

The Contingent Effects of Semantic Price Cues

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Abstract

This research endeavors to understand the contingent effects of semantic price cues while taking into consideration several important contextual factors. These factors include where the customer encounters the semantic cue (in-store, at-home, online), whether the consumers' shopping goal is hedonic or utilitarian in nature, the impact of shopping alone or with a companion, as well as the consumer's motivation to process the product information. Findings indicate that a within-store cue (compared to a between store cue) enhances evaluations when the shopping in a store with a utilitarian goal, when shopping alone, and when their motivation to process is low. A meta-analysis of the results demonstrates the robustness of the differential impacts of these semantic cues.

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Retailers frequently compare their sale price with a reference price with the goal of stimulating sales. But how that offer is conveyed to customers can impact how consumers evaluate the deal and in turn how it impacts sales. Extensive research has shown that how the price is presented can impact customer evaluations and behaviors to the point of demonstrating that customers will purchase more when they see a sales announcement even if prices are not reduced (e.g., Krishna et al. 2002; Lichtenstein and Bearden 1989; Raghuram and Corfman 1999).

In this research, we explore the impact of semantic cues. Semantic cues are formats used by retailers to describe their price offer by comparing a sale price to a higher reference price. Some frequently seen formats are, "Compare at \$X, Our Price \$Y," versus "Regular price \$X, Sale price \$Y." By framing the comparison in this manner, the lower sale price is perceived as offering greater value (e.g., Krishnan, Biswas, and Netemeyer 2006; Lichtenstein, Burton, and Karson 1991).

Such pricing strategies are widely used by a variety of retailers, including TJ Maxx and Sears, both of which have established their value differential using such practices. Yet despite the prevalence of semantic cues as a differentiating strategy for retailers, there is relatively little research into the differential impact of these semantic cues. Semantic cues can be described as either within-store or between-store cues (Grewal, Marmorstein, and Sharma 1996). *Within-store cues* are those that describe prices that previously existed within the store, "Regular price \$X, Sale price \$Y." *Between-store cues* suggest that the price is being compared to a competitor's price, "Compare at \$X, Our Price \$Y."

Previous research has found that situational factors moderate the impact of these between-store and within-store cues. For example, when a customer is *in a store* and encounters a between-store cue they evaluate the offer to be similar to (Krishnan, Biswas, and Netemeyer 2006) or worse (Grewal, Marmorstein, and Sharma 1996) than if it was presented as a within-store cue. In contrast, when a consumer is *at home* and encounters a between-store cue they evaluate the offer more positively than a within-store cue (e.g., Krishnan, Biswas, and Netemeyer 2006).

Past research on the contingent effects of semantic cues has focused on perceptions of value. One objective of our research is to generalize it to a broader evaluation context: quality

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perceptions which we operationalize as the uncertainty of the quality level (Roggeveen, Grewal, and Gotlieb 2006; Shimp and Bearden 1982). A second objective is to generalize these effects across a broader range of situational factors: location (in store, at home, online), the shopping goal (hedonic, utilitarian), shopping alone or with a companion, and level of motivation.

Background

Retailers frequently advertise price offers using semantic cues. Semantic cues allow the manner of the reference price to be framed while keeping the discount size constant. Much of the previous literature has varied the amount of the reference price (e.g., Biswas and Blair 1991; Kopalle and Lindsey-Mullikin 2003; Lichtenstein and Bearden 1989; Urbany, Bearden, and Weilbaker 1988) or the amount of the discount (e.g., Raghuram and Corfman 1999) and has focused mainly on value perceptions.

In this paper we focus on generalizing the effects to perceived quality. In today's cost conscious marketplace consumers are increasingly turning away from brand name products and trying lesser known brands and store brands, making perceptions of quality more salient. By understanding if different semantic cues can enhance perceived quality, retailers can address quality concerns in a cost effective manner. The semantic cues influence on perceived quality is likely affected by whether the consumer uses the reference price or the discounted sale price to form these perceptions. If the reference price is the price that is used to assess the quality perception, it will likely result in higher quality perceptions (Dodds, Monroe, and Grewal 1991) than if the discounted sale price is used.

By setting up a reference price comparison, the semantic cue creates a standard against which the offering price is compared. This reference price facilitates the evaluation process and allows buyers to make judgments about the product (Grewal, Monroe, and Krishnan 1998). The impact of the semantic cue is likely to vary depending on the type of semantic cue encountered as well as where that cue is encountered.

Where it is encountered

In their research, Grewal, Marmorstein, and Sharma (1996) build on the economics of information theory (Stigler 1961) and research on decision contexts (e.g., Hoch and Deighton 1989) to predict that the effectiveness of semantic cue types is contingent on the decision context. They suggest that, in a store, a within-store price comparison semantic cue is likely to be more effective than a between-store price comparison cue as the consumer, having traveled to a store, has little incentive to consider information about prices at other stores – s/he is more likely to have already invested time and effort (Marmorstein, Grewal, and Fiske 1992) and would prefer information that would help in assessing the given product in a store.

As such, Grewal, Marmorstein, and Sharma (1996) suggest that these within-store cues will be viewed as confirming evidence that they are getting the product at a good price. Thus, in the store, within-store cues will be more influential

and consumers are more likely to utilize the reference price in the within-store cue to assess perceived quality. They are likely to feel less confident regarding the between-store comparison as they have less opportunity to verify it, thus making the between-store cue less influential. Grewal, Marmorstein, and Sharma (1996) find support for these predictions while Krishnan, Biswas, and Netemeyer (2006) do not find support for it. Instead these authors suggest that consumers are unlikely to expend the cognitive effort to differentiate between-store and within-store cues and instead simply use the cue as a reference point to access the offer. As such, they hypothesize and find no difference between the cues.

When a consumer is at home (or possibly online), s/he is expected to prefer information that evokes between-store comparisons, as s/he is more likely in a price comparison decision mode. Such price offers are expected to reduce the need to search for price comparison information as the between-store cue “compare at” implies that if a consumer extends the effort s/he could verify the accuracy of these claims. Thus, the reference price in these between-store cues is expected to influence how the product is evaluated. Consistent with this, Krishnan, Biswas, and Netemeyer (2006) found that when the customer is at home, the between-store cue results in higher evaluations than within-store cues. Grewal, Marmorstein, and Sharma (1996) also find directional support for this in their two studies. Thus, there is not uniform replication of the effects across these studies.

Generalizability

To better understand the generalizability of the role of within-store versus between-store semantic cues, we conduct two mini-meta-analyses for the moderate discount conditions based on studies reported by Krishnan, Biswas, and Netemeyer (2006) and Grewal, Marmorstein, and Sharma (1996). We used standard meta-analytical techniques (e.g., Palmatier et al. 2006). Our effect size estimate (η) was calculated from the contrast of the within-store versus the between-store cue within either the at-home or the in-store condition.³ We also assessed whether the effects sizes were homogeneous across studies, which study's effects were outliers, and the number of null studies needed to reduce the significance from its present level to the .05 level.

We first examined the semantic cue effects when encountered in a store. The average weighted η is .14, suggesting an overall small to medium size effect, which is significant and it would take 11 null effects to reduce the level of significance to the .05 level. It must be noted that the overall effects are not homogeneous. The effect of semantic when encountered at home was an average weighted η of .54 suggesting an overall large effect size. The overall average effect is significant and 108 null effects would reduce the level of significance to the .05 level. Given

³ We calculate the effect size for each study using the standard test statistics. We use r as our effect size measure. The formulae used to calculate the effect sizes are shown here – r from t : $r = \sqrt{(t^2/(t^2 + df))}$ where $df = n_1 + n_2 - 2$; r from F : $r = \sqrt{(F/(F + df_{error}))}$ where F indicates any F with $df = 1$ in the numerator.

these results, we plan to see whether the prior results found on perceptions of value generalize to perceptions of quality and are robust across additional moderators.

Type of goal

Products differ in terms of whether they are primarily consumed for fun and enjoyment (hedonic products) or if they are primarily consumed for functionality (utilitarian products) (Khan, Dhar, and Wertebroch 2005). Every good contains a certain level of hedonic and utilitarian benefits (Voss, Spangenberg, and Grohmann 2003). Past research has shown that goods focusing on hedonic or utilitarian benefits can cause differences in how consumers evaluate the product. For example, people tend to value hedonic goods they own more than utilitarian goods (Dhar and Wertebroch 2000); prefer hedonic goods when the product is presented alone, but prefer utilitarian goods when the two items are presented together (Okada 2005); have stronger affective-based responses for products high in hedonic benefits (Voss, Spangenberg, and Grohmann 2003).

An interesting question is what is likely to happen when consumers are primed to evaluate a product using a hedonic goal or a utilitarian goal (Puccinelli et al. 2009). Recent research has shown that when consumers are primed by a hedonic mode of processing they focus more attention on affectively laden attributes and more likely to choose the hedonically superior option as compared to the utilitarian superior option (Roggeveen, Grewal, Townsend, and Krishnan 2014).

Extending this logic, we expect that when a customer is exposed to a product with the goal of using it for a hedonic purpose, they are likely to focus on the hedonic attributes of the product. In doing so, we expect the contingent semantic cue by location effect to be less likely to impact their product evaluations. However, when the consumer is evaluating the product with a utilitarian goal in mind, we expect the consumer to note the price and hence semantic cue by location effect is likely to have an impact. Consequently, we predict that the semantic cue by location interaction on perceived quality is contingent on the situational goal.

Companion shoppers

Another factor, which may impact how semantic cues are evaluated, is whether the consumer is alone or with a companion. Companions are friends or relatives who are with the consumer on their shopping trip to assist them. Customer's retail experience has shown to be enhanced due to the presence of these companion shoppers as they can offer opinions and advice to the consumer (Lindsey-Mullikin and Munger 2011).

Companion shoppers can provide suggestions of substitute products or even retailers, which offer similar types of products. They can also provide price information based on their previous experience with the retailer or with other retailers offering similar products. Since the companion can be a source of considerable information, it is less likely that a consumer's perceptions of quality will be impacted by the semantic cue. However, when

the shopper is alone, we do expect the semantic cue to influence quality perceptions.

Study 1: role of shopping goals and presence of a companion shopper

Method

Design and procedure. Participants were 318 students at a northeastern school who received class credit for their participation in this $2 \times 2 \times 2 \times 2$ between-subjects design. The semantic cue (within store vs. between-store), location of viewing cue (in-store vs. at home), goal of shopping (utilitarian vs. hedonic), and shopping companion (alone vs. with a companion) provide the between-subjects factors.

Participants were asked to imagine that "you are planning to go shopping for a shirt to wear for an important job interview" (utilitarian condition) or that "tonight you are planning to go out on a first date with a person you have wanted to go out with for a long time" (hedonic condition). In the in-store condition, participants were told "while browsing through a major department store, you notice the following display for a shirt". In the at home condition, participants were told that "while at home, you browse through a newspaper and notice the following ad for a shirt at a major department store". In the within store condition, the comparison read "Regular price \$65. Sale price at \$44.99". In the between store condition, the comparison read "Compare at \$65. Sale price at \$44.99". Finally, they were told they were either alone or with their roommate.

Measures. Participants rated perceived quality ($\alpha = .87$) using a three-item scale to assess the uncertainty associated with the quality of the item (Roggeveen, Grewal, and Gotlieb 2006; Shimp and Bearden 1982). The items were how confident are you that the shirt will be reliable (1 = not at all confident, 7 = confident), how certain are you that the shirt would be of good quality (1 = uncertain, 7 = certain), and do you feel that the shirt will be durable (1 = do not feel sure, 7 = feel sure)?⁴

Manipulation check pretest. To ensure our manipulations worked as intended, we pre-tested them with twenty-eight student participants. Participants responded on 7 point scale (1 = fun, 7 = practical) how they viewed the occasion in the scenario. Participants indicated that going on a date (hedonic, 2.64) was more fun than a job interview (utilitarian, 5.00, $t(26) = 3.53, p < .01$). They also indicated stronger agreement with the following statements (1 = strongly disagree, 7 = strongly agree): "the display was inside the store" when exposed to the in-store condition ($M_{\text{instore}} = 5.64, M_{\text{at home}} = 1.14, t(26) = 9.50, p < .001$), "the display was seen in a newspaper" in the at home condition ($M_{\text{instore}} = 1.29, M_{\text{at home}} = 6.50, t(26) = 10.12, p < .001$), "I was shopping with a friend" in the companion condition ($M_{\text{companion}} = 6.14, M_{\text{alone}} = 1.21, t(26) = 10.78,$

⁴ We measured participants' level of involvement (buying this shirt: 1 = means nothing to me, 7 = means a lot to me). Findings show that that our goals manipulation did not affect level of involvement ($M_{\text{hedonic}} = 3.84, M_{\text{utilitarian}} = 3.92, t(309) = .47, p > .6$).

$p < .001$), “I was shopping alone” in the companion absent condition ($M_{\text{companion}} = 1.93$, $M_{\text{alone}} = 6.71$, $t(26) = 8.80$, $p < .001$), “the sales price was being compared to a reference price that was phrased as regular price” in the within-store condition ($M_{\text{within}} = 6.71$, $M_{\text{between}} = 2.29$, $t(26) = 8.15$, $p < .001$), and “the sales price was being compared to a reference price that was phrased as compare at” in the between-store condition ($M_{\text{within}} = 1.57$, $M_{\text{between}} = 6.50$, $t(26) = 11.96$, $p < .001$).

Results

The means, standard deviations and cell sizes for all studies are reported in Appendix 1. In line with our predictions, we found a significant three-way interaction among goal, location and semantic cue ($F_{(1, 302)} = 4.52$, $p < .05$). As predicted, we find that in the hedonic condition the semantic cue by location interaction was not significant ($F_{(1, 302)} = 1.01$, $p > .3$). In the utilitarian condition, there is a significant location by semantic cue interaction ($F_{(1, 302)} = 4.02$, $p < .05$). When the price deal is encountered in the store, there are higher perceptions of quality for the within-store cue as compared to the between store cue ($M_{\text{between}} = 5.43$, $M_{\text{within}} = 5.92$; $F_{(1, 302)} = 4.94$, $p < .05$). Interestingly, in the at home condition, contrary to past research, we only find directional support that between store cues result in higher evaluations than within-store cues ($M_{\text{between}} = 5.82$, $M_{\text{within}} = 5.69$; $F < 1$).

We also did find the interaction between semantic cue and companion ($F_{(1, 302)} = 4.41$, $p < .05$). When the customer is shopping alone, the within-store cues are viewed to indicated higher perceived quality (5.82) than between-store cues (5.50, $F_{(1, 302)} = 4.33$, $p < .05$). However, when the customer is shopping with a companion the semantic cues did not impact perceived quality ($M_{\text{between}} = 5.80$, $M_{\text{within}} = 5.66$; $F < 1$).

Discussion

When consumers had a hedonic goal in mind, as expected, we did not find any difference in quality perceptions as a result of the semantic cue. When the consumer had a utilitarian goal in mind, we did find some differences. In the in-store condition, the results are consistent with the results of Grewal, Marmorstein, and Sharma (1996), such that, perceived quality improved with within-store cues. Interestingly, in the at home condition, we only found only directional support that between store cues enhance perceived quality. A possible reason is that unlike our study some of the past research has named the competitor in the between-store comparisons (e.g., Krishnan, Biswas, and Netemeyer 2006). This study also revealed that the semantic cue effects do not generalize when a companion present.

In this study, we described the at home condition as browsing through a newspaper which was consistent with the previous research (Grewal, Marmorstein, and Sharma 1996; Krishnan, Biswas, and Netemeyer 2006). One limitation of this approach is that when they are in the store they view themselves in the shopping mode, while at home they viewed themselves as only browsing and not shopping. To address this, in our next study, we examine the situation of in-store versus online shopping.

Study 2: in-store versus online shopping

Method

Design and procedure. Participants were 180 members of a national research panel (45 percent female, average age of 31 years), who were monetarily reimbursed for taking part in our web-based survey. It was a 2 (semantic cue: with-in store vs. between store) \times 2 location of viewing cue (in-store vs. on-line) between-subjects study.

In the in-store conditions, participants were asked to imagine that “you are shopping for new tires. You have gone to a store that specializes in tires and are walking around in the store.” In the online conditions, participants were asked to imagine that “you are shopping for new tires. You have gone to a website of a store that specializes in tires and are looking around the website.” In both cases they then saw a display showing a Cooper Zeon RS3-A tire with a brief description of the tire.

In the within-store condition, the price comparison read “Regular price \$131. Sale price \$107”. In the between-store condition, the comparison read, “Compare at \$131. Sale price \$107”. The same perceived quality scale was used ($\alpha = .94$). Participants also rated their agreement on 7-point scales with the following statements about the scenario: “I was described as shopping in the store”, “I was described as shopping on a website”, “the sales price was being compared to a reference price that was phrased as regular price”, and “the sales price was being compared to a reference price that was phrased as compare at”. Finally, we measured the participant’s familiarity with tires, gender, and age.

Results

Manipulation checks. The manipulations worked as intended. Participants exposed to the in store condition had stronger agreement with the statement “I was described as shopping in the store” than those in the online condition ($M_{\text{instore}} = 5.96$, $M_{\text{online}} = 2.56$, $F_{(1, 176)} = 141.14$, $p < .001$). Similarly, those in the online condition had stronger agreement with the statement “I was described as shopping on a website” than those in the in-store condition ($M_{\text{instore}} = 2.12$, $M_{\text{online}} = 5.67$, $F_{(1, 176)} = 146.02$, $p < .001$). In terms of the semantic cues, participants indicated higher agreement with the statement that the reference price was phrased as “regular price” in the within-store condition than the between-store condition ($M_{\text{within}} = 5.93$, $M_{\text{between}} = 4.33$, $F_{(1, 176)} = 25.26$, $p < .001$). Similarly, participants indicated higher agreement with the statement that the reference price was phrased as “compare at” in the between-store condition than the within-store condition ($M_{\text{within}} = 2.38$, $M_{\text{between}} = 4.32$, $F_{(1, 176)} = 33.90$, $p < .001$).

Perceived quality. We tested our main prediction using ANCOVA with familiarity with tires as a covariate ($F_{(1, 175)} = 15.95$; $p < .001$). The semantic cue \times location interaction effect on perceived quality was significant

($F_{(1, 175)} = 3.96$; $p < .05$).⁵ Consistent with Study 1, when the price deal is encountered in the store, there is higher perceived quality with a within-store cue than a between-store cue ($M_{\text{between}} = 4.59$, $M_{\text{within}} = 5.00$; $F_{(1, 175)} = 2.94$, $p < .05$, one-tailed). Similar to the at home condition of Study 1, in the online condition, we did not find a significant difference in the semantic cues ($M_{\text{between}} = 5.25$, $M_{\text{within}} = 4.98$; $F_{(1, 175)} = 1.22$, $p = .27$). The results of the online condition are directionally consistent with previous research on the at-home condition (i.e., perceived quality is higher for between-store cues than for within-store cues). Importantly, this study demonstrates that it is the location in which the cue is encountered that drives the results and not the act of shopping.

Study 3: level of motivation

Another situational factor, which may influence how the semantic cues are evaluated, is the motivation level of the consumer to process information. Under a high motivation condition, they are likely to focus on the complete offer (i.e., images, description, prices) and engage in systematic processing of the information. As a consequence, they are less likely to depend on the semantic cue (and prices) to judge quality. On the other hand, under a low motivation condition, consumers are more likely to use a price-quality heuristic, a heuristic that allows them to use price to make judgments about a product's quality (Suri and Monroe 2003). As a result, when motivation is high, we do not expect semantic cue by location interaction. However, when motivation is low, we expect that the semantic cue by location interaction.

Method

Design. Participants were 180 students at a northeastern school who received class credit for their participation in this $2 \times 2 \times 2$ between-subjects design. The semantic cue (within-store vs. between-store), location of viewing cue (in-store vs. at home), and motivation (low vs. high) provide the between-subjects factors.

Procedure. Similar to Study 1, we use a scenario-based experimental approach in which participants were asked to provide feedback to a retailer. The level of motivation was manipulated using procedures suggested by Suri and Monroe (2003). In the low motivation condition, the northeastern participants were told that this survey was for a retailer located in the Los Angeles area and that their opinions would be averaged across all respondents participating in the study. In the high motivation condition, the participants were told that this survey was for a retailer located in the local area and that their opinions would be weighted heavily in the decisions taken by this retailer. Participants were then asked to imagine that "today is Saturday and that you are planning to go shopping for a shirt to wear for an important job interview". The location of encountering the

price deal and the price cue manipulation were consistent with Study 1. Perceived quality was measured the same way as in Study 1 ($\alpha = .88$). We also included a motivation manipulation check which showed that participants were more involved in the high (vs. low) motivation condition ($M_{\text{high}} = 3.89$, $M_{\text{low}} = 3.49$; $F_{(1, 167)} = 4.26$, $p < .05$).

Results

As expected, there is an interaction among processing, location and semantic cue ($F_{(1, 172)} = 6.83$, $p = .01$). When motivation is low and the price deal is encountered in the store, there is higher perceived quality with a within-store cue than a between-store cue ($M_{\text{between}} = 5.19$, $M_{\text{within}} = 5.83$; $F_{(1, 172)} = 4.10$, $p < .05$). When motivation is low and the price deal is encountered at home, there is higher perceived quality with a between-store cue than a within-store cue ($M_{\text{between}} = 5.57$, $M_{\text{within}} = 4.87$; $F_{(1, 172)} = 4.51$, $p < .05$). When motivation is high, there are no differences among semantic cue conditions, regardless of where the price deal is encountered (home: $M_{\text{between}} = 5.24$, $M_{\text{within}} = 5.59$; $F_{(1, 172)} = 1.33$, *ns*; store: $M_{\text{between}} = 5.39$, $M_{\text{within}} = 5.45$; $F < 1$, *ns*).

Discussion

Under low motivation conditions, when the price deal is encountered in the store, perceived quality is higher for within-store cues than between-store cues. When the price deal is encountered at home, perceived quality is higher for between-store cues than within-store cues. Under high motivation conditions, semantic cues did not impact perceived quality – regardless of where the cues are encountered.

General discussion

Over the past several decades, the majority of research on semantic cues has focused on how the semantic price information influences consumers' evaluations of the offer (see review by Compeau and Grewal 1998). At the same time the majority of papers focusing on the role of price cues tended to focus on consumers' perceptions of quality (e.g., Miyazaki, Grewal, and Goodstein 2005; Raghubir and Corfman 1999). The current paper integrates insights from these two streams of research and sheds some interesting insights on **how** and **when** semantic price cues influenced consumers' perceptions of *perceived quality*.

Our research demonstrates that the effects of semantic cues are indeed contingent on location of the consumer (largely in the spirit of replication) and three additional situational variables. Two are internal in nature, the shopping goal of the consumer (utilitarian vs. hedonic) and motivation to process information, while the third is external in nature (are they shopping with others). As predicted, we found there was a semantic cue \times location interaction when there was a utilitarian goal (but not a hedonic goal) and when there was low motivation to process information (but not high motivation to process). This semantic cue \times location interaction will be discussed more below. We also find that when a consumer is shopping with a companion, within

⁵ The results without the covariate show the same pattern however the significance level drops to .12 ($F_{(1, 176)} = 2.40$).

store cues result in stronger quality perceptions than between store cues. The semantic cue \times location interaction shows that when the semantic cue is encountered in an in-store setting, with-in store cues resulted in higher perceived quality (in Studies 1–3). When the cue is encountered at home, between store cues resulted in higher evaluations than within store cues (directional support, Studies 1 and 2; significant support Study 3).

Our three studies, along with those of Grewal, Marmorstein, and Sharma (1996) and Krishnan, Biswas, and Netemeyer (2006) allow us to assess the generalizability of the role of semantic cues based on the location the cue is encountered. To do this, we re-conduct the meta-analyses, now also incorporating our study effects. The in-store effect size increased from an average weighted η of .14 to .19. The overall average effect is significant and suggests that 46 null effects would be needed to reduce the level of significance to the .05 level. However, the overall effects are not homogeneous. An effect sizes plot (see Appendix 2: Fig. A1) suggests that the two negative effect sizes are potential outliers. If those two effects are removed from the analysis, the results become homogeneous and the average weighted η increases to .27. The At-home effect size dropped from an average weighted η of .54 to .40 with the addition of our studies. The overall average effect is significant and suggests that 191 null

effects would be needed to reduce the level of significance to the .05 level. However, the overall effects are not homogeneous. A plot of the effect sizes (see Appendix 2: Fig. A2) suggests that the low effect size in our Study 1 appears to be an outlier and when it is removed, the results become homogeneous and the average weighted η is .51. The meta-analyses suggest the findings are fairly robust. Within-store cues lead to higher evaluations in the store; between-store cues lead to higher evaluations at home.

Although this meta-analysis speaks to generalizability of the results, future research is needed to better understand the level of abstractness of within-store claims (name a competitor or do not name one). Some of our nonsignificant results might be attributed to this. Future research, should also explore the impact of these cues in a field setting. The results of all the studies to date have used scenarios, which may make comparison shopping more salient at home, and in turn influences their reliance on the type of semantic cue used.

Our results highlight the important roles that the retailer supplied reference prices play. From a public policy perspective, it is critical to monitor these reference prices and ensure that they are indeed genuine.

Appendix 1. Descriptive statistics for the studies.

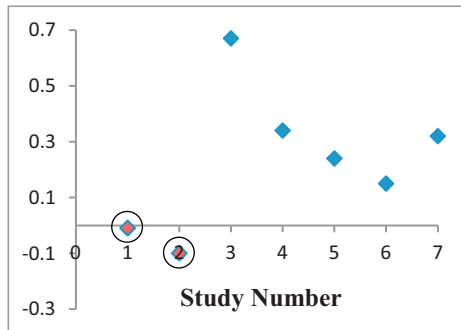
Study 1						
Goal	Location	Cue	Companion	Mean	S.D.	<i>N</i>
Hedonic	Store	Between	Alone	5.63	1.27	20
			With friend	5.89	0.97	19
		Within	Alone	5.57	1.09	20
	Home	Between	With friend	5.65	0.75	20
			Alone	5.4	1.38	20
		Within	With friend	5.77	0.96	20
Utilitarian	Store	Between	Alone	6	0.57	20
			With friend	5.48	0.98	20
		Within	Alone	5.13	1.34	20
	Home	Between	With friend	5.72	1.04	19
			Alone	5.9	0.92	20
		Within	With friend	5.95	0.78	19
Home	Between	Alone	5.82	0.78	20	
		With friend	5.82	0.77	20	
	Within	Alone	5.82	0.83	20	
			With friend	5.56	0.97	21
Study 2						
Location		Cue		Mean	S.D.	<i>N</i>
Store		Between		4.63	1.30	45
		Within		4.96	1.20	45
Online		Between		5.22	1.04	45
		Within		5.00	1.26	45

Study 3

Motivation	Location	Cue	Mean	S.D.	N
Low	Store	Between	5.19	.98	24
		Within	5.83	.91	20
	Home	Between	5.57	1.05	20
		Within	4.87	1.26	20
High	Store	Between	5.39	.91	23
		Within	5.45	1.20	26
	Home	Between	5.24	1.11	25
		Within	5.59	.81	22

Appendix 2.

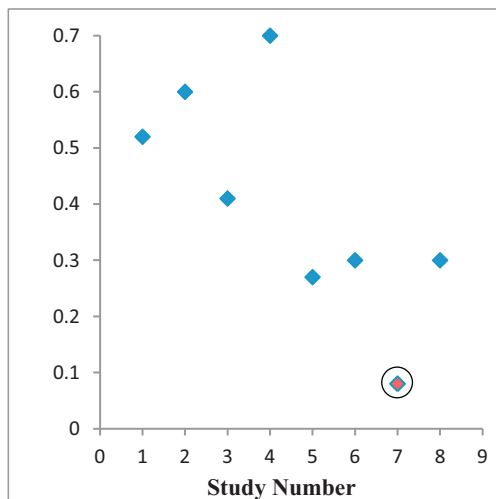
Effect Size



Study	Name	Effect
1	Krishnan, Biswas, and Netemeyer (2006) Pilot 2	-0.01
2	Krishnan, Biswas, and Netemeyer (2006) Study 2	-0.1
3	Grewal, Marmorstein and Sharma (1996) Study 1	0.67
4	Grewal, Marmorstein and Sharma (1996) Study 2	0.34
5	Present Study 1	0.24
6	Present Study 2	0.15
7	Present Study 3	0.32

Fig. A1. Plot of in-store effect sizes by study. Note: Potential outliers identified with a circle.

Effect Size



Study	Name	Effect
1	Krishnan, Biswas, and Netemeyer (2006) Pilot 1	0.52
2	Krishnan, Biswas, and Netemeyer (2006) Study 1	0.6
3	Krishnan, Biswas, and Netemeyer (2006) Pilot 2	0.41
4	Krishnan, Biswas, and Netemeyer (2006) Study 2	0.7
5	Grewal, Marmorstein and Sharma (1996) Study 1	0.27
6	Grewal, Marmorstein and Sharma (1996) Study 2	0.3
7	Present Study 1	0.08
8	Present Study 3	0.3

Fig. A2. Plot of at-home effect sizes by study. Note: Potential outlier identified with a circle.

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