difference in perceived expensiveness difference score did not mediate the choice of premium choice option in the slow processing condition ($b = .99$, $SE = .17$, $CI_{95} = [-.21, .47]$), it did mediate the effect in the control condition ($b = .65$, $SE = .16$, $CI_{95} = [.37, 1.04]$). However, when comparing the effect of the fast processing to the control condition, using the dummy for the slow condition as a covariate, we did not observe a significant index of moderated mediation ($b = .16$, $SE = .23$, $CI_{95} = [-.31, .59]$) because the difference in perceived expensiveness mediated the choice of premium choice options in both the fast processing ($b = .56$, $SE = .20$, $CI_{95} = [.19, .99]$) and control ($b = .41$, $SE = .14$, $CI_{95} = [.15, .70]$) conditions.

Additional Analyses

Retailer trust. There was no significant price framing by speed of processing interaction in predicting trust in the retailer ($F < 1$), and, importantly, there was also no significant main effect of price framing ($F < 1$) or processing speed ($F < 1$) in predicting the retailer trust. These results suggest that DPF does not work through a shift in consumers’ level of trust for the retailer.

Recall accuracy. Using logistic regression with two dummy-coded variables (dummy $1 =$ fast; dummy $2 =$ control), we found no significant interactions between the price framing and the processing speed conditions ($Z_s < 1$). However, we found a significant effect of dummy $1$ ($b = -.91$, $SE = .33$, $Z = 2.79$, $p < .01$) consistent with an overall lower recall in the fast processing speed ($P = .62$) compared with the slow processing speed ($P = .80$) condition. The main effect of dummy $2$ comparing the overall recall between the slow processing and control conditions ($P = .73$) was only marginally significant ($b = -.53$, $SE = .34$, $Z = 1.55$, $p > .10$). Notably, there was also no significant main effect of the price framing condition ($Z < 1$), suggesting that DPF does not affect price recall accuracy. When coded differently, the difference between the control and fast processing condition was not significant ($b = -.38$, $SE = .32$, $Z = 1.24$, $p > .20$).

Discussion

Study 4 provides additional support for our pricing focalism model of DPF. Consistent with our model, the relative preference for the premium options between the price framing conditions found in the fast processing and control conditions was mitigated when slow (systematic type) decision-making processes were used. Furthermore, slow and careful processing showed no difference in expensiveness rating across price framing conditions, suggesting that slow decision makers were able to represent, and focus on, the price difference in both price framing conditions. Importantly, this study provides additional evidence for DPF as a focal perceptual account over an inattention account by demonstrating similar levels of recall of the price of each option across both DPF and IPF.

General Discussion

The results of four studies provide converging evidence that representing premium product prices using DPF leads to a higher proportion of consumers choosing premium over standard products, and that this preference for premium products is driven by a focus on the price difference, which leads the premium product to be perceived as relatively less expensive than under IPF. We demonstrate how the basic effect occurs because of the focus on the price-difference amount (Studies 1–4), which induces a reduction in the perceived expensiveness of the premium option (Studies 2–4), even when the total price is also represented (Study 1). Finally, we demonstrate that the process relies on heuristic processing (Study 4) and disappears under systematic processing because systematic thinkers go beyond the available information to compute the differential cost of upgrades.

This article contributes a new branch of inquiry to a substantial literature examining the effect of various price formats on consumer judgments and choices (e.g., Guha et al. 2018;
Kan et al. 2013; Krishna et al. 2002; Srivastava and Chakravarti 2011; Suk, Lee, and Lichtenstein 2012). Specifically, the current research offers several important theoretical contributions. First, although previous work on price partitioning has, for the most part, focused on contexts where the cost of mandatory surcharges is subtracted from the total to increase demand (see Greenleaf et al. [2016]), we examine DPF, a distinct framing technique that highlights the increased price of voluntary upgrades.

Second, we highlight a unique mechanism for this DPF effect. That is, although research on the partitioning of price has reported numerous instances in which the partitioning leads to an anchoring on the base price (e.g., Morwitz, Greenleaf, and Johnson 1998) and is magnified for those using systematic processing (e.g., Burman and Biswas 2007), we find evidence that DPF instead leads to a focus on the partitioned component (i.e., the price difference) and is mitigated by systematic processing. Specifically, we demonstrate how DPF makes premium options appear relatively less expensive by making the price difference between options more salient. Furthermore, we show that perceived expensiveness mediates both the increase in premium choices by buyers and the decrease in premium choices by sellers (Study 3) under DPF.

Third, our results converge to support the pricing focalism account of the DPF effect in shaping expensiveness judgments and provide evidence against several alternative accounts. For instance, we demonstrate that the effect of DPF on consumer preferences does not occur because of poor memory (Study 4; e.g., Morwitz, Greenleaf, and Johnson 1998). Furthermore, when participants were shown both DPF and the total price simultaneously, preferences for the premium product were similar to the isolated DPF condition and higher than the IPF condition (Study 1). Even when the price difference is larger than the base price (e.g., €30.00 vs. €90.00 total compared with €30.00 vs. €60.00 more; see the supplementary Difference Bigger Than Base Study in Web Appendix E) or when computing the price difference between the choice options is relatively effortless (e.g., $150.00 vs. $200.00; see the supplementary Price Computation Difficulty Study in Web Appendix F), making this price difference explicit still increases the choice of the premium option. In addition, because our effect is robust across numerical and nonnumerical premium quality attributes (see Study 2: a fully featured digital good and Study 3: better bicycle parts) it also appears to be different from pricing effects that arise from consumers’ difficulty in processing such information (e.g., Estelami 1999; Herrmann and Wricke 1998; Homburg, Totzek, and Krämer 2014). Overall, our results suggest that DPF does not prevent consumers from knowing the total price of their purchase, but rather that consumers narrowly focus on the presented price when evaluating the relative expensiveness of the premium option. Notably, by showing this effect across a wide range of price types, we also rule out explanations relying on the difficulty of encoding specific prices (e.g., prices that end in .99; Manning and Sprott 2009; Schindler and Kirby 1997).

**Practical Implications and Future Research**

From a practical perspective, this research offers several important and straightforward implications for best pricing practices: when presenting consumers with vertically differentiated choices (e.g., hotel booking: standard room for $259 or deluxe room for $339), presenting the premium option using DPF (e.g., deluxe room for $80 more) will generally increase the likelihood that consumers will select the premium option. The implementation of such a price framing approach is extremely straightforward when using online-shopping interfaces.

This framework may also be used by managers as well as policy makers for promoting more welfare-enhancing consumer purchases. For instance, while our results are limited to premium products offering self-benefits, we could extrapolate that more socially responsible—but also often more expensive—products and services (e.g., conflict-free gems, plane tickets with carbon offsets, fair trade goods) could also gain from communicating their prices using a comparative pricing strategy that would make them appear more inexpensive compared with their inclusive price versions.

These results are nevertheless limited to the context in which we performed our inquiry, which opens the door to multiple opportunities for future research. For instance, the current research focused exclusively on measuring instances when participants were asked to make a selection between available options. Future inquiries should focus on measuring the effect of DPF on consumer demand at an earlier stage, when they are still deciding whether to purchase anything, providing them with a no-choice option (e.g., Dhar 1997) or allowing them to create their own consideration set. Furthermore, although we have focused on choices between two products, the same framing principles could be extended to the context of multi-option choice (i.e., three or more) and to product customization (e.g., Levav et al. 2010; Park, Jun, and MacInnis 2000). Finally, our results may also help explain the psychological impacts of drip pricing (e.g., Robbert and Roth 2014), although there are some structural differences between the two price framing approaches (e.g., the temporal component).

In addition, although we have focused on vertically differentiated choice options (i.e., the premium option is demonstrably and objectively better) with a higher price for the premium option and positive price elasticity, it would be easy to imagine contexts in which this assumption is violated, such that too much of a good thing would become undesirable. For instance, although most consumers would welcome a TV with a larger screen, there is a point at which a larger TV would create negative utility (i.e., become cumbersome), especially for people with smaller apartments. In such cases, because there is no benefit associated with the premium option, the benefits associated with DPF become unclear. As such, future research would do well to shed more light on the factors underlying such assumptions about the vertical differentiation between choice options for consumers.
In addition, while all our predictions are based in an upselling context where \( X_2 \) is a referent price against which we substitute \( \Delta X \), future research should also measure the effect of DPF in a downselling context (i.e., where \( X_1 \) becomes the referent price). That is, what happens when the differential price refers to the standard product, available for “$20 less” than the premium product? In such cases, conflicting predictions can be made about the influence of DPF on consumer choice. First, it is possible that DPF—compared with IPF—will make salient the opportunity for savings offered by the standard version of the product, leading to lower sales of the premium version. That is, because the price difference is attached to the more basic option, it is possible that DPF will make the cheaper option appear even less expensive due to pricing focalism decreasing expensiveness judgments for that option (i.e., the effect of substituting \( \Delta X \) for \( X_1 \) in price evaluation and decision making), ultimately decreasing choice share for the premium option. Alternatively, it is possible that when the standard price is represented as the (negative) difference from the total price of the premium option, DPF will increase the choice of the premium option because it will make the savings difference appear relatively smaller compared with when the total price of each option is displayed. This important context of application remains to be explored.

Given our price focalism explanation, future research should also assess the effectiveness of DPF across contexts where participants have a natural tendency to focus on unit cost, rather than total cost or price difference. For example, it is possible that the DPF could be weakened among frequently purchased commoditized goods (e.g., laundry detergent), where the decision is heavily influenced by an evaluation of the cost of the marginal unit (e.g., selecting between a small and a large format based on the cost per load). That is, in a context where consumers are already “doing the math,” and the larger item already looks less expensive in terms of per unit cost, the benefits of DPF in shaping consumer perceptions of expensiveness are uncertain.

Importantly, we did not observe any boundary conditions in which the DPF strategy caused a boomerang effect on consumer choice, leading to a reduced preference for upgrades. While we did not find any effect of DPF on participants’ level of trust in the retailer (Study 4), it would be important for practitioners that future research investigates if and when such an effect could arise. It could be that for some consumers (e.g., those skeptical about persuasion intents; Friestad and Wright 1994), in certain contexts (e.g., when selecting within a clear budget constraint), any strategy aimed at making the total price of the purchase less salient could reduce their intentions to purchase. Similarly, multiple findings in both marketing and decision-making literature would suggest that other price variables, such as the ratio between the price difference and the total premium option price, could affect consumer receptivity to DPF. For example, Kim et al. (2011) study trade-in transactions and find that consumers are more receptive when the buy-back and new-product price are both high, even when the out-of-pocket amount of money or price difference are kept constant. Similarly, Grewal and Marmorstein (1994) demonstrate that consumers’ willingness to spend time shopping to save a fixed amount of money was driven by the relative amount saved (the ratio of the amount saved to the product price; see also Tversky and Kahneman [1981]). It would also be productive for future research to test whether the presentation order between price and nonprice attributes (see Bagchi and Davis [2012]) could affect consumer receptivity to DPF.

While this research brings attention to a novel phenomenon in which objectively equivalent prices are perceived differently by consumers, future research would also benefit from further improving our understanding of expensiveness judgments. For instance, Studies 2 and 4 revealed a main effect of the price framing condition on perceived expensiveness for both the standard and premium option, not only for the premium option. This result is consistent with a context-dependent explanation about how consumers make expensiveness judgments (e.g., Adaval and Monroe 2002; Allard and Griffin 2017; Hsee 1998; Janiszewski and Lichtenstein 1999). In other words, our price framing effect appears to operate through complementary mechanisms. That is—in relative terms—the standard option appears more expensive and the premium option appears cheaper when DPF is used. Although the current study did not aim to disentangle the two effects, further research should try to shed light on how each effect operates in isolation to shape consumer judgments.

In addition, while we found price focalism to be the most parsimonious explanation for the basic DPF effect, there is still substantial work ahead to better understand the ramifications of this theory. We report three studies in which differential framing of nonprice dimensions had no effect (Study 2 and Web Appendix C: quality differences; Web Appendix D: time differences). There are at least two possible explanations for this result. First, consumers may be more sensitive to differential framing of costs than of benefits. If this is true, differential framing should be effective with other forms of payment such as frequent flyer miles or paying with time (such as waiting “15 minutes more” for a better restaurant), but not when considering time as a quality attribute. Second, consumers may also be more fluent at processing dollars and DPF than other attributes and other differential frames. Thus, consumers may process dollars and DPF similarly to the “fast” condition in Study 4 but process other attributes and other differential frames (such as the time and DTF frames in Web Appendix D) similarly to the “slow” condition in Study 4 and therefore show no effect of framing. Given the multiply determined nature of most behavioral effects, these possibilities remain to be tested in future research. Overall, although the present article points to multiple directions for future research, it provides an important first step by demonstrating that DPF and pricing focalism can influence consumers’ expensiveness perception during decision making and thus increase the choice share of premium options.
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ORCID iD

Thomas Allard https://orcid.org/0000-0001-9507-0121

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