

# This Number Just Feels Right: The Impact of Roundedness of Price Numbers on Product Evaluations

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This research proposes that because rounded numbers are more fluently processed, rounded prices (e.g., \$200.00) encourage reliance on feelings. In contrast, because nonrounded numbers are disfluently processed, nonrounded prices (e.g., \$198.76) encourage reliance on cognition. Thus, rounded (nonrounded) prices lead to a subjective experience of “feeling right” when the purchase decision is driven by feelings (cognition). Further, this sense of feeling right resulting from the fit between the roundedness of the price number and the nature of decision context can make positive reactions toward the target product more positive and negative reactions more negative, a phenomenon referred to as the rounded price effect in the current research. Results from five studies provide converging evidence for the rounded price effect. Findings from the current research further show that merely priming participants with rounded (nonrounded) numbers in an unrelated context could also lead to the rounded price effect. Finally, this research provides process support by showing that the rounded price effect is mediated by a sense of feeling right. This is the first research examining the differential impact of roundedness of prices on product purchase decisions, based on whether the purchase decision is driven by feelings versus cognition.

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Consider two consumers who are on the market to buy a camera for an upcoming family vacation. While one of them comes across a camera priced at \$200.00, the other comes across the same camera at another store but priced at \$198.76. Given that the camera has all the features required by these two consumers, how would the mere roundedness of the price number (200.00 vs. 198.76) affect their preference for the camera? Further, could the price number (200.00 vs. 198.76) affect the consumers’ preference for the

camera differently if they were buying it for a class project (a purchase decision that is primarily driven by cognition) instead of a family vacation (a purchase decision that is primarily driven by feelings)? In the current research, we explore these questions. Specifically, we examine the impact of the roundedness of the price number on consumers’ decision making, depending on whether the decision context is driven by feelings versus cognition.

Drawing upon research on psychology of numbers (Schindler and Yalch 2006; Thomas, Simon, and Kadiyali 2010), we propose that rounded prices (e.g., \$200.00) should intensify the evaluative judgments, when the purchase decision is driven by feelings. In contrast, nonrounded prices (e.g., \$198.76) should intensify evaluative judgments, when the purchase decision is driven by cognition. We term these effects the “rounded price effect.” Across a series of five studies, using varied dependent variables, we examine and find consistent support for the rounded price effect.

Our findings make important theoretical and managerial contributions. To the best of our knowledge, this is the first study that examines the differential impact of roundedness of prices on product purchase decisions, given the purchase decision is driven by feelings versus cognition. Given the ubiquity of price cues in the marketplace (Lichtenstein,

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Ridgway, and Netemeyer 1993) and its importance in informing consumer preferences (Monroe 1979), we believe this is an important issue to examine. Our findings show that when relying on feelings (cognition) while forming evaluative judgments, rounded (nonrounded) prices intensify the product related evaluations, such that positive reactions toward the product become more positive, while negative reactions become more negative. Our findings further show that the proposed rounded price effect is robust across different evaluative judgment measures including purchase intentions, anticipated satisfaction, and perceived product performance. In identifying the rounded price effect, our research not only contributes to the literature on affective decision making, but also adds to a growing body of literature on psychological effects of pricing. Second, our findings show that the rounded price effect is driven by an increased sense of “feeling right” about one’s evaluation of the target product, which is induced as a result of the fit between the roundedness of the price number and the nature of the decision context (driven by feelings or cognition). Finally, our findings have important managerial implications. Pricing is considered one of the most important profit levers for any company (Dolan and Simon 1996). The rounded price effect documented in the current research shows that subtle changes in prices could lead to a significant impact on consumers’ purchase decisions.

We organize the rest of this article as follows: in the next section, we review key findings in the literature and elucidate how and why the roundedness of a price number affects consumers’ evaluation of the product. Subsequently, we present five studies that examine the rounded price effect. Finally, we conclude our article with a discussion of the managerial implications of our findings and possible future research directions.

## CONCEPTUAL BACKGROUND

In this section, we draw upon research on the psychology of numbers and processing fluency (e.g., Alter et al. 2007; Rosch 1975; Schindler and Yalch 2006) to derive our rounded price hypothesis. We then discuss the process underlying the rounded price effect.

### Roundedness of Price and Reliance on Feelings versus Cognition

Prior research suggests that rounded numbers (e.g., 200.00) as compared to nonrounded numbers (e.g., 198.76) are more frequently used in our everyday life (Rosch 1975). Jansen and Pollmann (1996), for example, found that in our everyday communication, approximate expressions using rounded numbers (e.g., this book is about \$10–\$12) are more likely to be used than approximate expressions using nonrounded numbers (e.g., this book is about \$10.35–\$12.35). In a similar vein, Rosch (1975) suggests that rounded numbers are more prototypical of numbers and are often used as reference points for numeric estimations (see also Kaufman et al. 1949; Ross and Engen 1959; for a review, see

Schindler and Yalch 2006). In contrast to rounded numbers, research in this domain further suggests that nonrounded numbers are perceived to be more factual and appear to be cognitively driven (Schindler and Yalch 2006). Further, not only are nonrounded numbers perceived as generated more thoughtfully, they are also found to be less prototypical of numbers. Dehaene and Mehler (1992), for example, analyzed word frequency tables of different languages including English, Dutch, Japanese, French and Spanish, and found that nonrounded as compared to rounded numbers are less prevalent in our everyday communication.

Building on the aforementioned findings, Thomas and colleagues (2010) suggest that nonrounded numbers are more difficult to process compared with rounded numbers. Providing support for this argument, Kettle and Häubl (2010) show that rounded numbers, due to the greater frequency with which they appear in both written and spoken languages, are more fluently processed than nonrounded numbers. Interestingly, emerging evidence on fluency suggests that when the target is fluently processed, it increases the likelihood of relying on feeling-based versus cognitive inputs; in contrast, when a target is difficult to process, it increases the likelihood of relying on cognitive as opposed to feeling-based inputs while forming judgments (Alter et al. 2007). Alter and colleagues (2007) provide preliminary evidence in support of this proposition. Specifically, findings from their study show that when information contained in a product review was more fluently processed (e.g., when it was presented in an easy-to-read font), participants were more likely to rely on the affective dimensions presented in the review (e.g., the appearance of the reviewer) to evaluate the target product. Conversely, when the information in the review was difficult to process (e.g., when it was presented in a more difficult-to-read font), participants were more likely to rely on the cognitive dimensions (e.g., the importance of the product features described) to evaluate the target product. Thus, it seems like that while fluency acts as a signal suggesting that a feeling-based processing would be sufficient, disfluency acts as a signal suggesting that a cognition-based processing is required.

To summarize the aforementioned discussion, prior research argues that rounded numbers occur with greater frequency and thus are more fluently processed compared to nonrounded numbers, which are disfluently processed (Kettle and Häubl 2010; Schindler and Yalch 2006; Thomas et al. 2010). Further, emerging research on fluency and dual processing theories suggest that targets that are fluently processed could lead one to rely more on feeling-based inputs while making evaluative judgments, whereas targets that are disfluently processed could lead one to rely more on cognitive inputs while evaluating the target (Alter et al. 2007). Drawing upon a synthesis of these findings, we propose that when forming evaluative judgments, rounded numbers are likely to facilitate reliance on feelings, while nonrounded numbers are likely to facilitate reliance on cognition. In the current context, this would suggest that since rounded prices are fluently processed, when a product is priced at a rounded

number, participants are likely to rely on feelings while evaluating the product. In contrast, since nonrounded prices are disfluently processed, when a product is priced at a nonrounded number, participants are likely to rely on cognition while evaluating the product. It should be clarified that this fluency relates to the price number specifically and not to other product-related information.

### Roundedness of Price—Decision Context Fit and Product Evaluations

Emerging research suggests that when there is a fit between two factors, it induces a subjective experience of engagement. Increased engagement as a result of such a fit has been suggested to be “characterized by a sense of feeling right” (Lee, Keller, and Sternthal 2010, 737; see also Cesario and Higgins 2008; Higgins 2006). Further, this experience of “feeling right” has been shown to contribute to the intensity, but not to the liking of the experience (Higgins 2006; Lee et al. 2010). In other words, this “feeling right” experience induced as a result of the fit between two factors is not about *how right consumers feel about the target product itself*, which could positively affect evaluative judgments. Rather, this “feeling right” experience affects *how right consumers feel about their evaluation of the target*, which thereby intensifies the product-related evaluations in the original direction. Stated differently, when there is a fit between two factors, the induced sense of “feeling right” can make positive reactions toward a target more positive and negative reactions toward a target more negative.

Drawing upon aforementioned research findings, we further argue that since rounded prices facilitate reliance on feelings, rounded prices should lead to a subjective experience of feeling right when the purchase decision is driven by feelings. In contrast, since nonrounded prices encourage reliance on cognition, nonrounded prices should lead to a subjective experience of feeling right when the purchase decision is driven by cognition. This sense of feeling right induced by the fit between the roundedness of price and the nature of decision should intensify evaluative judgments related to a target product. To elaborate, when evaluating a product generating positive reactions, rounded (nonrounded) prices should lead to more favorable evaluative judgments, when the purchase decision is driven by feelings (cognition). We term this effect the rounded price effect. As discussed before, however, prior research suggests that the experience of fit can intensify one’s reactions toward the target product. Thus, the proposed rounded price effect would suggest that when the product is associated with negative reactions, the sense of feeling right induced by the fit between the roundedness of the price and the nature of the decision could lead to more unfavorable evaluations of the target product.

In sum, the rounded price hypothesis proposed in the current research suggests that rounded prices facilitate reliance on feelings, while nonrounded prices facilitate reliance on cognition. Thus, when the decision context is

driven by feelings (cognition), rounded (nonrounded) prices should intensify the evaluations in the direction of the initial reactions toward the target product, such that positive reactions should be more positive and negative reactions should be more negative. Finally, the rounded price effect should be mediated by the subjective experience of feeling right induced by the fit between two factors: roundedness of the price and the nature of the decision.

## OVERVIEW OF STUDIES

Three objectives guided the studies reported in the current article. First, we test that people’s evaluations of a product would be more favorable when the roundedness of the price fits with the nature of the decision. Specifically, rounded (nonrounded) price will lead to more favorable evaluations when the decision context is driven by feelings (cognition). Employing different means to manipulate the nature of the decision, we tested this prediction in studies 1–3.

A second objective of this research was to investigate whether rounded versus nonrounded numbers indeed lead to reliance on feelings versus cognition, thus driving the rounded price effect proposed above. Two approaches were followed to test this premise in study 4. First, we examine the impact of being exposed to rounded versus nonrounded price numbers in one task on subsequent evaluations of an unrelated product. We predict that if rounded versus nonrounded prices lead to reliance on feelings versus cognition, then merely priming participants with rounded versus nonrounded numbers should lead to the aforementioned rounded price effect. Second, in this study, we also examine the impact of exposure to rounded versus nonrounded numbers on consumers’ evaluations of a subsequent product, when it elicits negative versus positive reactions. Our prediction is that when the product message generates negative feeling-based (cognitive) reactions, rounded (nonrounded) numbers should lead to more unfavorable evaluations.

A final objective of this research was to investigate the process underlying the fit between the roundedness of the price and the nature of the decision context. For this purpose, we examine the mediating role of “feeling right” in the rounded price effect (study 5). Specifically, we predict that the fit between the roundedness of the price and the nature of decision context should lead to enhanced subjective experience of “feeling right,” which in turn should mediate the rounded price effect.

For all the studies, participants were recruited from Amazon Mechanical Turk (MTurk). Given the prices used in the studies were in US dollars, we opened the study to only US residents. Prior to analyses, we removed participants who had taken the study multiple times. It should also be noted that in the current research, nonrounded prices always included nonzero digits after the decimal point (e.g., \$20.37). In order to keep the number of digits the same, rounded price always included an equal number of zeros after the decimal point (e.g., \$20.00).

## STUDY 1: PRELIMINARY EVIDENCE FOR ROUNDED PRICE HYPOTHESIS

A primary goal of this study was to examine our rounded price hypothesis, which suggests that a rounded (nonrounded) price should lead to more favorable evaluations for a positively valenced product, when the purchase decision is driven by feelings (cognition). Prior research suggests that the degree to which a consumer relies on feelings versus cognition depends on the consumption goal associated with the product or the experience. Consumption goal underlying the purchase of a product could be primarily hedonic—that is, consumers could purchase a product for intrinsic pleasure derived from its consumption. Consumption goal underlying the purchase of a product could also be primarily utilitarian—that is, consumers could purchase a product for more functional or instrumental reasons (Dhar and Wertenbroch 2000). Past research shows that when the consumption goal is hedonic, the decision process is likely to be driven by feelings. In contrast, when the consumption goal is more utilitarian in nature, the decision process is more likely to be driven by cognition (Botti and McGill 2011; Pham 1998). Drawing upon this research, we hypothesize that when the consumption goal underlying product purchase is hedonic, a rounded price should lead to more favorable evaluations. In contrast, when the consumption goal underlying product purchase is utilitarian, a nonrounded price should lead to more favorable evaluations.

In order to examine our hypothesis, participants were asked to indicate their purchase intention for either a bottle of champagne for a friend's birthday (product associated with a hedonic goal) or a calculator (product associated with a utilitarian goal). These products were chosen based on a pretest, which asked 21 participants to evaluate the two purchase decision contexts sequentially, with the order of the scenarios counterbalanced. Participants rated the decision contexts on two 9-point items measuring whether the purchase decisions are driven by feelings versus cognition (1 = primarily driven by thoughts, 9 = primarily driven by feelings; and 1 = primarily utilitarian, 9 = primarily hedonic;  $\alpha = .90$ ). Participants rated buying a bottle of champagne for a friend's birthday to be primarily driven by feelings ( $M = 6.95$ ), which was rated significantly above the midpoint ( $p < .001$ ). On the other hand, participants rated buying a calculator to be primarily driven by cognition ( $M = 2.57$ ), which was significantly below the midpoint ( $p < .001$ ).

We predicted that participants should show a stronger intention to purchase the bottle of champagne when it is priced at a rounded price as compared to when it is priced at a nonrounded price. In contrast, participants should show a stronger intention to purchase the calculator when it is priced at a nonrounded price as compared to when it is priced at a rounded price.

### Design and Procedure

One hundred seventy-nine US participants (106 females, mean age = 34 years) were recruited from Amazon MTurk

to participate in an online study in exchange for compensation. The study consisted of a 3 (price: rounded vs. high nonrounded vs. low nonrounded)  $\times$  2 (product type: hedonic vs. utilitarian) between-subjects design. Participants were randomly assigned to one of the six conditions.

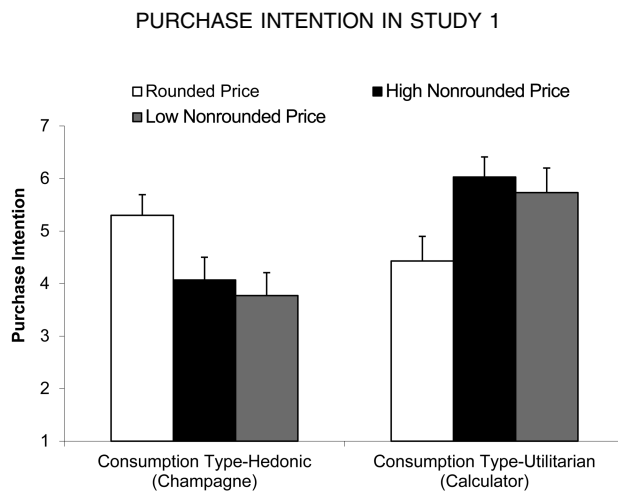
In the product type hedonic conditions, participants were asked to imagine that they were buying a gift for a friend's birthday and had come across the displayed bottle of champagne in an online store with the description "A truly luxurious gift with this personalized Brut Cuvée Prestige champagne for wine lovers." In the rounded price condition, the bottle of champagne was priced at \$40.00, whereas in the two nonrounded price conditions, the bottle of champagne was priced at either \$39.72 (low nonrounded) or \$40.28 (high nonrounded). Participants were asked to indicate their likelihood of purchasing the bottle of champagne on a 9-point scale (1 = very unlikely, 9 = very likely).

In contrast, in the product type utilitarian conditions, participants were asked to indicate their purchase intention for a calculator. The description of the calculator provided a comprehensive overview of functionality and powerful features of the calculator. In the rounded price condition, the calculator was priced at \$40.00, whereas in the two nonrounded price conditions, the calculator was priced at \$39.72 (low nonrounded) or \$40.28 (high nonrounded). Participants were asked to indicate their likelihood of purchasing the calculator on a 9-point scale (1 = very unlikely, 9 = very likely). At the end of the study, all participants were asked to indicate the purpose of the study in their own words. None of the participants could accurately guess the hypotheses of the study in this or any of the subsequent studies.

### Results

An ANOVA revealed a nonsignificant main effect of price ( $F < 1$ ,  $p = .78$ ). Not germane to our hypothesis, we found a significant main effect of the product type ( $F(1, 173) = 8.41$ ,  $p = .004$ ). Specifically, the average purchase intention for the calculator was higher ( $M = 5.42$ ) than that for the bottle of champagne ( $M = 4.37$ ). More importantly, we found a significant interaction between the price and the product type factors ( $F(2, 173) = 7.14$ ,  $p = .001$ ). Follow-up planned contrasts revealed that participants indicated higher purchase intention for the bottle of champagne (product type hedonic) in the rounded price condition ( $M_{\text{rounded}} = 5.30$ ) than in either of the two nonrounded price conditions ( $M_{\text{high nonrounded}} = 4.07$ ;  $t(173) = 2.03$ ,  $p = .043$ ;  $M_{\text{low nonrounded}} = 3.77$ ;  $t(173) = 2.55$ ,  $p = .012$ ). There was no difference between the two nonrounded price conditions for the bottle of champagne ( $F < 1$ ,  $p = .63$ ). Conversely, follow-up tests revealed that participants reported lower purchase intention for the calculator (product type utilitarian) in the rounded price condition ( $M_{\text{rounded}} = 4.43$ ) than in either of the two nonrounded price conditions ( $M_{\text{high nonrounded}} = 6.03$ ;  $t(173) = 2.59$ ,  $p = .01$ ;  $M_{\text{low nonrounded}} = 5.73$ ;  $t(173) = 2.11$ ,  $p = .036$ ). There was no difference between the two nonrounded price conditions for the calculator ( $F < 1$ ,  $p = .62$ ; see fig. 1).

FIGURE 1



## Discussion

Our results from study 1 provide initial support for our rounded price effect. To elaborate, our results show that rounded prices as compared to nonrounded prices lead to more favorable evaluations of the target product when the purchase decision is driven by feelings. In contrast, nonrounded prices as compared to rounded prices lead to more favorable evaluations of the target product when the purchase decision is driven by cognition. Specifically, when participants were asked to indicate their purchase intentions for the bottle of champagne, they indicated a higher purchase intention when it was priced at a rounded price as compared to when it was priced at either of the two nonrounded prices. Conversely, participants reported a higher purchase intention for the calculator when it was priced at a nonrounded price as compared to when it was priced at a rounded price. We found no differences in the purchase intention for the champagne bottle or the calculator between the two nonrounded price conditions. Specifically, regardless of whether the nonrounded price was slightly higher or slightly lower than the rounded price, the rounded price effect was observed. Therefore, for more economical use of participants, in the subsequent studies we use only one of the two nonrounded price conditions.

One limitation of this study is that we used two different products, which included different descriptions. Thus, the rounded price effect could have been driven by factors other than the fit between the roundedness of the price and the purchase decision basis (whether the decision is based on feelings or cognition). In the next study, we address this limitation.

## STUDY 2: PRICE ROUNDEDNESS AND CONSUMPTION GOAL

This study has several objectives. First, in this study, we sought to provide stronger support for our rounded price

effect by keeping the product constant and only manipulating the consumption goal. Specifically, participants were made to believe that they were buying a camera for either a family vacation (hedonic consumption goal) or a class project (utilitarian consumption goal). These two purchase decision contexts were selected on the basis of a pretest, which asked 34 participants to evaluate the two decision contexts sequentially, with the order of the scenarios counterbalanced. Participants rated each decision context on two 9-point items measuring whether it was primarily driven by feelings or cognition (1 = primarily driven by thoughts, 9 = primarily driven by feelings; and 1 = primarily utilitarian, 9 = primarily hedonic). An ANOVA conducted on the composite measure combining the two items ( $\alpha = .80$ ) indicates that participants rated buying the camera for a family vacation to be primarily driven by feelings ( $M = 5.79$ ), while buying the camera for a class project was rated to be primarily driven by cognition ( $M = 3.38$ ;  $F(1, 33) = 41.11$ ,  $p < .001$ ). Further, one-sample  $t$ -tests indicate that buying a camera for a family vacation was significantly above the midpoint ( $p = .01$ ). On the other hand, buying a camera for a class project was significantly below the midpoint ( $p < .001$ ). Pretest participants also rated the importance of each purchase decision on a 9-point scale (1 = not at all important, 9 = very important). The two decision contexts did not differ in terms of perceived importance of the purchase decision ( $F = 1.07$ ,  $p > .30$ ).

A second objective of this study was to demonstrate the robustness of the rounded price effect by examining the applicability of our conceptual framework to anticipated satisfaction and perceived product performance of the product. We predicted that when buying a camera for a family vacation, both the anticipated satisfaction and the perceived product performance (as measured by the perceived quality of the pictures) should be higher when the camera is priced at a rounded number. On the other hand, when the camera is purportedly bought for a class project, both the anticipated satisfaction and the perceived quality of pictures should be higher when the camera is priced at a nonrounded number.

## Design and Procedure

Two hundred twenty-one US residents (90 females, mean age = 30 years) recruited from Amazon MTurk completed the study. The study followed a 2 (price: rounded vs. nonrounded)  $\times$  2 (consumption goal: hedonic vs. utilitarian) between-subjects design. We manipulated the consumption goal by asking participants to imagine that they were buying a camera for either a family vacation (consumption goal-hedonic) or a class project (consumption goal-utilitarian). Participants saw a picture of a 5x optical zoom, 16 mega pixels, Canon camera, which was priced at either \$100.00 (rounded price) or \$101.53 (nonrounded price). Participants were also shown two sample pictures purportedly taken from the camera. The pictures were shown ostensibly to help them with the camera evaluation. Participants first evaluated the quality of the sample pictures on a 9-point scale (1 = very bad, 9 = very good) and were subsequently asked to in-

dicating their anticipated satisfaction with the camera purchase on a 9-point scale (1 = not at all satisfied, 9 = very satisfied). Participants were then asked to indicate the extent to which viewing the sample pictures helped them with the camera evaluation (1 = not at all helpful, 9 = very helpful). All participants found the pictures equally useful for evaluating the camera, as neither the main effects of the price and the consumption goal factors (both  $F < 1$ ), nor the interaction between these two factors ( $F(1, 217) = 1.70, p = .19$ ) were significant. At the end of the study, participants indicated their demographics and were thanked for their participation.

## Results

**Perceived Quality of the Pictures.** We first examined the perceived quality of the sample pictures purportedly taken from the camera. The ratings for the two pictures were averaged ( $\alpha = .76$ ) to form a composite perceived quality score. An ANOVA conducted on the perceived quality of the pictures revealed a significant interaction between the price and the consumption goal factors ( $F(1, 217) = 8.64, p = .004$ ). As shown in figure 2A, planned contrasts revealed that when buying a camera for a family vacation (consumption goal-hedonic), picture quality was perceived to be higher in the rounded price condition ( $M = 5.27$ ) than in the nonrounded price condition ( $M = 4.78; t(217) = 1.68, p = .047$ , one-tailed test). In contrast, when buying a camera for a class project (consumption goal-utilitarian), picture quality was perceived to be higher in the nonrounded price condition ( $M = 5.75$ ) than in the rounded price condition ( $M = 5.03; t(217) = 2.47, p = .007$ , one-tailed test).

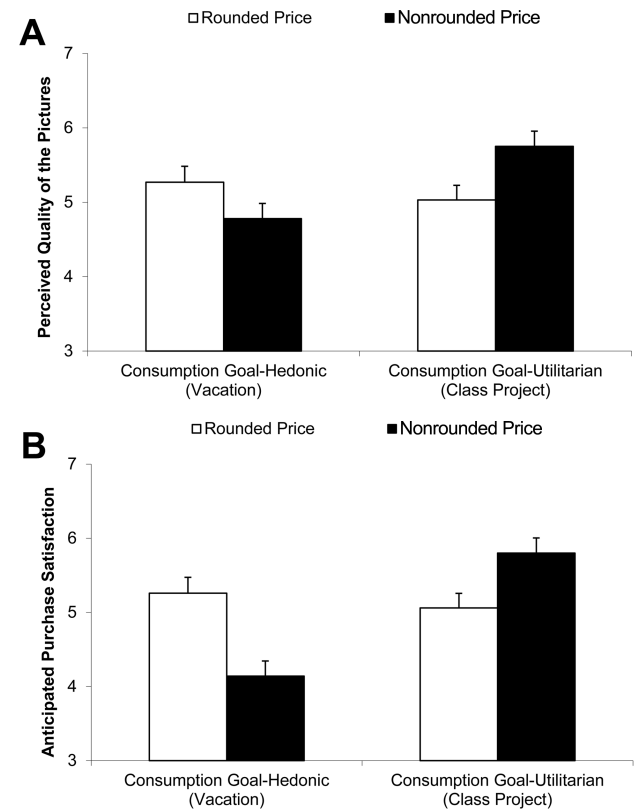
**Anticipated Purchase Satisfaction.** We also examined participants' anticipated satisfaction with the camera purchase. Consistent with our predictions and results on the perceived quality of the pictures, a significant price by consumption goal interaction emerged ( $F(1, 217) = 11.19, p = .001$ ). As shown in figure 2B, planned contrasts revealed that when buying a camera for a family vacation (consumption goal-hedonic), participants indicated greater anticipated satisfaction with the camera when it was priced at a rounded price ( $M = 5.26$ ) versus a nonrounded price ( $M = 4.14; t(217) = 2.84, p = .005$ ). In contrast, when buying a camera for a class project (consumption goal-utilitarian), participants reported greater anticipated satisfaction when the camera was priced at a nonrounded price ( $M = 5.80$ ) versus a rounded price ( $M = 5.06; t(217) = 1.89, p = .060$ ).

## Discussion

Study 2 provides further support for the rounded price effect. Specifically, findings from the current study show that rounded (vs. nonrounded) price enhanced both the anticipated satisfaction and the perceived performance of the camera when the consumption goal associated with the product was hedonic (i.e., when the camera was purportedly

FIGURE 2

PERCEIVED QUALITY OF THE PICTURES AND ANTICIPATED PURCHASE SATISFACTION IN STUDY 2



bought for a vacation). On the other hand, nonrounded (vs. rounded) price enhanced both the anticipated satisfaction and the perceived performance of the camera when the consumption goal associated with the product was utilitarian (i.e., when the camera was purportedly bought for a class project).

Past research suggests that, since nonrounded prices are difficult to process, they are likely to be perceived to be lower (Thomas et al. 2010). One could therefore argue that nonrounded versus rounded prices should lead to enhanced purchase intention when the focus is price, as might be the case when the consumption goal underlying a product is utilitarian. In contrast, when the purchase decision is driven by a hedonic consumption goal, consumers are likely to focus more on quality. Further, since lower prices are likely to lead to low quality inferences (Kardes, Posavac, and Cronley 2004), nonrounded prices could lead to lower purchase intention when the consumption goal is hedonic. However, our findings from the current study show that even in the context of quality and satisfaction judgments, nonrounded prices lead to more favorable evaluations than rounded prices, when the purchase decision is driven by

cognition. These findings reduce the viability of an alternative account related to nonrounded prices being perceived as lower.

### STUDY 3: PRICE ROUNDEDNESS AND PROCESSING RESOURCES

A primary objective of this study was to provide stronger support for the rounded price effect by manipulating the availability of processing resources. Prior research on dual-process models suggests that the degree to which one relies on feelings versus cognition is affected by the availability of processing resources. Specifically, when the processing resources are constrained, purchase decisions are primarily based on feeling-based inputs, whereas when the processing resources are available, purchase decisions are primarily based on cognitive inputs (Chattopadhyay and Nedungadi 1992; Lee, Amir, and Ariely 2009; Shiv and Fedorikhin 1999). Drawing upon these findings, we propose that when the processing resources are constrained, purchase decisions are likely to be driven by feelings and therefore rounded versus nonrounded prices should lead to more favorable product evaluations. On the other hand, when the processing resources are available, purchase decisions are likely to be driven by cognition and thus nonrounded versus rounded prices should lead to more favorable product evaluations.

To test the aforementioned propositions, we manipulated the availability of processing resources using a well-established manipulation of cognitive load (Shiv and Fedorikhin 1999). Subsequent to the processing resources manipulation, participants reported their purchase intention for a pair of digital camera binoculars. The pair of digital camera binoculars was described such that it consisted of both the affective and the cognitive dimensions. It was described as a pair of binoculars and digital camera combo perfect for viewing all the action up-close and capturing it digitally as well. We also provided some details on the technical features (such as the resolution, magnification, and aperture). In a pretest, 31 participants were presented with the target product description and asked to rate the target product on whether it had both affective and cognitive dimensions (1 = not at all, 9 = very much so). Participants rated the product as consisting of both affective and cognitive dimensions ( $M = 6.00$ ), which was significantly beyond the midpoint ( $p < .001$ ).

#### Design and Procedure

The study followed a 2 (price: rounded vs. nonrounded)  $\times$  2 (processing resources: constrained vs. unconstrained) between-subjects design. In total, 177 participants (105 females, mean age = 35 years) were randomly assigned to one of the four conditions. Prior to the product evaluation task, availability of processing resources was manipulated by asking participants to memorize either a string of seven English letters (processing resources-constrained) or one English letter (processing resources-unconstrained; adapted from Shiv and Fedorikhin 1999; see also Lee et al. 2009).

All participants were informed that they would be asked to recall the letter(s) shown at the end of the study. Subsequent to the manipulation of the processing resources, participants engaged in the product evaluation task. Specifically, participants were shown a pair of digital camera binoculars, which was either priced at a rounded price (\$80.00) or a nonrounded price (\$81.43). They were asked to indicate their likelihood of purchasing this pair of digital camera binoculars on a 9-point scale (1 = very unlikely, 9 = very likely). Participants finally recalled the letter(s), indicated their demographics, and were then thanked for their participation.

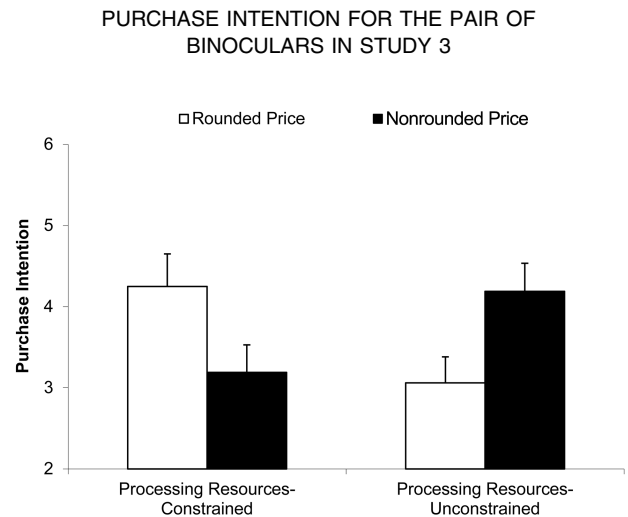
#### Results

Our results show a significant interaction between the price and the processing resources factors ( $F(1, 173) = 9.64$ ,  $p = .002$ ). Specifically, as shown in figure 3, in the processing resources-constrained condition (i.e., when participants were asked to memorize a string of seven letters), participants reported higher purchase intention for the pair of digital camera binoculars when it was priced at a rounded price (vs. nonrounded price;  $M = 4.25$  vs.  $M = 3.19$ ;  $t(173) = 2.11$ ,  $p = .036$ ). In contrast, in the processing resources-unconstrained condition (i.e., when participants were asked to memorize only one letter), participants indicated higher purchase intention for the pair of digital camera binoculars when it was priced at a nonrounded price (vs. rounded price;  $M = 4.19$  vs.  $M = 3.06$ ;  $t(173) = 2.28$ ,  $p = .024$ ).

#### Discussion

Our findings from study 3 provide more direct support for our underlying conceptualization related to the fit between the roundedness of price and the nature of the purchase decision context (whether decision is driven by feelings versus cognition). Specifically, our findings show that

FIGURE 3



when the purchase decision was driven by feelings (i.e., when the processing resources were constrained), rounded prices led to more favorable purchase intentions for the pair of digital camera binoculars. In contrast, when the purchase decision was driven by cognition (i.e., when processing resources were not constrained), nonrounded prices led to more favorable purchase intentions for the pair of digital camera binoculars.

Our conceptualization suggests that rounded prices lead to reliance on feelings, while nonrounded prices lead to reliance on cognition. Thus, when a purchase decision is driven by feelings (cognition), rounded (nonrounded) price should intensify the product evaluations. Findings from the first three studies show that the fit between the roundedness of the price and nature of the decision context indeed favorably affects evaluations of the target product. However, one alternative account is that rounded (nonrounded) prices lead to more general positive affective (cognitive) reactions, thereby positively affecting product evaluations when the purchase decision is driven by feelings (cognition). In the next two studies, we attempt to provide stronger support for our conceptualization related to reliance on feelings versus cognition, and rule out the alternative account related to general positive reactions.

#### STUDY 4: PRIMING ROUNDED VERSUS NONROUNDED NUMBERS

The current study seeks to provide stronger support for our conceptualization related to reliance on feelings versus cognition in two important ways. First, we argue that if rounded versus nonrounded prices indeed encourage reliance on feeling-based versus cognitive inputs, then merely priming an individual with rounded versus nonrounded numbers in an unrelated task should also lead to the proposed rounded price effect. To elaborate, priming with rounded (nonrounded) numbers should positively affect evaluations for a subsequent unrelated product, when the product information generates positive feelings (cognitive reactions).

Second, if our conceptualization related to reliance on feelings versus cognition is valid, then priming participants with rounded versus nonrounded numbers should negatively affect evaluations for a subsequent unrelated product, when the product message elicits negative feelings. In this study, therefore, we created an ad about the target product (anti-dandruff shampoo), which evoked either positive or negative feelings. Manipulating feeling-based reactions can help us examine how priming with rounded numbers can differently affect purchase intentions when the feelings generated by product ad message are positive versus negative. However, such feeling-based reactions are not as relevant when one relies on cognition, as is expected when one is primed with nonrounded numbers. Thus, we also included conditions manipulating the strength of arguments presented in the product ad message, which would be more relevant when one relies on cognition. We predict that priming participants with nonrounded versus rounded numbers in one task should

positively affect evaluations of an unrelated product when the product is endorsed by a strong argument, but not when it is endorsed by a weak argument.

#### Design and Procedure

Four hundred twenty-six US participants (190 females, mean age = 33 years) recruited from Amazon MTurk completed an online study. The study followed a 2 (priming: rounded numbers vs. nonrounded numbers)  $\times$  4 (product message: positive feelings vs. negative feelings vs. strong argument vs. weak argument) between-subjects design. Therefore, two of the four product message conditions manipulated feeling-based reactions, while the other two conditions manipulated cognition-based reactions. Participants were randomly assigned to one of the eight conditions.

The first part of the study was designed to manipulate the prime factor. Specifically, under the guise of a size perception task, participants were asked to sort different images of numbers according to the "physical size" of the images, and participants performed this sorting task on eight consecutive pages. On each page, they were asked to rearrange four images in ascending order. Half of the participants sorted rounded number images (e.g., 20.00, 50.00, 60.00, 80.00), whereas the other half sorted nonrounded number images (e.g., 21.73, 51.37, 69.43, 83.52). The time participants spent on this image sorting task did not differ between the two conditions ( $F < 1$ ,  $p > .32$ ). Sixteen participants, who did not follow the instructions, making more than 50% errors in the task, were removed from further analyses. The removal of these participants did not systematically differ between the two conditions—(nine vs. seven in rounded and nonrounded conditions, respectively).

Subsequent to the image-sorting task, participants moved on to a purportedly unrelated study, in which they were asked to read an ad about an antidandruff shampoo product. Specifically, participants saw a brand of shampoo (VLCC rosemary antidandruff shampoo), which is unfamiliar to US consumers. Participants were randomly shown one of the four different ads created for the shampoo. In the feeling-based product message conditions, the VLCC shampoo bottle was paired with either a positive picture featuring attractive models with silky and soft hair (positive feelings condition) or a negative picture depicting hair filled with dandruff (negative feelings condition). The two pictures used in the ads were selected on the basis of a pretest, which asked 20 participants to evaluate the pictures sequentially with the order counterbalanced, on three 7-point bipolar scales (1 = very negative, 7 = very positive; 1 = very unpleasant, 7 = very pleasant; and 1 = very bad, 9 = very good;  $\alpha = .97$ ). A within-subject ANOVA indicates that the picture featuring attractive models with shining hair was associated with positive feelings ( $M = 5.43$ ), while the picture depicting hair filled with dandruff was associated with negative feelings ( $M = 2.25$ ;  $F(1, 19) = 126.05$ ,  $p < .001$ ). One-sample  $t$ -tests confirm that the positive-ad picture was significantly above the midpoint ( $p < .001$ ) and that the



negative-ad picture was significantly below the midpoint ( $p < .001$ ). In both the feelings-based conditions, pictures in the ad were followed by the tagline “VLCC shampoo will make your hair look its best.”

In the argument-based product message conditions, the product was endorsed by either a strong argument or a weak argument. We adapted the stimuli from Escalas and Luce (2004, 283). Specifically, in the strong argument condition, the antidandruff shampoo was described as “VLCC shampoo involves a brand new scientific formulation containing Pyrithione Zinc, which has been proven as an effective ingredient to eliminate dandruff. Research tests in government laboratories prove that the people who use VLCC shampoo find that it effectively eliminates the tiny flakes left by other shampoos that result in a flat, dirty appearance.” In the weak argument condition, it was described as “VLCC shampoo involves a new antidandruff formulation. Research tests in our labs indicate that some people who have used the VLCC shampoo find that at times it eliminates tiny flakes left by other shampoos.” Thus, in the argument-based product message conditions, in place of the negative or positive pictures, message contained either a weak or a strong argument endorsing the shampoo, along with the same tagline used in the feelings-based conditions.

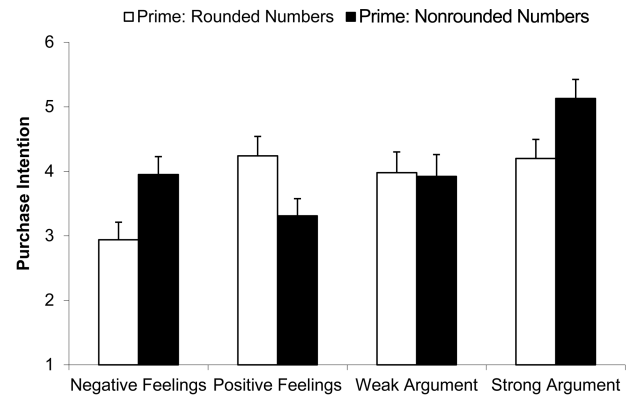
Subsequent to reading the ad about the target product, participants were asked to indicate their likelihood of purchasing the antidandruff shampoo on a 9-point scale (1 = very unlikely, 9 = very likely). Participants finally indicated their demographics and were thanked for their participation.

## Results

A 2 (prime: rounded numbers vs. nonrounded numbers)  $\times$  4 (product message: positive feelings vs. negative feelings vs. strong argument vs. weak argument) ANOVA revealed a significant two-way interaction between the prime and the product message factors ( $F(3, 402) = 4.70, p = .003$ ). As shown in figure 4, follow-up contrast analyses revealed that in the feeling-based product message conditions, participants who were primed with rounded numbers indicated higher purchase intention for the shampoo when the ad generated positive feelings ( $M_{\text{rounded-pos. feeling}} = 4.24$ ) than when it generated negative feelings ( $M_{\text{rounded-neg. feeling}} = 2.94; t(402) = 3.06, p = .002$ ). However, those primed with nonrounded numbers did not differ on their purchase intention based on whether the product message generated positive ( $M_{\text{nonrounded-pos. feeling}} = 3.31$ ) or negative feelings ( $M_{\text{nonrounded-neg. feeling}} = 3.95; t(402) = -1.53, p > .12$ ). In contrast, participants primed with nonrounded numbers indicated higher purchase intention for the shampoo when product was endorsed with a strong argument ( $M_{\text{nonrounded-strong argument}} = 5.13$ ) than when it was endorsed with a weak argument ( $M_{\text{nonrounded-weak argument}} = 3.92; t(402) = 2.77, p = .006$ ). However, those primed with rounded numbers did not differ on their purchase intention depending on whether the product was endorsed by a strong ( $M_{\text{rounded-strong argument}} = 4.20$ ) or a weak argument ( $M_{\text{rounded-weak argument}} = 3.98; t(402) = .54, p > .58$ ).

FIGURE 4

### PURCHASE INTENTION FOR THE SHAMPOO IN STUDY 4



More importantly, planned contrasts revealed that when the product message generated positive feelings, participants primed with rounded numbers indicated greater purchase intention for the shampoo than those primed with nonrounded numbers ( $M_{\text{rounded-pos. feeling}} = 4.24$  vs.  $M_{\text{nonrounded-pos. feeling}} = 3.31, t(402) = 2.19, p = .029$ ). However, when the product message generated negative feelings, those primed with rounded numbers indicated lower purchase intentions than those primed with nonrounded numbers ( $M_{\text{rounded-neg. feeling}} = 2.94$  vs.  $M_{\text{nonrounded-neg. feeling}} = 3.95; t(402) = -2.42, p = .016$ ). In the argument-based product message conditions, participants primed with nonrounded numbers indicated greater purchase intention for the shampoo than those primed with rounded numbers when the product was endorsed with a strong argument ( $M_{\text{nonrounded-strong argument}} = 5.13$  vs.  $M_{\text{rounded-strong argument}} = 4.20; t(402) = 2.17, p = .031$ ). While this effect was not reversed, it was eliminated when the product was endorsed with a weak argument ( $M_{\text{nonrounded-weak argument}} = 3.92$  vs.  $M_{\text{rounded-weak argument}} = 3.98; t(402) = -.15, p > .88$ ).

## Discussion

Our results from study 4 provide stronger support for our conceptualization related to reliance on feelings versus cognition. Specifically, findings from the current study show that merely priming people with rounded versus nonrounded numbers can intensify the evaluative judgments toward an unrelated product. When participants were primed with rounded as compared to nonrounded numbers, they reported more favorable (unfavorable) evaluations of an unrelated shampoo, when the shampoo generated positive (negative) feelings. In contrast, when participants were primed with nonrounded as compared to rounded numbers, they reported more favorable evaluations of the shampoo when it was accompanied by a strong argument but not when it was accompanied by a weak argument. These findings rule out the general positive reactions account in multiple ways. One,

if the general positive reactions account is driving the rounded price effect, then exposure to rounded (nonrounded) numbers should have positively affected product evaluations when the product elicited feeling based (cognition-based) reactions, regardless of whether these reactions were positive or negative. Two, if the rounded price effect is driven by general positive reactions account, then merely priming participants with rounded versus nonrounded numbers would not have affected evaluations of an unrelated product.

## STUDY 5: THIS NUMBER FEELS RIGHT

Our conceptualization suggests that the rounded price effect is driven by the subjective experience of “feeling right” induced by the fit between roundedness of the price and the nature of the decision context. We test this premise in the current study. Specifically, in this study, we measured participants’ subjective experience of “feeling right” toward product evaluations. We predict that this subjective experience of “feeling right” will mediate the rounded price effect. One possibility is that the induced sense of feeling right has a direct impact on product evaluations. Another possibility is that the impact of induced sense of feeling right on product evaluations is mediated by a perceived ease of processing the overall information about the product (Lee et al. 2010). To elaborate, this possibility would imply that when there is a sense of feeling right induced due to a fit between the roundedness of the price and the nature of the decision context, participants are likely to perceive the overall product information to be more easily processed, which in turn could positively affect evaluations. Thus, to test these possibilities, in the current study, we measure the sense of feeling right as well as perceived ease of processing the product information.

### Design and Procedure

Three hundred eighteen US participants (136 females, mean age = 30 years, excluding one participant who took more than 24 hours to complete the study) recruited from Amazon MTurk completed this online study. The study followed a 2 (price: rounded vs. nonrounded)  $\times$  2 (prime: feelings vs. cognition) between-subjects design. Participants were randomly assigned across the four conditions. In the first part of the study, in a purportedly unrelated task, participants’ were primed to rely on feelings versus cognition (adapted from Hsee and Rottenstreich 2004). In the feelings-prime condition, participants answered five questions that required them to examine and report their feelings. For example, participants responded to questions such as “When you hear the word ‘baby,’ what do you feel? Please use one word to describe your predominant feeling” (Hsee and Rottenstreich 2004, 24). In the cognition-prime condition, participants answered five questions that required conscious and deliberate thought. For example, participants responded to questions such as “If an object travels at 5 feet per minute, then by your calculations how many feet will it travel in 360 seconds?” (Hsee and Rottenstreich 2004, 24). Subse-

quent to the priming manipulation, participants moved on to evaluate the pair of digital camera binoculars used in study 3, which was either priced at a rounded number (\$80.00) or a nonrounded number (\$81.43). Participants were asked to indicate their likelihood of purchasing this pair of digital camera binoculars on a 9-point scale (1 = very unlikely, 9 = very likely). Subsequent to the product evaluation task (following Cesario and Higgins 2008), we measured the subjective experience of “feeling right” by asking participants to indicate how they felt while they were evaluating the pair of digital camera binoculars (“felt right,” “felt wrong” [reverse coded];  $\alpha = .71$ ) using 9-point scales (1 = not at all, 9 = very much). We also measured perceived ease of processing the product information by asking participants to indicate their agreement (1 = strongly disagree, 9 = strongly agree) with two statements regarding their perceived ease of processing the information about the pair of digital camera binoculars (easy to process, difficult to understand [reverse coded];  $\alpha = .86$ ; adopted from Lee et al. 2010). Participants finally indicated their demographics and were thanked for their participation.

### Results

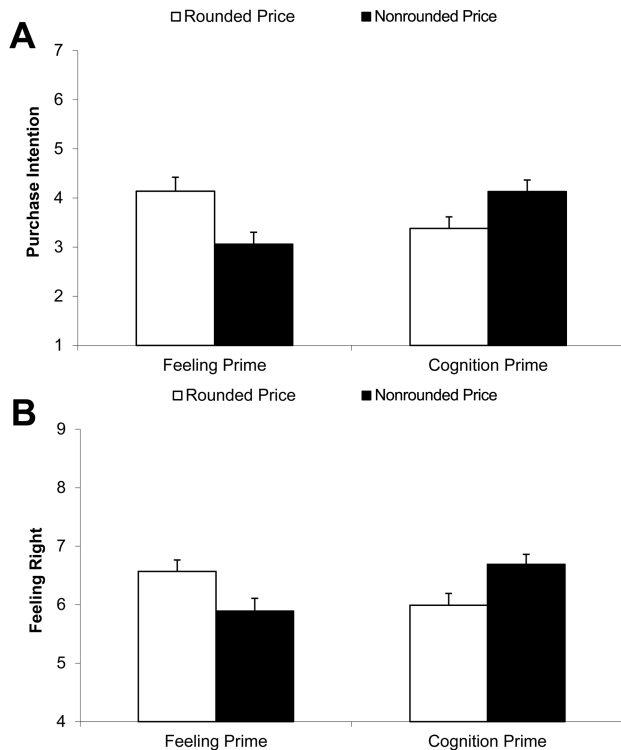
*Purchase Intention.* Our results show a significant interaction between the price and the prime factors ( $F(1, 314) = 13.18, p < .001$ ). Specifically, as shown in figure 5A, participants in the feeling-prime condition indicated higher purchase intention for the product when it was priced at a rounded price ( $M = 4.14$ ) as compared to when it was priced at a nonrounded price ( $M = 3.06; t(314) = 3.04, p = .003$ ). In contrast, our results show that in the cognition-prime condition, participants reported greater purchase intention for the product when it was priced at a nonrounded price ( $M = 4.13$ ) than when it was priced at a rounded price ( $M = 3.38; t(314) = 2.10, p = .037$ ).

*Feeling Right.* Our results on the “feeling right” index also show a significant interaction between the price and the prime factors ( $F(1, 314) = 12.16, p = .001$ ). Specifically, as shown in figure 5B, participants in the feeling-prime condition indicated an enhanced sense of feeling right when the product was priced at a rounded price (vs. nonrounded price;  $M = 6.57$  vs.  $M = 5.89; t(314) = 2.45, p = .015$ ). In contrast, our results show that in the cognition-prime condition, participants reported an enhanced sense of feeling right when the product was priced at a nonrounded price (vs. rounded price;  $M = 6.69$  vs.  $M = 5.99; t(314) = 2.49, p = .013$ ). These results provide support for the proposition that consumers experience a greater sense of feeling right when there is a fit between the roundedness of the price and the nature of the decision context (i.e., whether the purchase decision is driven by feelings vs. cognition).

*Ease of Processing.* Our results on the perceived ease of processing measure found no significant interaction between the price and the prime factors ( $F(1, 314) = 1.34, p = .25$ ). Specifically, ease of processing the overall product

FIGURE 5

PURCHASE INTENTION AND FEELING RIGHT MEASURE FOR THE PAIR OF BINOCULARS IN STUDY 5



information in either the feeling-prime or cognition-prime conditions did not differ based on roundedness of the price (both  $p > .30$ ).

**Mediation Analysis.** To test whether the sense of feeling right mediated the effect of the fit between price roundedness and prime on participants' purchase intention, we ran a series of regressions to perform a mediated moderation analysis (Muller, Judd, and Yzerbyt 2005). First, consistent with earlier ANOVA results on purchase intention, the fit between rounded (nonrounded) price and feeling (cognition) prime had a direct effect on purchase intention ( $\beta = .46$ ,  $t(314) = 3.63$ ,  $p < .001$ ). Second, the fit between rounded (nonrounded) price and feeling (cognition) prime increased the level of "feeling right" experience ( $\beta = .34$ ,  $t(314) = 3.49$ ,  $p < .001$ ). When included in the full model, this increased level of "feeling right" experience led to higher purchase intention ( $\beta = .44$ ,  $t(314) = 6.61$ ,  $p < .001$ ). Finally, the direct effect of the fit between rounded (nonrounded) price and feeling (cognition) prime on purchase intention for the product was significantly reduced ( $\beta = .30$ ,  $t(314) = 2.52$ ,  $p = .012$ ) after controlling for the subjective "feeling right" experience. A Sobel (1982) test confirmed that the reduction of the effect was significant ( $z = 3.07$ ,  $p = .002$ ).

Further, we used the bootstrapping procedure recom-

mended by Preacher and Hayes (2008) to formally test whether the indirect effect of the fit between price roundedness and prime on purchase intention (through the subjective experience of "feeling right" was significant). This analysis with 5,000 bootstrapped samples revealed that the mean indirect effect was positive and significant ( $a \times b = .15$ ), with a 95% confidence interval excluding zero (.07 to .27). These findings show that the experience of "feeling right" partially mediated the effect of the fit between price roundedness and prime on participants' purchase intention.

## Discussion

Our results from study 5 provide additional support for our conceptualization related to the fit between price roundedness and the nature of the decision context. Specifically, the fit between the roundedness of the price and the nature of the decision context induced a subjective experience of "feeling right," which in turn mediated the effect of fit on evaluative judgments. However, the fit between the roundedness of the price and the nature of the decision context did not affect the ease with which participants could process the overall information related to the product. These results show that it is the subjective experience of "feeling right" about the evaluations related to the target but not a general sense of perceived ease of processing the product information that underlies the rounded price effect.

## GENERAL DISCUSSION

Marketing actions (such as pricing) have been shown to have a significant influence on consumer experiences and purchase behavior (e.g., Monroe 1979). In the current research, we show that the mere roundedness of a price number could differently influence consumers' product evaluations and preferences depending on whether the purchase decision is driven by feelings or cognition. To elaborate, we show that when the purchase decision is driven by feelings, rounded prices intensify evaluative judgments related to the target product, whereas when the purchase decision is driven by cognition, nonrounded prices intensify evaluative judgments related to the target product. We propose that this rounded price effect is driven by the sense of feeling right induced as a result of the fit between two factors: roundedness of the price and nature of the decision context.

Across five studies, we provide support for the rounded price effect in several ways. First, in studies 1 and 2 we show that when the consumption goal underlying a product purchase is hedonic (utilitarian), rounded (nonrounded) prices lead to more favorable evaluations. In study 3 we manipulated reliance on feelings versus cognition using a well-established manipulation involving constraining the availability of processing resources. We show that when a product consists of both affective and cognitive components, rounded (nonrounded) prices lead to more favorable product evaluations when the processing resources are constrained (unconstrained). Providing stronger support for our reliance

on feelings versus cognition conceptualization, findings from study 4 further show that merely priming participants with rounded versus nonrounded numbers could lead to the rounded price effect. Specifically, study 4 shows that priming participants with rounded versus nonrounded numbers positively affects product evaluations when the product message elicits positive feeling-based reactions. However, priming participants with rounded numbers negatively affects product evaluations when the product message elicits negative feeling-based reactions. In contrast, priming participants with nonrounded versus rounded numbers positively affected product evaluations when the product message contained a strong argument, and this effect was eliminated when the product message contained a weak argument. These findings also rule out an alternative account suggesting that the fit between roundedness of the price and the nature of decision context could lead to general positive reactions toward the target product. Finally, providing process support, our findings from study 5 show that the rounded price effect is mediated by a sense of feeling right, which is induced as a result of the fit between the roundedness of the price and the nature of decision context.

### Marketing Implications

Our results have important marketing implications. Specifically, our findings suggest that small changes in pricing can have important consequences for the marketers. First, our results show that when the purchase decision is driven by feelings, marketers are likely to benefit from pricing the products at rounded prices. In contrast, when the purchase decision is driven by cognition, marketers are likely to benefit from pricing the products at nonrounded prices. Second, our results show that not only do rounded versus nonrounded prices affect the anticipated satisfaction and purchase intention, but it could also affect the perceived product performance. For example, participants perceived the quality of the pictures taken from a camera they were purportedly buying for a vacation to be better when the camera was priced at a rounded number than a nonrounded number. In contrast, they reported the quality of the pictures taken from the camera they were purportedly buying for a class to be better when the camera was priced at a nonrounded as compared to a rounded price. Third, our findings suggest that when the product is advertised in a way that it elicit negative feelings, marketers are likely to benefit from pricing the product at a nonrounded versus rounded price. In sum, our findings suggest that marketers are likely to maximize the benefits from pricing the product in a way that fits the purchase decision context.

### Theoretical Implications and Directions for Future Research

Our findings contribute to two different streams of literature—psychological effects of pricing and affective decision making. Pricing has been shown to be one of the most important marketing tools that can have a substantial impact

on consumers' product evaluation and purchase decisions. For example, consumers assume the price of the product to be highly positively correlated with the quality of the product (Kardes et al. 2004). Moreover, price may not only affect perceived quality but also affect the actual efficacy of the product (Shiv, Carmon, and Ariely 2005). Further, recent research suggests that the level of price precision can affect consumers' negotiation behaviors in housing markets (Janiszewski and Uy 2008; Thomas et al. 2010). Our findings extend the scope of the effects that pricing is known to evoke. Specifically, our findings elucidate that depending on whether the purchase decision is driven by feelings or cognition, rounded versus nonrounded prices can differentially affect one's purchase intention, perceived quality of, and anticipated satisfaction with a product.

Our findings also contribute to research on affective decision making. Specifically, research in this domain have identified two distinct processes of decision making: one that is more affect-based and encourages valuation of a target by feelings, while the other is more rule-based and encourages valuation of a target by cognition (Hsee and Rottenstreich 2004; also see Metcalfe and Mischel 1999; Strack and Deutsch 2004). Prior research has shown that both of these processes—valuation by feelings and valuation by cognition—drive consumers' preferences and decision making, and the relative influence of these two processes depends on various factors, such as consumption context (e.g., Hsee and Rottenstreich 2004; Pham 1998), cognitive capacity (e.g., Lee et al. 2009; Shiv and Fedorikhin 1999), and incidental environmental cues (e.g., Gorn, Goldberg, and Basu 1993). We contribute to this body of research by showing that roundedness of a price could also affect whether one's valuation of a target is more driven by feelings versus cognition. Specifically, we show that rounded (nonrounded) prices encourage valuation by feelings (cognition). Future research should attempt to shed more light at roundedness of the price and valuation by feelings versus cognition.

The current research has some limitations, which also raise several avenues for future research. First, in the current research, we define rounded prices as price numbers with two zeros after the decimal point (e.g., \$20.00). However, there could be other operational definitions of rounded prices. For example, one could also define rounded prices as price numbers with no decimals (e.g., \$20). We expect such price numbers to yield the same pattern of results found in the current research. However, this is an empirical question that needs to be examined in future research. Further, prior research suggests that the concept of roundedness can be relative (Rosch 1975). For example, when the magnitude of the price number increases (e.g., when buying a high-priced product such as a car), a price such as \$24,973 is likely to be perceived as a nonrounded number as compared with a price of \$25,000. Indeed, a preliminary study suggests that when a car was priced at \$25,000 versus \$24,973, it was evaluated more favorably on affective dimensions, such as how fun the car is to drive ( $F(1, 48) = 5.07, p = .03$ ). However, future investigation is needed to further examine

the generalizability of the rounded price effect with increasing price magnitude.

Second, while in this research we focus on the impact of roundedness of prices on product evaluations, it is possible that such effects may also apply to other numeric cues in the consumer contexts. For example, it would be interesting to examine the differential impact of presenting quality ratings in rounded versus nonrounded numbers on consumers' product evaluations depending on whether the purchase decision is driven by feelings or cognition.

Third, while in this research we focused on product evaluations, one question that remains unanswered is: could the sense of feeling right induced by the fit between the roundedness of the number and nature of decision context affect one's involvement with the product stimuli? An interesting possibility to examine would be that an induced sense of feeling right makes people feel more involved with the product, which in turn could enhance the endowment with the product (Saqib, Frohlich, and Bruning 2010). This remains an empirical question to be tested.

Fourth, future research may examine whether the roundedness of numbers could also have an impact on consumers' motivation to pursue their goals. Specifically, in the context of goal pursuit, Labroo and Kim (2009) demonstrate that the metacognitive experience of disfluency may serve as a cue for greater instrumentality of the target. It is thus possible that consumers with the goal to lose weight may find an exercise plan involving nonrounded numbers (e.g., losing 10.21 pounds in a month) more instrumental for achieving their goals as compared to a plan involving rounded numbers (e.g., losing 10 pounds in a month).

Fifth, our findings from study 3 show that when processing resources are available, participants are likely to rely on cognition and therefore nonrounded prices lead to more favorable evaluations. Past research suggests that it is likely that if there is a prolonged exposure to a product option, consumers might rely on "higher-order" affect even when processing resources are available (Shiv and Fedorikhin 2002). This implies that under condition of prolonged exposure to the target product, rounded prices might lead to more favorable evaluations even when the cognitive resources are not restrained. However, this is an empirical question to be tested in future research.

Sixth, future research could investigate the role of regulatory focus in moderating the rounded price effect. Past research suggests that promotion focus can generate greater reliance on feelings, while prevention focus can generate greater reliance on cognition (Pham and Avnet 2009). Thus, it is likely that when a product message is framed with a promotion (prevention) focus, rounded (nonrounded) price should be a better fit with such a message and therefore could positively affect evaluative judgments. It would be interesting to examine this research question in future research.

Finally, it would also be interesting to investigate the impact of roundedness of numbers on consumers' risk-seeking behaviors. For example, reliance on feelings versus cog-

nition has been shown to enhance one's risk-seeking behaviors (e.g., Strack and Deutsch 2004). It is therefore likely that consumers could become more risk-seeking in a gamble when the stakes are presented in rounded (vs. nonrounded) numbers. Interestingly, it may partially explain a puzzling phenomenon in the financial trading market that investors and traders have a strong tendency to enter orders when the stock price coincides with a rounded number (Weiss 2009). Examining these issues will provide researchers and marketers with richer insights into the factors that influence the effects of price numbers on consumer decision making.

## DATA COLLECTION INFORMATION

The data for all of the studies were collected between February 2011 and June 2014 using Amazon Mechanical Turk online participants panel. Data were collected and analyzed by the second author under the supervision of the first author.

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