How Does Consumers' Local or Global Identity Influence Price-Perceived Quality Associations? The Role of Perceived Quality Variance

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Yang, Zhiyong, Sijie Sun, Ashok Lalwani, and Narayan Janakiraman (2019), "How Does Consumers' Local or Global Identity Influence Price—Perceived Quality Associations? The Role of Perceived Quality Variance," *Journal of Marketing*, 83(3), 145–162. https://doi.org/10.1177/0022242918825269

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Abstract:

Globalization has substantially influenced the world economy. However, managers have a limited understanding of how local-global identity influences consumers' price perceptions and behavior. In this research, the authors propose that consumers' local (vs. global) identity leads to a greater tendency to make price-perceived quality (PPQ) associations. Perceived quality variance among comparison brands is a key mechanism underlying these effects. Two field studies (Studies 1 and 7), seven experiments (Studies 2-6, 9, and 10), and a systematic review of secondary data (Study 8) provide converging and robust evidence for the effect of local-global identity on PPQ. Consistent with the perceived quality variance account, when quality differences among the brands are made salient, PPQ associations of consumers high in global (but not local) identity significantly increase, compared with baseline conditions. However, when perceived quality similarities are made salient, PPQ associations of consumers high in local (but not global) identity significantly decrease. Product type and distribution of customer ratings represent natural boundaries for the relationship between local-global identity and PPQ. The authors conclude with the implications for managers' targeting endeavors. We also provide specific tools that marketers can use in ads and point-of-purchase materials to encourage or discourage consumers in making PPQ associations.

Keywords: local–global identity | perceived quality variance | price–perceived quality

Article:

Most marketers strive to find ways to charge high prices for their products. However, it is often difficult to do so without improving objective product performance or adding more attributes. For example, Netflix recently faced a huge uproar when it tried to raise prices without increasing perceptions of value. Its management team could have avoided this reaction by segmenting its market and starting the price increase in consumer segments that equate higher prices with higher quality. In the current research, we propose that if marketers focus on consumers with a local (vs. global) identity, their odds of success can drastically increase, as these consumers tend to view higher prices as signals of superior quality.

Nevertheless, researchers are only starting to understand the role of local and global identities in consumer behavior (e.g., Gao, Zhang, and Mittal 2017). For example, it is unclear whether these identities differentially influence one of the most important relationships found in the pricing literature—namely, consumers' tendency to use product price to judge quality—that is, make price—perceived quality (PPQ) associations (Kardes et al. 2004). Given its importance, there is renewed interest among researchers in examining the phenomenon (Yan and Sengupta 2011).

Indeed, managers currently seem to be puzzled about the potential role that consumers' local—global identity may play in their tendency to use price to judge quality. Our recent in-depth interviews with 15 senior level managers from *Fortune* 500 corporations revealed that managers across industries considered local or global communities in their pricing decisions, but none knew when such strategies might be effective and why (for key quotes, see Appendix A). This notion is illustrated by the following quote from a director of a firm's pricing division:

When we try to introduce local flavors...it makes people think of their local communities....Here, we are careful to make sure that our product is seen as premium. You know...having a twist on the local ingredient is important. Similarly, it is important to have a reasonably higher price since it communicates premium-ness, and then reinforce it with advertising and packaging. But we don't know for sure why such consumers prefer premium brands. That is largely a mystery.

So, the question is, how and why may consumers' local—global identity influence their PPQ associations? Extant findings seem to suggest that consumers with a global (vs. local) identity tend to have an abstract (vs. concrete) construal (as implied by Ng and Batra [2017]), which in turn positively affects PPQ (Yan and Sengupta 2011). In contrast, we propose that consumers with a local (vs. global) identity are more likely to make PPQ associations. Although there can be several reasons for this relationship, we focus on one—namely, greater perceived quality variance. We propose that a salient local (vs. global) identity is associated with a general dissimilarity-focus mindset. The enhanced salience of quality variance, in turn, leads people to focus more on price—one of the most direct and obvious cues used to compare brands—to infer product quality (Lalwani and Forcum 2016; Lalwani and Monroe 2005). We further demonstrate that contextual and product-related factors that influence perceived quality variance (e.g., services vs. goods, hedonic vs. utilitarian products, and convergent vs. divergent reviews) moderate the influence of local—global identity on PPQ.

The issues we address have significant implications for the cross-cultural and pricing literature streams. First, by examining the role of local–global identity, we bring a fresh perspective to the cross-cultural literature, which is dominated by the individualism–collectivism dimension (Lalwani and Shavitt 2009, 2013; Lalwani, Shavitt, and Johnson 2006; Lalwani, Shrum, and Chiu 2009; Shavitt et al. 2006). Second, we contribute to the pricing literature by examining how an important but underexplored factor, local–global identity, influences PPQ associations. Third, we are the first to uncover perceived quality variance as a new consequence of local and global identity. Fourth, we show that the strength of the association between local–global identity and PPQ associations varies by factors that influence perceived variance in brand quality.

Managerially, our findings suggest that marketers of relatively high-priced products should situationally activate consumers' local identity, which facilitates PPQ. Furthermore, in line with the perceived quality variance account, for products that charge a premium price over competing products, marketers can use situational cues to increase perceived quality variance and facilitate consumers' PPQ. In contrast, for products that adopt a low-price strategy, marketers can use situational cues to reduce perceived quality variance. Our findings also suggest the importance of adapting marketing strategies to different regions: in rural areas where local identity is likely to be salient, consumers likely have high levels of PPQ, whereas in metropolitan areas where global identity is more salient, marketing campaigns are needed to enhance consumers' PPQ so that consumers perceive higher prices to be signals of superior quality. Similar strategies can be applied to countries around the world that are high in local or global identity. These insights also help address a current debate on whether companies should be more locally oriented, and how this may affect consumers. Next, we discuss the link between local—global identity and PPQ, followed by hypothesis development and empirical testing using both field and lab studies.

Local-Global Identity and PPQ Associations

Recent research delineates two distinct consumer identities (i.e., local identity and global identity), reflecting how strongly people associate with the local and the global community, respectively (Reed et al. 2012). Individuals whose local identity is salient ("locals") are faithful and respectful of local traditions, interested in local events, and identify with people in their local community, whereas those with a salient global identity ("globals") favor globalization, view the world as a "global village," and blur the lines of distinction between local and nonlocal people and events (Arnett 2002; Zhang and Khare 2009). Furthermore, consumers high (vs. low) in local identity prefer local products and brands, whereas those high (vs. low) in global identity prefer global products and brands (Zhang and Khare 2009).

Individuals from more globalized countries, such as the United States and Canada, tend to have a stronger global identity because they are more likely to meet different types of people, encounter different cultures, and access stories and news from other countries. In contrast, those from more localized countries (e.g., China, India) tend to have a stronger local identity because of their restricted access to other cultures (Arnett 2002; Gao, Zhang, and Mittal 2017). Research has further suggested that global and local identities can also be fruitfully activated through priming procedures (e.g., Tu, Khare, and Zhang 2012; Zhang and Khare 2009).

At the national level, there is evidence that people in countries with different levels of local—global identity differ in their tendency to use price to infer product quality. For example, Chinese and Indian consumers (who are high in local identity) make stronger PPQ associations than do U.S. and Canadian consumers (who are high in global identity) (Völckner and Hofmann 2007). Similarly, Polish (high in local identity) make higher PPQ associations than Germans (high in global identity) (Zielke and Komor 2015). However, these findings are inconsistent with those of another study, which shows that there is no difference in PPQ across different countries (Dawar and Parker 1994). Yet because these studies do not focus on cultural differences, we do not know whether local—global identity was responsible for these results. Some previous research has attributed these national differences to cultural dimensions other than local—global identity (Lalwani and Forcum 2016; Lalwani and Shavitt 2013). More importantly, no previous research

has offered theoretical explanations for the possible effect of local-global identity on PPQ. A clearer theorization of the mechanism through which local-global identity affects PPQ will advance our understanding of how consumers differ in their propensity to make price-quality inferences, and why. We propose that perceived quality variance is a key mechanism through which local-global identity affects PPQ, as discussed next.

Local-Global Identity and Perceived Variance Among Comparative Objects

The ability to make comparative judgments is a fundamental human characteristic (Mussweiler 2003). People tend to follow one of two comparison processes—namely, dissimilarity focus and similarity focus—to make judgments (Mussweiler 2001, 2003). We propose that locals (vs. globals) are more likely to focus on dissimilarities than similarities, because locals (vs. globals) tend to discern greater differences between local and nonlocal communities, which motivate them to associate more values with local traditions and local events. In contrast, because globals view the world as a "global village" and blur the lines of distinction between local and nonlocal people and events, they are more likely to focus on similarities. For example, Koreans (who are high in local identity) draw clear distinctions between in-group and out-group members, whereas Americans (who are high in global identity) do not (Rhee, Uleman, and Lee 1996). In addition, prior studies have also pointed to an association between high (vs. low) degrees of local identity and perceived dissimilarity from out-group members. In particular, activating one's own traditions and values can enhance intergroup aggression, especially when the in-group and outgroup are in conflict (Struch and Schwarz 1989). Conversely, research has suggested a link between openness to diversity (a characteristic of globals but not locals) and a similarity-focus mindset. For example, openness to diversity reduces perceived difference from other group members (Hobman, Bordia, and Gallois 2003).

The dissimilarity focus among locals (vs. globals) also extends to nonsocial domains. For example, when asked to answer partially redundant questions (e.g., to rate both academic satisfaction and general life satisfaction), Chinese (high in local identity) spontaneously recognize the redundancy problem (e.g., academic satisfaction is part of general life satisfaction) and adjust their responses accordingly; however, Germans (high in global identity) do not detect the redundancy (Schwarz, Oyserman, and Peytcheva 2010). Similarly, Li et al. (2018) showed that, when evaluating two videos, individuals with overseas experiences (high in global identity) are able to identify more similarities than those without overseas experiences (high in local identity).

In the context of product evaluations, when a local identity is salient, we propose that individuals will have a dissimilarity-focus mindset and perceive greater variance among brands in the marketplace. The perception that brands are dissimilar should motivate locals to look for cues to make sense of the distinctions. However, when a global identity is salient, we propose that individuals will have a similarity-focus mindset and view things as homogeneous, leading to lower perceived quality differences among brands. The perception that brands are similar discourages consumers from expending effort to differentiate them (see Mussweiler 2003) and to look for cues that enable such distinction. Next, we discuss how these differences may influence the tendency to use price as an indicator of product quality.

Local-Global Identity, Perceived Variance, and PPQ Associations

Our focal hypothesis that perceived quality variance mediates the relation between local—global identity and PPQ associations (see Figure 1) relies on the proposed link between perceived variance among comparative brands and PPQ. We expect this association for several reasons.

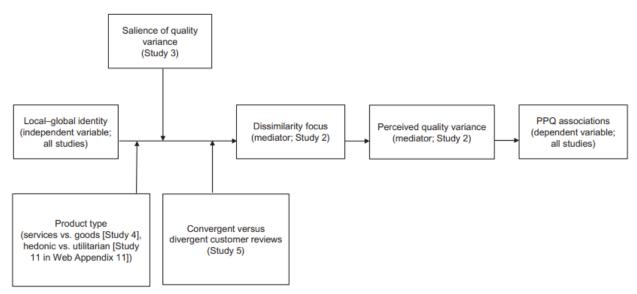


Figure 1. The impact of local–global identity on PPQ associations.

Consumers who perceive greater variance among comparative brands may be more motivated to look for cues to mentally differentiate the brands, as doing so may enable them to satisfy the fundamental human need to make sense of the world (Lalwani and Forcum 2016). In situations where nonprice cues are not diagnostic, such as when performance-related attributes are not alignable, perceived dissimilarity among comparative brands drives consumers to rely on alignable cues (e.g., price) that readily enable comparison between brands to infer quality. Indeed, price is intuitively one of the most important alignable product attributes (Lalwani and Forcum 2016; Monroe 2003)—a dominant and salient attribute that enables consumers to directly and quickly compare brands (Lalwani and Monroe 2005; Monroe 2003; Park, Lalwani, and Silvera 2019). Thus, people who want to make sense of dissimilar objects (i.e., locals) are more likely to use price as a cue. When they need to determine brand quality, these consumers may be more likely to make PPQ associations.

In contrast, those who perceive low variation in quality tend to view high- and low-priced brands as not differing much in quality and therefore are less motivated to look for and use cues that distinguish quality. Such individuals may be less likely to use price as a cue for inferring product quality. Accordingly, when consumers perceive the difference between two brands to be obvious, they selectively access information that supports the dissimilarity (Xia, Monroe, and Cox 2004). However, when perceived difference across brands is low, consumers are likely to view the quality of high- and low-priced brands to be similar and are thus less likely to use any cues (e.g., price) to differentiate the brands.

H₁: When evaluating brand quality, locals have a greater tendency than globals to make PPQ associations.

H₂: The effect of local (vs. global) identity on PPQ associations is mediated by perceived variance among comparative brands in the marketplace.

Boundary Conditions

To advance our understanding of the underlying role of perceived quality variance, we also examine potential boundary conditions for the effect of local—global identity on PPQ associations. We have argued that locals (vs. globals) perceive greater variance in the quality of brands, which increases their tendency to use price to judge a product's quality. Thus, when quality differences among brands are made salient through a contextual cue (compared with a control condition wherein they are unchanged), globals—who, by nature, perceive less quality variance and have greater potential for increase—should be more likely to notice the differences among the brands and thus use price as an indicator of brand quality. However, such a contextual cue is less likely to increase the PPQ associations of locals, whose tendency to see variation (and thus, to make PPQ associations) is already high ("ceiling effect").

Similarly, when quality similarities among brands are made salient, locals—whose baseline tendency to discriminate among brands is high and has a greater potential for decrease—should be less likely to perceive brands as different and, therefore, have a lower tendency to make PPQ associations, compared with a control condition in which quality variance is unchanged. However, globals' baseline tendency to discriminate among brands is low and is difficult to decrease further ("floor effect"). Thus, their tendency to make PPQ associations should be unchanged when quality variance is reduced, relative to a control condition. We hypothesize the following:

H_{3a}: When the quality difference among brands is made salient (compared with a control condition in which quality variance is unchanged), globals' tendency to make PPQ associations is elevated, whereas locals' tendency to use PPQ associations is unaffected.

H_{3b}: When the quality similarity among brands is made salient (i.e., quality variance is reduced, compared with a control condition in which quality variance is unchanged), locals' tendency to make PPQ associations is decreased, whereas globals' tendency to use PPQ associations is unaffected.

In real-life situations, consumers make choices not just about physical goods but also about services. Given that services are intangible and heterogeneous, their perceived quality difference is inherently greater than that of goods (Lovelock and Gummesson 2004). Greater variation in the quality of services (vs. goods) should increase globals' tendency to make PPQ associations because their baseline tendency to differentiate brands is low and has greater potential for increase. However, because locals' tendency to make PPQ associations is already high, there is little room to increase it further (the same "ceiling effect" argument outlined previously). As a result, they should exhibit little change in PPQ when evaluating services (vs. goods).

H4: When evaluating services (vs. goods), globals' tendency to make PPQ associations is significantly higher, whereas locals' tendency to make PPQ associations does not differ.

Beyond product type, another context that naturally changes consumers' perceived quality difference is when they see divergent or convergent customer ratings on products that interest them. Online reviews increasingly influence consumer purchase decisions (Song et al. 2018). However, these reviews do not necessarily agree with one another. Convergent customer ratings in a product category (i.e., when most people leave similar ratings for products in that category) are likely to give customers an impression that various products in this category are of similar quality (i.e., low quality variance). In contrast, divergent customer ratings (i.e., people's opinions are all over the place and there is no dominant view) are likely to give customers an impression that the quality of products in this category differs greatly. Drawing on H₃, we predict the following:

H_{5a}: When the distribution of customer product reviews is divergent (compared with a control condition), globals' tendency to make PPQ associations is significantly increased, whereas locals' tendency to make PPQ associations does not differ.

H_{5b}: When the distribution of customer product reviews is convergent (compared with a control condition), locals' tendency to make PPQ associations is significantly reduced, whereas globals' tendency to make PPQ associations does not differ.

We tested our hypotheses in eight studies. Study 1 provided initial evidence on the link between local–global identity and PPQ associations in a shopping mall with real consumers (H₁). Study 2 replicated Study 1's findings in a different context and demonstrated perceived quality variance as a key mechanism underlying these effects (H₂). The next three studies examined several contextual moderators, including salience of quality variance/similarity (Study 3), product type (services vs. goods; Study 4), and distribution of customer ratings (convergent or divergent; Study 5). Study 6 primed both local–global identity and construal level to examine their differential effects on reliance of price as an indicator of quality and reconciled the seemingly contradictory predictions between our theory and those of construal level theory. Study 7 brought our theory to the field to examine how situationally activated local/global identity affects consumers' monetary expenditures. Finally, Study 8 provides the results of a meta-analysis of previous studies on PPQ associations conducted across different countries. Notably, consistent with prior research (e.g., Gao, Zhang, and Mittal 2017), our empirical work addresses the relative effects of local (vs. global) identity.

Study 1: The Shopping Mall Study

We designed Study 1 to test the effect of local (vs. global) identity on PPQ with real consumers in a shopping mall and to assess whether local—global identity can be situationally activated in a real consumption setting. Respondents were 164 shoppers at a shopping mall in the city of Hohhot, China, who were intercepted by the researchers and shown a brochure that described either a "Think Local Movement" or a "Think Global Movement" to manipulate local and global identity, respectively (Gao, Zhang, and Mittal 2017; for stimuli, see Web Appendix 1). Thereafter, participants were told that a well-known apparel company was considering releasing

some shoes and caps to be sold at the mall and had hired us to conduct a test on consumers' quality perceptions of their products. The researchers then showed them three pairs of running shoes and three caps, with price tags attached (Shoe A: \$299; Shoe B: \$599; Shoe C: \$799; Cap A: \$39; Cap B: \$69; Cap C: \$99). Following Lalwani and Shavitt (2013), participants rated all six products on quality, reliability, and dependability (1 = "Very Low," and 7 = "Very High"), which were averaged to form a quality evaluation for both shoes (α s = .89 to .90) and caps (α s = .88 to .89).

Following Zhang and Khare (2009), we assessed the validity of the identity manipulation using a three-item scale, anchored by 1 = "Global Citizen," and 7 = "Local Citizen" (e.g., "For the time being, I mainly identify myself as a…"; α = .86; for the full scale and other measures used in this article, see Web Appendix 2). Results indicated that participants assigned to the local (vs. global) identity condition perceived themselves more as local citizens (for the local–global identity manipulation check results in this study and other studies, see Web Appendix 3). Participants also reported their age, gender, and household income.

A 2 (identity) × 2 (product category; dummy coded 1 = shoes and 0 = caps) repeated-measure analysis of variance (ANOVA) on the correlation between retail prices and subjective quality evaluations (i.e., PPQ associations) revealed a significant main effect of identity (F(1, 162) = 8.36, p < .01) but nonsignificant effects of product category and its interaction with identity (ps > .15), suggesting that PPQ associations did not vary by product category. Thus, the data were pooled across the product categories. For both product categories, participants in the local (vs. global) identity condition made significantly higher PPQ associations, as predicted in H₁ (shoes: $M_{local} = .68$ vs. $M_{global} = .40$; t(162) = 2.98, p < .01; caps: $M_{local} = .71$ vs. $M_{global} = .50$; t(162) = 2.15, p < .05). Rerunning the analyses with age, gender, and household income as covariates did not change the pattern of results, and none of these demographic variables were significant (all ps > .40).

Follow-Up Study

We designed a follow-up study to replicate Study 1's finding in the United States, using 69 consumers (49 men; $M_{age} = 31$ –40 years) shopping at an apparel store in an upscale mall. Respondents were guided to a table where they saw four caps marked with different prices (Cap A: \$10; Cap B: \$20; Cap C: \$30; Cap D: \$40). They were asked to rate the quality of each cap on a 0 to 100 scale. For each participant, the correlation between retail prices and quality ratings served as our dependent variable. Local–global identity was manipulated by the T-shirt the employee was wearing. The local-identity T-shirt contained the logo "Think Local" and the phrase "supporting the link to local community," whereas the global-identity T-shirt contained the logo "Think Global" and the phrase "supporting the link to the whole world" (for a picture of these T-shirts, see Web Appendix 4). After completing quality ratings for each cap, participants rated the three-item local–global identity manipulation check questions (α = .91) as in Study 1. Results showed that participants in the local (vs. global) identity condition made significantly higher PPQ associations (M_{local} = .50 vs. M_{global} = .02; t(67) = 3.19, p < .01).

In a real-life setting, Study 1 supported H₁'s prediction that locals (vs. globals) have a greater tendency to make PPQ associations. We conducted another study (Study 9 in Web Appendix 5)

to test the generalizability of our findings over single-quality-cue and multiple-quality-cue formats. Results of this study replicated the findings of Study 1 and demonstrated that the effect of local—global identity on PPQ held in both multiple- and single-quality-cue conditions. In the next study, we aimed to test the mechanism underlying the link between local—global identity and PPQ.

Study 2: The Role of Perceived Quality Variance

Participants, Design, and Procedure

One hundred ninety-six Amazon Mechanical Turk (MTurk) workers (89 men; $M_{age} = 37.25$ years, SD = 12.32) from the United States participated in Study 2, which entailed a 2 (identity: local vs. global) × 2 (price level: high vs. low) between-subjects design. Following Ng and Batra (2017), we manipulated local–global identity using a sentence-unscrambling task with ten sentences (the first ten items in Web Appendix 6). Those assigned to the local (global) identity condition were instructed to construct ten grammatically correct sentences using such sentences as "Events know I local (global)." The manipulation check questions ($\alpha = .94$) were as in Study 1 (for results, see Web Appendix 3).

Then, participants answered three questions on dissimilarity focus (e.g., "At this time, I feel that I could easily identify differences in a set of comparative objects"; $\alpha = .60$), and seven questions on perceived quality variance using a scale adapted from Bao, Bao, and Sheng (2011; e.g., "The quality of alarm clocks in the marketplace varies a lot"; $\alpha = .90$). Both scales were anchored by 1 = "Strongly Disagree," and 7 = "Strongly Agree."

Next, following Lalwani and Forcum (2016), participants viewed information about three brands of alarm clocks—the target brand and two comparison brands—which provided baseline price information. Participants were randomly assigned to either the high- or low-price condition, using identical product descriptions. The target brand was priced the highest (lowest) in the high (low) price condition, with equal relative price range (from 43% [15/30] to 75% [15/20], see Web Appendix 7). In addition, we used fictitious brand names to minimize the potential confounds. Afterward, participants rated the target brand on the same three-item quality measure as in Study 1 ($\alpha = .84$).

Results and Discussion

Local–global identity and PPQ associations

A 2 (identity) × 2 (price) ANOVA on the quality index revealed no effect of local–global identity or price (ps > .11) but, more importantly, showed a significant identity × price two-way interaction (F(1, 192) = 4.55, p < .05). Consistent with H₁, locals rated the target brand as having significantly higher quality in the high-price condition (M = 5.54) than in the low-price condition (M = 5.03, t(102) = 2.63, p < .01). In contrast, the quality ratings for globals did not vary across the two price conditions (M_{low price} = 4.98 vs. M_{high price} = 4.92; t(90) = .29, p = .77).

Mediation analysis

A bootstrapping procedure with 10,000 iterations using Model 15 of Hayes' (2012) PROCESS showed that the indirect effect of local (vs. global) identity on PPQ associations through perceived quality variance was positive (.11) and significant (95% confidence interval [CI] = [.02, .29], excluding zero), in support of H_2 .¹

Study 2 demonstrated that the effect of local (vs. global) identity on PPQ associations is mediated by perceived quality variance, in support of H₂. Relative to globals, locals perceived higher levels of quality difference among comparative brands in the marketplace, which in turn led to greater PPQ associations. As we show in Study 10 (Web Appendix 8), price sensitivity and risk aversion cannot be alternative explanations of our findings.

Our theorization suggests that local (vs. global) identity induces a general dissimilarity-focus mindset, which in turn enhances perceived quality variance, leading to higher PPQ. To assess the proposed serial mediation, we followed Mourali and Yang (2013) to test two mediation models. We first tested whether dissimilarity focus mediates the effect of local–global identity on perceived quality variance. We then tested whether perceived quality variance mediates the effect of dissimilarity focus on PPQ (mediated-moderation model). As expected, for the first model, a bootstrapping with 10,000 iterations using Model 4 showed that the indirect effect of local–global identity on perceived quality variance through dissimilarity focus was positive (.18) and significant (95% CI = [.04, .36], excluding zero). Furthermore, the second mediated-moderation model (Model 15) showed that the indirect effect of dissimilarity focus on PPQ through perceived quality variance was also positive (.12) and significant (95% CI = [.01, .28], excluding zero). These results provide support for our conceptualization. Next, we provide further evidence of the mechanism by manipulating the mediator "perceived quality variance."

Study 3: Salience of Quality Variance

Participants, Design, and Procedure

Three hundred eighty-seven MTurk workers (134 men; $M_{age} = 39.84$ years, SD = 12.82) from the United States participated in exchange for a small monetary incentive. The experiment consisted of a 2 (identity: local vs. global) × 2 (price level: high vs. low) × 3 (quality variance: enhanced, reduced, unchanged) between-subjects design.

¹ We further analyzed the mediated moderation model using Muller, Judd, and Yzerbyt's (2005) approach. We tested this mediated moderation by first regressing the quality index onto local–global identity, price, and their interaction term. This analysis revealed an identity × price interaction (β = .26, t = 2.13, p < .05). Second, we used the same model with perceived quality variance (i.e., our mediator) as a dependent variable. This analysis revealed a significant effect of local–global identity (β = .20, t = 2.02, p < .05) but a nonsignificant effect of the identity × price interaction (β = .02, t = .16, p = .87). Third, we regressed quality index onto the same model plus perceived quality variance and its interaction with price. As expected, we found a significant perceived quality variance × price interaction (β = .66, t = 2.20, p < .05). This last model revealed that the identity × price interaction was no longer significant (β = .20, t = 1.71, p = .09), suggesting a complete mediated moderation.

² The mediated-moderation model using Muller, Judd, and Yzerbyt's (2005) approach indicated a complete mediated moderation.

We manipulated local and global identity as in Study 2. Participants were then randomly assigned to one of the three quality variance conditions, which used a news report from a reputable magazine. In the quality variance–enhanced (reduced) condition, participants read a report from an interview with an expert regarding the quality of products in the marketplace, which included an excerpt stating the expert's opinion that "durable appliances offered by different manufacturers in fact do (do not) have significant differences in product quality." In the quality variance unchanged (control) condition, no such news was presented. Afterward, participants were shown the same three brands of alarm clocks as in Study 2. We added microwaves (for the product stimuli, see Web Appendix 8) as an additional product to enhance the generalizability of our findings. Participants were asked to rate the target brands on the same three-item quality index as in Study 1 ($\alpha_{alarm \, clock} = .90$ and $\alpha_{microwave} = .93$).

Finally, as a manipulation check for quality variance prime, participants were asked to recall the news and indicate the expert's opinion about product quality (1 = "has significant differences across products," 2 = "does not have much difference across products," and 3 = "I don't know about this information"). Results showed that most participants in the variance-enhanced condition selected 1 (93.8%), whereas most participants in the variance-reduced condition selected 2 (89.5%), and most participants in the variance-unchanged (i.e., control) condition selected 3 (73.6%; χ^2 (4) = 504.48, p < .01). Thus, quality variance was successfully primed.

Results and Discussion

Local-global identity and PPQ associations

We conducted a 2 (identity) \times 2 (price) \times 3 (quality variance) \times 2 (product category; dummy coded 1 = alarm clock, and 0 = microwave) repeated-measure ANOVA on the quality index. Results revealed only a significant main effect of product category (F(1, 385) = 16.93, p < .01); no other effects were significant (ps ranged from .11 to .51), suggesting that PPQ associations did not vary by product category. Thus, the data were pooled across the product categories. Results of the pooled data revealed no main effect of identity (F(1, 385) = 1.96, p = .16), a significant main effect of price (F(1, 385) = 20.79, p < .01) and variance (F(2, 385) = 3.00, p = .05), no effect of identity \times variance two-way interaction (F(2, 385) = .82, p = .44), and significant two-way interactions between identity and price (F(1, 385) = 6.40, p < .05) and between price and variance (F(1, 385) = 7.77, p < .01). More important and consistent with H_{3a} and H_{3b}, there was a significant three-way interaction among identity, price, and quality variance (F(2, 385) = 3.17, p < .05).

In the control (i.e., variance-unchanged) condition, a 2 (identity) \times 2 (price) ANOVA revealed no effect of identity or price (ps > .18), and a significant identity \times price two-way interaction (F(1, 385) = 9.44, p < .01). Locals rated the target brands as superior in quality in the high (vs. low) price condition ($M_{high\ price} = 4.88\ vs.\ M_{low\ price} = 4.21$, t(68) = 3.93, p < .01). However, globals did not rate the brands as significantly different across the price conditions ($M_{low\ price} = 4.53\ vs.\ M_{high\ price} = 4.26$, t(53) = 1.26, p = .21), in support of H_1 .

Test of H_{3a}

Next, we compared the PPQ associations in the variance-enhanced (vs. unchanged) conditions among locals and globals separately. For globals in the variance-enhanced and unchanged conditions, a 2 (variance) × 2 (price) ANOVA revealed no effect of salience (F(1, 385) = .18, p = .68) or price (F(1, 385) = 1.33, p = .25), and a significant quality-variance × price two-way interaction (F(1, 385) = 8.40, p < .01), suggesting that enhancing the salience of quality variance significantly influenced globals' tendency to make PPQ associations. Contrasts suggested that globals made PPQ associations in the variance-enhanced condition (M_{low price} = 4.02 vs. M_{high price} = 4.65; t(63) = -3.75, p < .01), but not in the variance-unchanged condition (M_{low price} = 4.53 vs. M_{high price} = 4.26; t(53) = 1.26, p = .21; Figure 2).

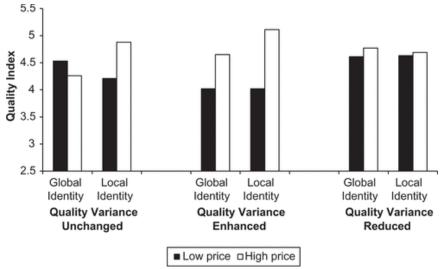


Figure 2. The moderating effect of salience of quality variance on the relationship between local–global identity and PPQ associations (Study 3).

For locals in the variance-enhanced and unchanged conditions, a 2 (variance) \times 2 (price) ANOVA revealed no effect of salience (F(1, 385) = .01, p = .91) and a significant effect of price F(1, 385) = 36.61, p < .01). Consistent with our hypothesis, there was no effect of variance \times price two-way interaction (F(1, 385) = 2.03, p = .16), suggesting that enhancing the salience of quality variance did not change locals' tendency to make PPQ associations. As shown in Figure 2, locals in both variance-enhanced (M_{low price} = 4.02 vs. M_{high price} = 5.11; t(62) = -5.39, p < .01) and variance-unchanged (M_{low price} = 4.21 vs. M_{high price} = 4.88; t(68) = -3.93, p < .01) conditions made PPQ associations. Taken together, these results supported H_{3a}.

Test of H_{3b}

Furthermore, we compared the PPQ associations in the variance-reduced (vs. unchanged) conditions among locals and globals separately. For globals in the variance-enhanced and unchanged conditions, a 2 (variance) \times 2 (price) ANOVA revealed no effect of variance, price, or the variance \times price two-way interaction (all ps > .05), suggesting that reducing the salience of quality variance did not change globals' tendency to make PPQ associations. Contrasts showed that globals did not make PPQ associations in the variance-reduced ($M_{low\ price} = 4.61\ vs.\ M_{high\ price} = 4.77$; t(77) = -.68, p = .50) or variance-unchanged ($M_{low\ price} = 4.53\ vs.\ M_{high\ price} = 4.26$; t(53) = 1.26, p = .21) conditions (see Figure 2).

For locals in the variance-reduced and unchanged conditions, a 2 (variance) × 2 (price) ANOVA revealed no effect of salience (F(1, 385) = .64, p = .42) but a significant effect of price (F(1, 385) = 6.25, p < .05) and a significant variance × price two-way interaction (F(1, 385) = 4.47, p < .05), suggesting that reducing the salience of quality variance significantly influenced locals' tendency to make PPQ associations. As Figure 2 illustrates, contrasts showed that locals did not make PPQ associations in the variance-reduced condition (M_{low price} = 4.63 vs. M_{high price} = 4.69; t(62) = -.25, p = .80), but did so in the variance-unchanged condition (M_{low price} = 4.21 vs. M_{high price} = 4.88; t(68) = -3.93, p < .01). These results support H_{3b}.

Our framework suggests that locals (vs. globals) perceive greater quality variance among comparative brands, which in turn leads them to rely on price to infer the quality of these brands. Accordingly, situationally enhancing the salience of quality variance increased globals' but not locals' tendency to make PPQ associations, compared with a control condition in which quality variance was not changed. Similarly, situationally increasing the salience of quality similarity (compared with a control condition in which quality variance was unchanged) reduced locals' tendency to use price to indicate quality but did not affect globals' tendency to make PPQ associations, because globals already perceived low variance in quality to begin with.

We designed the following two studies to extend Study 3 by using natural moderators, including product type (Study 4) and the distribution of customer ratings (Study 5). If our proposed mechanism holds, when the evaluation objects are services (vs. goods) or when the ratings from other customers are divergent (vs. control), we should replicate the findings in the variance-enhanced condition, as stated in H_4 and H_{5a} . However, when the ratings are convergent (vs. control), we should replicate the findings in the variance-reduced condition (H_{5b}).

Study 4: Services Versus Goods

Participants, Design, and Procedure

Two hundred seventy-eight MTurk workers (101 men; $M_{age} = 39.89$ years, SD = 12.22) from the United States participated in a study comprising a 2 (identity: local vs. global) × 2 (price: high vs. low) × 2 (product type: services vs. goods) between-subjects design. The procedure, manipulation of local–global identity, and measures were the same as in Study 3, except for three important differences: (1) we included three services (carpet cleaning, landscaping, and airline services; for stimuli, see Web Appendix 9); (2) in addition to the two products used before (i.e., alarm clock and microwave), we added sewing machines to ensure equivalence with the number of services; and (3) instead of keeping relative price range constant, we kept the same prices for the two baseline brands (e.g., \$20 and \$30). After examining descriptions of the three brands (i.e., the target brand and two other brands) for each product, participants rated the target brands on the same three-item quality index as in Study 1 (α s ranged from .82 to .93).

 $^{^3}$ A pilot study with 40 MTurk workers (16 men; $M_{age} = 30.43$ years, SD = 9.55) from the United States supported our assumption that services are perceived to vary more in quality than goods. For each of the six products noted previously (three goods and three services), participants rated the first two items of the perceived quality variance measure from Study 2 (α s ranged from .61 to .78; for the stimuli of alarm clock and microwave, see Web Appendix 8 (Study 10); for the stimuli of sewing machine and three services, see Web Appendix 9). Results suggested that

Results

For goods, we analyzed the data using a 2 (identity) \times 2 (price) \times 3 (category of goods; dummy-coded as 2 = sewing machine, 1 = alarm clocks, and 0 = microwave) repeated-measure ANOVA with quality index as the dependent variable. The analysis revealed that none of the effects related to category of goods were significant (ps > .26). For services, we analyzed the data using a 2 (identity) \times 2 (price) \times 3 (service type) repeated-measure ANOVA with quality index as the dependent variable. The analysis revealed a significant main effect of service category (F(1, 131) = 3.83, p = .05), but none of its interactions with other factors were significant (ps > .50). Thus, we pooled the data separately for goods and services.

Using the pooled data, we conducted a 2 (identity) \times 2 (price) \times 2 (product type) ANOVA on the quality index. Results revealed no effect of identity (F(1, 270) = .35, p = .58) but did show significant effects of price (F(1, 270) = 13.20, p < .01), product type (F(1, 270) = 21.06, p < .01), product type \times price two-way interaction (F(1, 270) = 4.83, p < .05), and price \times identity two-way interaction (F(1, 270) = .01, p = .94). Consistent with H₄, there was a significant three-way interaction among identity, price, and product type (F(1, 270) = 4.05, p < .05).

For goods, a 2 (identity) × 2 (price) ANOVA revealed no effect of identity or price (ps > .33), but we did find a significant identity × price two-way interaction (F(1, 270) = 9.13, p < .01). Locals rated the target brands as superior in the high- (vs. low-) price condition ($M_{low\ price} = 4.45$ vs. $M_{high\ price} = 4.94$, t(71) = -2.93, p < .01), whereas globals rated the target brands as equivalent in quality across price conditions ($M_{low\ price} = 4.78$ vs. $M_{high\ price} = 4.52$, t(66) = 1.51, p = .14). These findings replicated those of Studies 1 and 2.

*Test of H*₄

Next, we compared PPQ associations for services (vs. goods) among globals and locals separately. For globals, a 2 (product type) \times 2 (price) ANOVA revealed no effect of price (F(1, 270) = .99, p = .32) but a significant main effect of product type (F(1, 270) = 10.82, p < .01) and a significant product type \times price interaction (F(1,270) = 8.87, p < .01). Globals made PPQ associations when evaluating services (M_{low price} = 4.80 vs. M_{high price} = 5.31; t(61) = -2.66, p = .01) but not goods (M_{low price} = 4.52 vs. M_{high price} = 4.78; t(66) = -1.51, p = .14; Figure 3). For locals, a 2 (product type) \times 2 (price) ANOVA revealed significant effects of product type (F(1, 270 = 11.34, p < .01) and price (F(1, 270) = 17.74, p < .01). More important and consistent with H₄, there was no effect of two-way product type \times price interaction (F(1, 270) = .04, p = .85). Locals made PPQ associations when evaluating both services (M_{low price} = 4.84 vs. M_{high price} = 5.39; t(70) = -2.98, p < .01) and goods (M_{low price} = 4.45 vs. M_{high price} = 4.94; t(71) = -2.93, p < .01; Figure 3). Thus, these results supported H₄.

participants perceived services (M = 5.09) to have greater variance in quality, compared with goods (M = 4.50; t(39) = 4.11, p < .01).

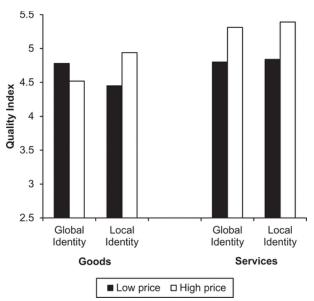


Figure 3. The moderating role of services versus goods on the relationship between local–global identity and PPQ associations (Study 4).

Study 5: Convergent Versus Divergent Customer Reviews

Participants, Design, and Procedure

Participants were 785 MTurk workers (278 men; $M_{age} = 39.33$ years, SD = 13.13) from the United States who were randomly assigned to a 2 (identity: local vs. global) × 2 (price: high vs. low) × 3 (customer rating distribution: convergent, divergent, control) between-subjects design. The procedure, manipulation of local–global identity, product stimuli, and measures were as in Study 2 except for two differences: (1) we used microwaves in this study, and (2) before making judgments on the target brand, participants saw a summary table of customer ratings, which we used to manipulate the distribution of customer ratings. In the divergent-rating condition, the customer reviews were almost equally distributed across the "poor," "good," and "excellent" categories, whereas in the convergent-rating condition, customer reviews concentrated on the "good" category (for stimuli, see Web Appendix 10). Although the distribution of customer ratings differed, the average rating was the same across convergent and divergent conditions. In the control condition, there was no information about customer reviews.

Thereafter, participants viewed information about three brands (i.e., the target brand and two other brands) of microwaves and evaluated the target brand on the three-item quality measure as in Study 1 (α = .90). Participants were then asked to rate perceived differences between microwaves in the marketplace using the perceived quality variance measure as in Study 4 (α = .81). Participants in the divergent-rating condition (M = 5.22) perceived more quality variance than those in the control condition (M = 4.97; t(526) = 2.22, p < .05), whereas those in the convergent-rating condition (M = 4.67) perceived less quality variance than those in the control condition (M = 4.97; t(519) = -2.41, p < .05), suggesting that our manipulation was successful.

Results and Discussion

A 2 (identity) \times 2 (price) \times 3 (rating distribution) ANOVA on the quality index revealed no effect of identity or rating distribution (ps > .10), a significant effect of price (F(1, 773) = 51.55, p < .01), no significant two-way interactions (ps > .21), and, importantly, a significant three-way interaction among identity, price, and rating distribution (F(1, 773) = 5.32, p < .01).

In the control condition, we expected to replicate the findings of Study 2. A 2 (identity) \times 2 (price) ANOVA revealed no effect of identity (F(1, 773) = .12, p = .73), a significant effect of price (F(1, 773) = 16.75, p < .01), and a significant identity \times price two-way interaction (F(1, 773) = 10.90, p < .01). Participants primed with local identity rated the target brand as having higher quality in the high- (vs. low-) price condition (M_{low price} = 3.71 vs. M_{high price} = 4.56; t(138) = -5.50, p < .01). However, those primed with global identity rated the target brand equivalently in the two price conditions (M_{low price} = 4.10 vs. M_{high price} = 4.19; t(122) = -.56, p = .58).

Test of H_{5a}

Next, we compared PPQ in the divergent (vs. control) conditions among locals and globals separately. For globals in the divergent and control conditions, a 2 (rating distribution) × 2 (price) ANOVA revealed no effect of rating distribution (p > .11), a significant effect of price (F(1, 773) = 16.31, p < .01), and a significant ratings distribution × price two-way interaction (F(1, 773) = 10.70, p < .01). Contrasts showed that globals made PPQ associations in the divergent condition (M_{low price} = 3.53 vs. M_{high price} = 4.39; t(122) = -5.44, p < .01), but not in the control condition (M_{low price} = 4.10 vs. M_{high price} = 4.19; t(122) = -.56, p = .58; Figure 4). For locals in the divergent and control conditions, a 2 (rating distribution) × 2 (price) ANOVA revealed no effect of rating distribution (p > .15), a significant effect of price (F(1, 773) = 59.68, p < .01), and no effect of rating distribution × price two-way interaction (F(1, 773) = .01, p = .92). Contrasts showed that locals made PPQ associations in both the divergent (M_{low price} = 3.85 vs. M_{high price} = 4.72; t(138) = -5.49, p < .01) and control (M_{low price} = 3.71 vs. M_{high price} = 4.56; t(138) = -5.50, p < .01; Figure 4) conditions, in support of H_{5a}.

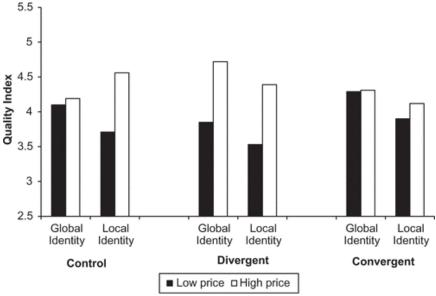


Figure 4. The moderating role of convergent versus divergent ratings on the relationship between local–global identity and PPQ associations (Study 5).

Furthermore, we compared PPQ in the convergent (vs. control) conditions among locals and globals separately. For globals in the convergent and control conditions, a 2 (rating distribution) \times 2 (price) ANOVA revealed no effect of rating distribution, price, or the rating distribution \times price two-way interaction (ps > .19), suggesting that providing convergent customer reviews did not change globals' tendency to make PPQ associations. Contrasts showed that globals did not make PPQ associations in the convergent ($M_{low price} = 3.90$ vs. $M_{high price} = 4.12$; t(126) = -1.25, p = .21) and control ($M_{low price} = 4.10$ vs. $M_{high price} = 4.19$; t(122) = -.56, p = .58; Figure 4) conditions. For locals in the convergent and control conditions, a 2 (rating distribution) \times 2 (price) ANOVA revealed no effect of rating distribution (p > .13), a significant effect of price (F(1, 773) = 14.84, p < .01), and a significant rating distribution \times price two-way interaction (F(1, 773) = 13.10, p < .01), suggesting that providing convergent customer reviews influenced locals' tendency to make PPQ associations. Contrasts showed that locals did not make PPQ associations in the convergent condition ($M_{low price} = 4.29$ vs. $M_{high price} = 4.31$; t(127) = -.15, p = .88), but did so in the control condition ($M_{low price} = 3.71$ vs. $M_{high price} = 4.56$; t(138) = -5.50, p < .01; Figure 4). Taken together, these results supported H_{5b} .

Using product type (Study 4) and distribution of customer ratings (Study 5) as natural boundary conditions, these studies provided additional evidence for the "perceived quality variance" account. We also conducted a study (Study 11 in Web Appendix 11) to examine hedonic (vs. utilitarian) product type as another natural moderator. Hedonic (vs. utilitarian) products by nature have greater perceived quality variance because different consumers tend to evaluate hedonic products using divergent criteria, whereas the evaluation of utilitarian products is mainly based on well-defined criteria (Holbrook and Hirschman 1982). Our framework suggests that when evaluating hedonic (vs. utilitarian) products, globals' tendency to use PPQ associations will be elevated, whereas locals' tendency to use PPQ associations will be unaffected. Our results supported this prediction. These studies enhanced the external validity of our findings and showed direct evidence of the managerial implications of this research.

In the next study, we aim to reconcile the seemingly contradictory findings predicted by our theory and those of Yan and Sengupta (2011). These authors found that an abstract (vs. concrete) construal enhances PPQ associations. If globals (vs. locals) have a greater abstract (instead of concrete) construal (as implied by Ng and Batra [2017]), this account predicts that they would be more likely to make PPQ associations, which is opposite to our prediction.

We believe that the seemingly contradictory predictions are due to the conceptual distinction between local—global identity and construal level. Our theorization predicts that a local (vs. global) identity induces a dissimilarity-focus mindset, which in turn motivates the search for, and use of, diagnostic cues to make sense of the quality differences between brands. In contrast, construal-level theory suggests that abstract (vs. concrete) information such as price tends to exert greater impact on representations and judgments when construal level is high (vs. low; Yan and Sengupta 2011). Thus, although a local identity and low-level construal both may lead to greater perceived differences among comparative objects (Lamberton and Diehl 2013), locals are driven by their innate dissimilarity-focus mindset, which motivates them to look for and use

diagnostic cues such as price to justify brand differences. However, a low- (vs. high-) level construal reduces the tendency to use abstract cues such as price to judge product quality.

We tested the distinction between local-global identity and construal level in the context of product choices. Specifically, we manipulated the diagnosticity of product attributes through trade-offs among product features. As an example, take three features of a digital camera: megapixels, optical zoom, and price. When attributes do not contain trade-offs (e.g., "low in price but high in both megapixels and optical zoom" vs. "high in price but low in both megapixels and optical zoom"), the decision scenario is quite similar to the stimuli of Yan and Sengupta (2011, Experiment 2), in which the comparison was between a low-price, high-quality option and a high-price, low-quality option. In such a situation, perceived quality variance among comparative brands is made salient by the diagnosticity of product attributes. When construal level is experimentally made high, we expect to replicate Yan and Sengupta's findings (i.e., price has more impact in the high- than in the low-construal condition). However, the prediction of local-global identity can have two possible directions, depending on whether the construal-level account or our proposed quality variance account holds. The construal-level account predicts that price, being an abstract cue, will be used as a quality cue more by globals (vs. locals) because they are abstract (vs. concrete) thinkers. However, the quality-variance account suggests that the impact of price will not differ across locals and globals (as in H_{3a}).

Given that trade-offs significantly lower the diagnosticity of product features (Feldman and Lynch 1988; Heath, McCarthy, and Mothersbaugh 1994; Lynch 2006), when attributes contain trade-offs (e.g., low price, high in megapixel, low in optical zoom, representing a low-price, mixed-quality option), perceived quality variance among the comparative brands is not made salient (similar to the control condition in Study 3). In such a situation, if the quality-variance account holds, price should affect locals (vs. globals) more, as specified in H₁. If the construal-level account holds, we predict price, being an abstract cue, to have more of an impact on globals (vs. locals), who are abstract (vs. concrete) thinkers. In addition, according to Yan and Sengupta (2011), quality attributes are concrete product cues (i.e., low-level construal), whereas price is an abstract cue (i.e., high-level construal). Because the manipulation of diagnosticity is only on quality (and not on price) cues, we expect diagnosticity to moderate the effect of construal level on PPQ in the low-construal-level condition, but not in the high-construal-level condition. The next study tests these predictions and rules out decision-making effort as another alternative explanation.

Study 6: The Role of Construal Level

Participants, Design, and Procedure

We randomly assigned 470 college students (239 men; $M_{age} = 26.60$ years, SD = 10.88) to one of the conditions in a 4 (local identity, global identity, high-level construal, low-level construal) × 2 (diagnosticity of quality cues: high vs. low) between-subjects design. Local and global identities were manipulated as in Study 2; the manipulation check items were the same as in Study 2 ($\alpha = .88$). Following Freitas, Gollwitzer, and Trope (2004), we primed construal level by asking participants to think and write about *why* they should improve their academic performance (high construal) or *how* to improve their academic performance (low construal). To check the

manipulation, we used the Behavior Identification Form (BIF; Vallacher and Wegner 1989; see Web Appendix 2).

Participants were then given a description of two cameras and asked to determine which was of higher quality. The two cameras differed in price and two other nonprice cues (megapixels and optical zoom). The diagnosticity of nonprice cues was manipulated through consistency in megapixels and optical zoom (see Web Appendix 12). In the high-diagnosticity condition, the two nonprice cues were in the same direction: the high-price (\$240) camera was low in both megapixels (15 MP) and optical zoom (10×), and the low-price (\$200) camera was high in both megapixels (18 MP) and optical zoom (12×). This design is consistent with Yan and Sengupta (2011; Experiment 2). Because one option had a higher price but was of lower quality than the other option, the quality variance between these two options was salient, as shown by Yan and Sengupta. In the low-diagnosticity condition, the two nonprice cues were in an opposite direction: the high-price (\$240) camera was low in megapixels (15 MP) but high in optical zoom (12×) and the low-price (\$200) camera was high in megapixels (18 MP) but low in optical zoom (10×). In this condition, the quality variance between the two options is not salient, as trade-offs reduce the diagnosticity of the nonprice cues (Feldman and Lynch 1988; Heath et al. 1994; Lynch 2006). We used a pilot study (N = 78) to validate the manipulation of diagnosticity. Participants were randomly assigned to either the high- or low-diagnosticity condition and rated perceived quality variance using two items ($\alpha = .85$): (1) "The quality of cameras in the marketplace varies a lot," and (2) "There are huge differences among cameras." Results showed that participants in the high- (vs. low-) diagnosticity condition perceived more variance in quality of cameras ($M_{high\ diagnosticity} = 5.61\ vs.\ M_{low\ diagnosticity} = 4.99;\ t(76) = 2.31,\ p < .05$).

Participants also completed a two-item measure of task involvement ($\alpha = .85$): (1) "How involved were you when judging the two cameras?" (1 = "Not at all," and 7 = "Very much so") and (2) "How much thought did you put into the task of evaluating the two cameras?" (1 = "Not at all," and 7 = "A lot"). We also recorded the actual time that participants spent making the choice as another measure of effort.

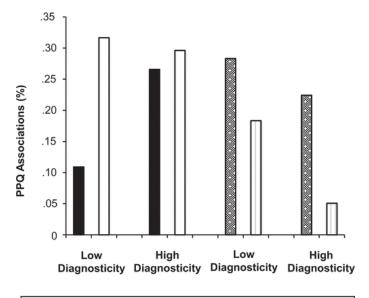
Results and Discussion

Manipulation check

As we expected, participants in the local (vs. global) identity condition were more likely to perceive themselves as local citizens ($M_{local} = 4.64$ vs. $M_{global} = 4.12$; t(231) = 2.25, p < .05). However, participants in the high- and low-construal level conditions did not differ in this aspect ($M_{high\ construal} = 4.30$ vs. $M_{low\ construal} = 4.40$; t(235) = -.41, p = .68). Those in the high-construal condition (M = 18.14) scored higher on the BIF than those in the low-construal condition (M = 15.57; t(235) = 3.66, p < .01), indicating that construal level was primed successfully. Interestingly, consistent with Ng and Batra (2017), participants in the global identity condition (M = 16.26) scored higher on the BIF than those in the local identity condition (M = 14.03; t(231) = 3.09, p < .01), suggesting that local–global identity prime indeed affects construal level.

Choice of the higher-quality camera

In the low-diagnosticity condition, consistent with our prediction that price would have more impact in the local (vs. global) identity condition, the proportion of participants who selected the high-price camera as superior was higher in the local (31.67%) versus the global (10.91%) identity condition ($\chi^2(1) = 7.27$, p < .01). However, the proportion of participants who selected the high-price camera as superior did not differ across the high-level (28.33 %) and low-level (18.33%) construal conditions ($\chi^2(1) = 1.68$, p = .20; Figure 5).



■Global identity □Local identity ■High construal □Low construal

Figure 5. The effect of local—global identity and construal level on PPQ associations (Study 6). *Notes:* The y-axis indicates choice of the high-price option as having better quality.

In the high-diagnosticity condition, the proportion of participants who selected the high-price camera as having better quality was higher ($\chi^2(1) = 7.44$, p < .01) in the high-level construal condition (22.41%) than in the low-level construal condition (5.08%); this is consistent with Yan and Sengupta's (2011) finding that price has more of an impact in the high-level construal condition than in the low-level construal condition. However, the proportion of participants who selected the high-price camera as superior did not differ between the local identity condition (29.63%) and the global identity condition (26.56%; $\chi^2(1) = .14$, p = .84).

To test our prediction that when diagnosticity is high (vs. low), globals will perceive the high-price item to be of better quality (i.e., elevated PPQ), whereas locals' quality perceptions will be unaffected (H_{3a}), we compared the choice of the high-price option in the high- (vs. low-) diagnosticity condition among locals and globals separately. The proportion of globals who selected the high-price camera as being of better quality was higher ($\chi^2(1) = 4.65$, p < .05) in the high-diagnosticity condition (26.56%) than in the low-diagnosticity condition (10.91%). However, the proportion of locals who selected the high-price camera as being of better quality did not differ ($\chi^2(1) = .06$, p = .84) between the high- (29.63%) and low- (31.67%) diagnosticity conditions (see Figure 5).

To test our expectation that diagnosticity (high vs. low) will moderate the effect of construal level on PPQ in the low-construal level condition but not in the high-construal level condition,

we conducted additional analysis across construal levels. Consistent with our expectations, in the high-level construal condition, the proportion of participants who selected the high-price cameras as having better quality did not differ across the low- (28.33%) and high- (22.40%) diagnosticity conditions ($\chi^2(1) = .55$, p = .46), indicating that they were not affected by diagnosticity; however, in the low-level construal condition, the proportion of participants was higher in the low- (18.33%) than in the high- (5.08%) diagnosticity condition ($\chi^2(1) = 5.03$, p = .03), suggesting that they were significantly influenced by diagnosticity of nonprice cues.

Ruling out decision-making effort as an alternative explanation

We used two measures to assess the effort participants invested in the decision task: (1) a self-reported task involvement measure and (2) processing time (in seconds). Results showed that neither task involvement ($M_{local} = 5.29$ vs. $M_{global} = 5.49$; t(231) = -1.02, p = .31) nor processing time ($M_{local} = 40.62$ vs. $M_{global} = 36.12$; t(231) = .39, p = .70) differed across the identity conditions. Therefore, decision-making effort cannot explain our findings.

This study provided direct evidence on the difference between local—global identity and construal level and reconciled the seemingly contradictory findings. Moreover, it ruled out effort in decision task as another alternative explanation for our findings. Next, we report a field experiment with real behavioral measures to test the external validity of the findings.

Study 7: Field Study with Actual Monetary Expenditures

The purpose of this study was to investigate a behavioral consequence of local—global identity and PPQ associations in a real choice task involving monetary expenditures. Cronley et al. (2005) found that consumers who make stronger PPQ associations spend more money on purchases to acquire higher-quality products. In the context of choosing a water bottle from four options at different prices, we expect that locals (vs. globals) are more likely to purchase expensive water bottles and that this effect is mediated by PPQ associations.

Participants, Design, and Procedure

Eighty-one U.S. consumers (33 men; $M_{age} = 23.65$ years, SD = 6.76) shopping at a local bookstore were recruited with an offer of \$20 in total compensation, which could include a water bottle of their choice with the remaining amount in cash. As in Study 1, participants were given a brochure that described either a "Think Local Movement" or a "Think Global Movement," which was used to manipulate local and global identity, respectively (Web Appendix 13).

Next, participants were instructed that the study would involve consumers' evaluation of water bottles and were reminded of the compensation scheme. They were also told that if they so chose, they could receive \$20 in cash and no water bottle (two consumers chose this option, one from the local identity condition and one from the global identity condition). Thereafter, we asked participants to evaluate four different water bottles actually sold in the bookstore (priced at

⁴ To be consistent with Cronley et al. (2005), we excluded these two consumers from analysis and only reported the results with a sample of 79. However, including these two consumers in the analysis did not change the pattern of results or their significance level.

\$4.99, \$9.99, \$14.99, and \$19.99) and administered the four-item PPQ associations scale from Lichtenstein et al. (1993); adapted to assess state, rather than chronic, PPQ associations for water bottles; sample item: "At this moment, I believe that the higher the price of a water bottle, the higher the quality"; $\alpha = .89$). Participants were then asked to choose one of the four water bottles and were paid the remaining amount of \$20 in cash. Finally, participants rated the three-item local–global identity manipulation check questions ($\alpha = .92$) as in Study 1 (for results, see Web Appendix 3).

Results

As we predicted, participants assigned to the local (vs. global) identity condition spent more on the water bottle ($M_{local} = \$14.52$ vs. $M_{global} = \$9.43$; t(77) = 4.44, p < .001) and had significantly higher PPQ associations ($M_{local} = 5.12$ vs. $M_{global} = 4.34$; t(77) = 2.28, p < .05), indicating that participants primed with local (vs. global) movements perceived a much stronger relation between the price of a water bottle and its quality; this, in turn, influenced their choice and spending behavior. Indeed, participants with a situationally activated local (vs. global) identity spent 53.98% more. Although PPQ is not a theorized mediator (which is perceived quality variance), we ran a mediation test to provide evidence that the amount spent is driven by PPQ, and not by other variables. A bootstrapping procedure with 10,000 iterations using Model 4 of PROCESS showed that the indirect effect of local–global identity on amount of money spent through PPQ associations was positive (.79) and significant (95% CI = [.12, 1.99], excluding zero), suggesting that individuals with an accessible local (vs. global) identity were willing to spend more money on purchases because of higher PPQ associations.

Study 8: A Systematic Review of Previous Studies

To enhance the generalizability of our findings, we performed a systematic review on PPQ associations documented in previous studies (for database development, coding procedures, and detailed results, see Web Appendix 14). Given that these studies were conducted in different countries, we used country-level local–global identity as an explanatory factor for PPQ. Following Gao, Zhang, and Mittal (2017), we used the KOF Index of Globalization (http://globalization.kof.ethz.ch/) to capture country-level local–global identity, with a higher score reflecting a greater degree of global identity (and a lower degree of local identity).

The mean standardized r across the studies in our database was .208 (95% $CI_{BS} = [.199, .218]$, p < .001), suggesting that, in general, consumers use price to infer brand quality. However, there was substantial heterogeneity in PPQ associations ($\chi^2 = 2,681.54$, p < .001). Thus, we conducted moderation analysis through a meta-regression using the Comprehensive Meta-Analysis 3.0 software, with standardized r as the common effect size metric, country-level Globalization Index as the independent variable, and other country-level variables (i.e., gross domestic product per capita, competitive environment, and Hofstede's five cultural dimensions [individualism–collectivism, power distance, uncertainty avoidance, masculinity, and long-term orientation]) and study-level factors (price range, product durability, study type, and publication type) as covariates.

Consistent with our theorizing, results showed a negative relationship between the Globalization Index and PPQ ($\beta = -.02$, Z = -3.07, p < .01). Among the country-level variables, competitive environment was positively related to PPQ associations ($\beta = .08$, Z = 10.41, p < .001), whereas gross domestic product per capita had a negative effect ($\beta = -.05$, Z = -4.99, p < .001). Of the five cultural dimensions, only uncertainty avoidance ($\beta = -.04$, Z = -5.73, p < .001) was significantly associated with PPQ associations. Of the study-level factors, there were significant effects of product durability ($\beta = -.09$, Z = -7.11, p < .001), study type ($\beta = -.10$, Z = -7.02, p < .001), and publication type ($\beta = .06$, Z = 4.71, p < .001) but no significant effect of price range (p = .14).

General Discussion

As we show in Appendix B, all studies provide converging evidence for the effect of local global identity on PPQ, using a variety of measures and manipulations of the key variables. In a shopping mall with real consumers, Study 1 showed that locals (vs. globals) have a greater tendency to make PPQ associations. Study 2 shed light on the mediating role of perceived quality variance. Study 3 revealed that when the quality difference among brands is made salient, globals' (but not locals') tendency to make PPQ associations is elevated, whereas when the quality difference among brands is reduced, locals' tendency to make PPQ associations is lowered, whereas globals' tendency to use PPQ is unaffected. The next two studies examined the moderating roles of product type (services vs. goods; Study 4) and online reviews (convergent vs. divergent; Study 5). Study 6 reconciled the seemingly contradictory predictions between our theory and those of construal-level theory. Study 7 reported a field experiment with real behavioral measures to prove the external validity of our findings. Study 8 presents secondary evidence, further showing how local-global identity may affect PPQ at the national level, lending additional support for external validity. Study 9 (Web Appendix 5) showed that the effect of local-global identity on PPQ is held in both multiple- and single-quality-cue conditions. Study 11 (Web Appendix 11) revealed that hedonic (vs. utilitarian) product type represents another natural moderator of the relation between local-global identity and PPQ associations.

Theoretical Contributions

Our findings offer contributions to the price—quality judgments and local—global identity literature streams. Previous cross-cultural research has mainly focused on the dimensions of individualism—collectivism (Lalwani and Shavitt 2009, 2013; Lalwani and Wang 2019; Shavitt et al. 2006) and power distance (Han, Lalwani, and Duhachek 2017; Lalwani and Forcum 2016). Although the world has been moving toward globalization in recent years, we know little about how this trend may affect consumers' use of price as a signal of quality. From the limited evidence in cross-country studies (Dawar and Parker 1994; Völckner and Hofmann 2007; Zielke and Komor 2015), it is unclear whether the effect of local—global identity on price—quality judgments even exists. Our research is the first to demonstrate the existence of this effect.

Furthermore, our research contributes to the local-global identity literature by identifying perceived variance among comparative objects as a new qualitative difference between these two identities. This important discovery can advance our understanding about why locals are faithful to local traditions: local identity heightens perceived differences, driving locals to focus on the

uniqueness of their traditions and overlook the common elements between their traditions and those of other communities. This discovery likely has implications beyond PPQ associations, such as on categorization and brand extensions. Finally, our research also contributes to the price—quality judgments literature by identifying a novel mechanism that drives consumers to use price to judge quality—that of perceived quality variance. Because of this mechanism, situational factors that make quality variance salient or reduced—such as product type, expert opinions, or distribution of customer ratings—can change consumers' tendency to make PPQ.

Managerial Implications

As presented in Appendix A, managers actively consider the likelihood that consumers would use PPQ in their product evaluations and use such information in their marketing strategies. They are also aware of the role that local or global communities play in pricing decisions. However, none of our informant managers had a clear idea of when such strategies might be effective and why. This research helps address some of these questions. Our findings indicate that when promoting high-price products, marketers can situationally activate consumers' local identity, because consumers tend to use price to judge a product's quality when their local identity is salient. Communication appeals or contextual cues, such as "Think Local" movement (Studies 1 and 7) or T-shirt (the follow-up study to Study 1), can be used to achieve this goal. Ads or messages that feature local cultural symbols may enhance the accessibility of the local identity. TV channels that feature local traditions can be effective as well. Conversely, when promoting low-price products, marketers can activate consumers' global identity to reduce PPQ. Contextual cues (e.g., ads that feature multicultural symbols and globalization) may enhance the accessibility of global identity.

Another approach to increase consumers' PPQ associations is to alter consumers' perception of dissimilarity among brands to match with a pricing strategy. For products that charge a premium price over competing products, marketers can use situational cues (e.g., expert opinion, as in Study 3; distribution of customer ratings, as in Study 5) to increase perceived quality variance and facilitate consumers' associations between price and product quality. In contrast, for products that take a low-price strategy, marketers can use these situational cues to reduce, rather than increase, perceived quality variance.

Our findings on how product type (service vs. goods, hedonic vs. utilitarian products) affects customers' perceived quality variance provide insight into marketing strategies associated with services, hedonic products, and new products. Marketers of these products can capitalize on our findings by wisely allocating their ads budget: there is no need to build up price—quality associations in the minds of target consumers, because these products naturally induce perceived quality variance, which in turn leads to enhanced PPQ. Previous research has argued that consumers have more diversified views on innovations than on existing products, especially the radically new innovation with first-of-its-kind, groundbreaking technologies (Ma, Yang, and Mourali 2014). Our theory suggests that consumers are prone to make PPQ associations when adopting these products.

Our research is the first to show the important role that distribution of customer ratings plays in influencing consumers' PPQ. When people post similar ratings for products in a category,

potential buyers may have an impression that products in that category are of similar quality. In contrast, when people's opinions are all over the place and there is lack of a dominant view, potential buyers tend to perceive high quality variance among the products in that category. Armed with this information, marketers using skimming pricing should welcome, rather than suppress, different opinions from previous users, as divergent online reviews can actually enhance consumers' PPQ. However, firms with penetration pricing may need to strive for consumers' convergent opinions, as similar customer ratings can reduce consumers' tendency to view the product's low price as an indicator of its low quality.

Our findings also provide useful guidelines for firms to adapt their strategies to different regions and address the question about whether companies should be more locally or globally oriented. For products to be marketed to the places where people tend to have a salient local identity (e.g., rural areas), local flavors and ingredients can be used in the products. In addition, because these consumers are more likely to make PPQ associations, marketers may not need to allocate much ad budget to convince consumers about price—quality associations. However, when marketers enter places where people are high in global identity (e.g., metropolitan areas), they should know that consumers in these places do not have an established mental connection between price and quality. Thus, additional effort is needed to increase perceived dissimilarity among brands in the marketplace to enhance price—quality associations. Similar strategies can be used for international marketing strategies. Previous research (Arnett 2002; Gao, Zhang, and Mittal 2017) has shown that individuals in globalized countries are more likely to have a stronger global identity, whereas those from more localized countries tend to have a stronger local identity.

Limitations and Future Research

First, although treating the country-level Globalization Index as a proxy of local—global identity in Study 8 is in line with previous research (Gao, Zhang, and Mittal 2017), it may violate the conceptualization that these two identities are orthogonal. Second, this study may suffer from alternative explanations, such as product life cycle. Although this concern is alleviated by the variety of product stimuli used in our studies, we need to be cautious of Study 8's conclusions. Third, while a sacrifice mindset (Gao, Zhang, and Mittal 2017) cannot explain our moderation studies, future research should examine whether sacrifice mindset can account for the relationship between local—global identity and PPQ in domains not examined in the current manuscript. Finally, in this research we focused only on price—perceived quality. Given that price—quality judgments can also be quality—perceived price, it may be fruitful for future researchers to apply our theory to examine how quality levels affect consumers' price expectations.

Appendix A. Qualitative Evidence

Executives	Quotes			
1. Quotes Related to PPQ Associations				
Innovation and Marketing Director	"In the sneaker market, usually higher price (e.g., \$200 as compared to \$100) means a more premium technology or a better feature is offeredCustomers sometimes			
Age: 44 years old	cannot differentiate between technologies from different companies and so price is			
Pseudonym: "Mark"	often a signal of how much more premium the technology is."			

Executives	Quotes	
Senior Product Manager Age: 34 years old Pseudonym: "Eric"	"The consumer electronics we sell are much more affordable than those from other leading brands. We are, however, aware that the low price can suggest lower performance, so we are careful to make sure that consumers can compare between our products and our competitors on essential features to show that they are indeed somewhat comparable and price is our competitive advantage."	
Associate Director—Shopper Insights Age: 53 years old Pseudonym: "Anne"	r "For baby products and beauty products consumers are often willing to pay high prices. And I do believe that how consumers view unknown baby brands or beauty products does depend on price."	
Shopper Marketing Manager Age: 30 years old Pseudonym: "Holly"	"For most people that drink wine occasionally, price is a very important factor that indicates how good the wine is as much as a wine rating So a \$11 bottle of wine is definitely viewed as higher quality than a \$4 bottle."	
Senior Director—Insights Age: 46 years old Pseudonym: "Pat"	"At our wholesale club for unknown brands if the price is too lowcustomers might perceive them as bad products."	
Communication and Promotions Manager Age: 46 years old Pseudonym: "Sam"	"Price is used to judge qualityfor sureIn dog sweaters, it is difficult to judge quality, so I'm sure that my pet parents use price, in addition to other factors, to choose between options."	
Senior Manager—Business Planning Age: 41 years old Pseudonym: "Marco"	"If you see the smartphones we sell, the X series [name changed] is much cheape than the Y series [name changed], by about \$400 on average. However, they are about 90% the same in terms of product features. We do realize that the higher pr is one of the reasons why individuals see higher quality in the Y series products."	
2. Quotes Related to Consider	ation of Local or Global Identities in Pricing Decisions	
Director—Pricing Age: 43 years old Pseudonym: "Evan"	"The tortilla chip market is pretty unique. When we try to introduce local flavorsit makes people think of their local communitiesHere, we are careful to make sure that our product is seen as premium. You knowhaving a twist on the local ingredient is important. Similarly, it is important to have a reasonably higher price since it communicates premium-ness, and then reinforce it with advertising and packaging. Otherwise what will differentiate us from all the local chips by smaller players? But we don't know for sure why such consumers prefer premium brands. That is a mystery."	
Manager—Pricing and Revenue Age: 39 years old Pseudonym: "Eric"	[Brand name] is a very uniquely flavored soft drink. Most of our customers in the southern states of the U.S., are very tuned to their local communities and think of our brand as a traditional brand. In these markets we resist offering too many discounts to not seem cheap, as compared to the Northeast, where I believe, most of the soft drinks are global brands."	
Senior Director—Insights Age: 46 years old Pseudonym: "Pat"	ights "For deep value cards that we offer in our wholesale club i.e., where we give \$40 value gift cards for \$25, we are careful to consider the type of restaurant the card is for (local BBQ restaurant vs., a national restaurant chain) because consumer perceptions of value or whether it is a premium restaurant depend on price. In this we find differences between patrons at our Mexico stores as compared to our U.S. stores."	
Global Director—Pricing Age: 48 years old Pseudonym: "Sal"	"I am sure that the annual books we produce for schools, which are often premium priced, are evaluated differently by different markets vis-à-vis the cheaper Shutterfly. Would be good to know where consumers appreciate our higher quality and why?"	

Executives	Quotes
Category Development Manager Age: 51 years old Pseudonym: "Larry"	"Craft beer marketers often orient their brands to the specific local market and make people think of who the consumer is and how the brand relates to the consumer. I remember a craft beer trying to price very low. That strategy didn't work as well as they imagined it would. Craft beer drinkers often are willing to pay a higher price for the better taste, you seeA cheaper craft beer would be pretty suspect, I guess."
Senior Director, Global Merchandising Age: 47 years old Pseudonym: "Jesper"	"If you consider our PCs, we are one of the largest software and hardware manufacturers in the world and I manage all the retail stores across the world for our devices. What I have seen is that the global shopper (well-travelled and exposed to all brands and products) is very different from the nonglobal shopper. The global shopper I believe is less likely to use price as the determinant of product purchase, they want us to back it with product features."

Appendix B. Summary of Effects of Local-Global Identity on PPQ Associations

Appendix B. Summary of Effects of Ed			PPQ Associations		
	Sample				
Studye	Size	Condition	Dependent Measure	Local Identity	Global Identity
1	164	Physical goods (shoes and cap)	Correlation between price and quality evaluation	.70	.45°
Follow-up	69	Physical goods (cap)	Correlation between price and quality rating	.50	.02°
2	196	Physical goods (alarm clock)	Quality index	High Price Low Price 5.54 5.03 ^a	High Price Low Price 4.92 4.98bc
3	387	Quality variance unchanged (alarm clock and microwave)	Quality index	High Price Low Price 4.88 4.21a	High Price Low Price 4.26 4.53bc
		Quality variance enhanced (alarm clock and microwave)	Quality index	High Price Low Price 5.11 4.02 ^a	High Price Low Price 4.65 4.02 ^{ad}
		Quality variance reduced (alarm clock and microwave)	Quality index	High Price Low Price 4.69 4.63 ^b	High Price Low Price 4.77 4.61 ^{bd}
4	278	Physical goods (alarm clock, microwave, and sewing machine)	Quality index	High Price Low Price 4.94 4.45 ^a	High Price Low Price 4.52 4.78 ^{bc}
		Services (carpet cleaning, airline, landscape)	Quality index	High Price Low Price 5.39 4.84a	High Price Low Price 5.31 4.80 ^{ad}
5	785	Control (microwave)	Quality index	High Price Low Price 4.56 3.71a	High Price Low Price 4.19 4.10 ^{bc}
		Divergent customer reviews (microwave)	Quality index	High Price Low Price 4.72 3.85 ^a	High Price Low Price 4.39 3.53 ^{ad}
		Convergent customer reviews (microwave)	Quality index	High Price Low Price 4.31 4.29 ^b	High Price Low Price 4.12 3.90bd
6	470	Low diagnosticity (camera)	Choice of the higher- quality product	31.67%	10.91% ^c
		High diagnosticity (camera)	Choice of the higher quality product	29.63%	26.56% ^d
7	81	Perception for specific product (water bottle)	PPQ associations scale	5.12	4.34°
NR1	549	Utilitarian product (alarm clock)	Quality index	High Price Low Price 5.13 4.36 ^a	High Price Low Price 4.89 4.66 ^{bd}
		Hedonic product (wine)	Quality index	High Price Low Price 5.17 4.57 ^a	High Price Low Price 5.39 4.56 ^{ad}
NR2	197	Physical goods (alarm clock)	Quality index	High Price Low Price 4.95 4.26 ^a	High Price Low Price 4.78 4.67 ^{bc}
NR3	118	Overall perception	PPQ associations scale	.30	.07°

Associate Editor. Timothy Heath served as associate editor for this article.

Declaration of Conflicting Interests. The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding. The author(s) received no financial support for the research, authorship, and/or publication of this article.

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