

Culture and Marketplace Effects on Perceived Price Fairness: China and the USA

LISA E. BOLTON

HEAN TAT KEH

JOSEPH W. ALBA\*

\* Lisa E. Bolton is assistant professor of marketing, The Wharton School, University of Pennsylvania (boltonl@wharton.upenn.edu). Hean Tat Keh is associate professor of marketing, Guanghua School of Management, Peking University (htkeh@gsm.pku.edu.cn). Joseph W. Alba is distinguished professor of marketing, Warrington College of Business, University of Florida (joe.alba@cba.ufl.edu). The authors gratefully acknowledge funding support from the Guanghua-Wharton Joint Research Initiative on Firms and Markets in China. Correspondence: Lisa E. Bolton, Assistant Professor of Marketing, The Wharton School, University of Pennsylvania, 3730 Walnut St. JMHH 700, Philadelphia PA 19104-6340.

Perceived price fairness was examined in China and the United States as a function of their unique and shared cultural and marketplace characteristics. When comparing prices paid by another customer for the same good, Chinese consumers were more sensitive to their relationship with the referent (friend versus stranger) and to the nature of the vendor-customer relationship (loyal versus first-time buyer). These results, attributed to collectivist (individualist) cultural characteristics of Chinese (American) consumers that orient Chinese consumers toward the in-group, were supported by experimental manipulation of interdependent (independent) self-construal. Various transaction factors were shown to mitigate unfairness reactions to across-customer price comparisons in similar ways across cultures, except when the transaction factor was marketplace-specific (e.g., price-setting via negotiation). Moreover, fairness reactions to across-vendor price differences were similar across cultures, especially for those consumers familiar with a highly competitive urban marketplace. Thus, perceptions of price fairness can both diverge and converge across cultures in a predictable manner as a function of cultural and marketplace characteristics.

A fundamental contribution of consumer research to the issue of pricing is the discovery that price perceptions are as much a matter of psychology as economics. A large proportion of this research has demonstrated how simple framing manipulations can influence perceived value or affordability of a product. A much smaller but developing stream of research has examined perceived fairness (see Xia, Monroe, and Cox 2004). Not unlike the broader literature, research on price fairness has examined how reference points affect perceptions—including those that enable comparisons to a vendor's competitors and its own costs and historical prices (Bolton, Warlop, and Alba 2003). Most recently, Haws and Bearden (2006) examined how fairness perceptions shifted when consumers were made aware of differential pricing. Price differences across customers (i.e., paying a higher price than another customer for the same product from the same vendor at the same time) led to particularly strong unfairness perceptions relative to price differences across products, vendors, or time.

The present research uses this observation as a starting point for understanding an issue that has received little empirical attention but is rapidly growing in importance due to the increasing ability of mass marketers to price discriminate based on individual consumers' price sensitivity. Following Haws and Bearden, we examine how consumers judge fairness when the price of an identical good is not uniform across customers; however, we do so from a cross-cultural perspective, examining both cultural and marketplace differences. Previous research has examined the influence of culture on various aspects of consumer behavior, including categorization (e.g., Jain, Desai and Mao 2007), branding (e.g., Monga and John 2007; Ng and Houston 2006), and persuasion (e.g., Briley and Aaker 2006). However, cross-cultural research is scant with regard to price fairness. The present research addresses this issue by contrasting

price fairness perceptions in two dominant economies: China and the United States. In so doing, it responds to calls for research on emerging markets (Burgess and Steenkamp 2006).

### *CROSS-CULTURAL DIFFERENCES: CHINA VERSUS THE UNITED STATES*

China serves as a compelling contrast to the United States for several reasons. In terms of pragmatic marketplace differences, China is typically classified as the world's largest emerging market and is undergoing transition from a controlled to a market economy; consequently, Chinese consumers have witnessed an increase in price competition and efficiency of distribution channels, along with a large increase in media and advertising (Batra 1997). Anecdotal evidence suggests that Chinese consumers are cautious and frugal (Roberts 2007), and some empirical evidence indicates that Chinese consumers have strong and negative perceptions of price and a weak price-quality schema (Ackerman and Tellis 2001; Sternquist, Byun, and Jin 2004; Zhou, Su, and Bao 2002). Thus, it seems reasonable to expect differences in price fairness perceptions arising from differences in marketplace experience or "marketplace metacognition" (Wright 2002).

From a more theoretical cultural perspective, Chinese culture is commonly characterized as higher in collectivism and lower in individualism than American culture.<sup>1</sup> Whereas Western cultures tend to define the self in terms of individual autonomy (i.e., that individuals are independent of one another), Eastern cultures define the self in terms of social connectedness

---

<sup>1</sup> For convenience, we use the terms "American" and "Chinese" to refer to consumers in the United States and the People's Republic of China, although we acknowledge a lack of precision. We use the terminology "individualism/collectivism" to refer to differences in self-definition across cultures. This distinction has also been viewed as an individual difference variable (e.g., independent/interdependent self-construal) and is one of multiple dimensions along which cultures are purported to vary (e.g., Hofstede 1980). Given our focus on across-customer comparisons, a focus on individualism/collectivism seems appropriate.

(e.g., Markus and Kitayama 1991). The latter orients the Chinese toward in-groups and away from out-groups, given the in-group's greater self-relevance (Oyserman 1993; Oyserman, Coon, and Kimmelmeier 2002). Indeed, the Chinese are said to “view the world as based on a network of relationships” (Nisbett et al. 2001, p. 241), and such an outlook suggests a greater sensitivity to relationship context. For example, Americans report treating friends, coworkers, and business owners equivalently whereas Chinese are more sensitive to group membership (Hui, Triandis, and Yee 1991). Moreover, people high in collectivism are biased in favor of their in-group (Chen, Brockner, and Katz 1998) and, as Brewer and Chen (2007, p. 137) note, “‘collectivists’ often show less consideration than do ‘individualists’ for the welfare of strangers—strangers who might be considered part of a collective in-group in a broader sense of the word.”

In a price-fairness setting, it seems reasonable to expect cultural differences in price fairness perceptions arising from relationship information. Inasmuch as the Chinese are oriented toward the in-group, they should react more strongly to in-group versus out-group comparisons, a distinction that should matter less for Americans. Although the individualism-collectivism construct is not without its critics (e.g., Brewer and Chen 2007; Oyserman, Coon, and Kimmelmeier 2002; Shavitt, Lalwani, Zhang, and Torelli 2006), we retain it in the present research because it speaks directly to Haws and Bearden's persuasive argument that perceived fairness is particularly sensitive to across-customer comparisons. By varying the nature of the across-customer comparison (via in-group versus out-group comparisons), the present research will investigate how cultural differences in individualism/collectivism affect price fairness reactions among American and Chinese consumers.

Cross-cultural comparisons of the sort investigated in the present research are naturally plagued by a set of inherent confounds. Rather than characterize this problem as a “cost of doing

business,” we strove to isolate underlying processes in two ways. First, our studies use multiple operationalizations of culture (comparing across nations in studies 1 and 2 and across manipulations in study 3) and social relationship (i.e., friend/stranger in studies 1 and 3; loyal/first-time shopper in study 2). Second, we conducted and report additional fairness studies (studies 4 and 5, to be discussed later) involving the same populations but employing fairness manipulations that, according to our overriding theory, should not produce differences as a function of culture. Thus, it is not our contention that all fairness perceptions will differ across cultures. Instead, our research will provide guidance for understanding both similarities and differences in cross-cultural fairness responses. Our research framework is shown in figure 1. We begin by examining fairness differences arising from across-customer price comparisons.

-----  
Insert figure 1 here.  
-----

### ***STUDY 1: PRICE COMPARISONS ACROSS FRIENDS VERSUS STRANGERS***

We begin with an empirical test of the fundamental proposition that Chinese/collectivists will react more strongly than will Americans/individualists to in-group versus out-group comparisons when judging price fairness. Study 1 examined the case in which consumers compare the price they paid to the price paid by a referent customer, instantiated as either a friend (in-group) or a stranger (out-group). We naturally expect fairness judgments to be lower (higher) when the price paid is higher (lower) than another customer’s price. However, we also expect Chinese consumers to be more sensitive than American consumers to relational context as it pertains to in-group/out-group (friend/stranger) distinctions. In particular, Chinese consumers

(as collectivists oriented toward the in-group) should react more strongly to a price differential across customers when the referent is a friend than when the referent is a stranger. American consumers (as individualists) should be relatively less affected by whether the customer paying a different price is a friend or stranger. Formally,

**H1:** When judging price fairness, Chinese/collectivists will react more strongly to in-group versus out-group price comparisons than will Americans/individualists.

Hypothesis 1 predicts a three-way interaction of culture, price comparison, and in-group/out-group (operationalized as friend/stranger). Consumers will judge it more unfair (fair) when charged a higher (lower) price than another customer. Chinese consumers will react more strongly for price comparisons to friends than strangers; American price fairness reactions will differ across friends and strangers to a lesser degree. Although price information sharing among friends may appear more prevalent, the internet has expanded opportunities for consumers to learn what relative strangers pay for products (e.g., price information posted by other consumers on eBay, TripAdvisor, and similar websites). Our results will address whether fairness concerns will constrain the ability of marketers to engage in dynamic pricing in different ways across culture.

## Method

*Subjects and Design.* The experiment was a 2 (Price difference: higher vs. lower than referent) x 2 (Referent: In-group vs. out-group) x 2 (Culture: Chinese vs. American) between-subjects design. Participants were undergraduate students from leading universities in China and the United States (both screened to omit non-native participants and Asian-Americans) who

received financial payment for participating in the study. A total of 334 individuals participated (38% male in the US sample and 44% male in the Chinese sample).

*Materials and Procedure.* Participants read a short scenario in which price difference and referent were manipulated. The American version (with manipulations shown in square brackets) read as follows:

You are shopping for a shirt. You find one that you like in a store and pay [\$29.95 / \$39.95] for it. You subsequently see a [stranger / close friend] and you are both wearing the same shirt (same brand, same quality, same style). You learn that [this stranger / your friend] paid [\$39.95 / \$29.95] for the shirt. It was bought at the same time from the same store.

In the Chinese version, prices were set at ¥119 and ¥159 (based on local market base prices and an equivalent percentage price difference). After reading the scenario, participants responded to the question “How fair is the price that you paid?” on three seven-point scales anchored by “unfair / fair”, “not at all just / just” and “unreasonable / reasonable.” After an open-ended thought-listing task, participants responded to background questions that included Singelis’ (1994) independent/interdependent self-construal scale. We utilized the scale as an individual difference measure of individualism/collectivism. In all experiments reported here, study materials were translated into Chinese and then verified by back-translation procedure using two translators unaware of the hypotheses.

## Results

A fairness index was constructed by averaging the three fairness questions (coefficient  $\alpha$  = 0.92 in China, 0.91 in the USA). An ANOVA performed on this index revealed main effects of

culture ( $F(1, 326) = 18.73, p < .01$ ), price difference ( $F(1, 326) = 116.46, p < .01$ ), and their interaction ( $F(1, 326) = 4.35, p < .05$ ), qualified by the predicted three-way interaction of culture, referent, and price difference embodied in H1 ( $F(1, 326) = 3.95, p < .05$ ). To understand the nature of the three-way interaction, follow-up tests were conducted for each cultural sample.

The American sample revealed only a main effect of price difference ( $F(1, 152) = 87.83, p < .01$ ; all other  $F$ 's  $< 1$ ). As the pattern in table 1 and figure 2 reflects, fairness was perceived as less (more) fair when the comparative reference price is lower (higher). In the Chinese cultural sample, however, the main effect of price difference ( $F(1, 174) = 37.37, p < .01$ ) was qualified by its interaction with the referent ( $F(1, 174) = 5.54, p < .05$ ). Consistent with hypothesis 1, the interaction reflects a larger fairness difference between the higher and lower price conditions when the referent was a friend ( $F(1, 174) = 35.44, p < .01$ ) than a stranger ( $F(1, 174) = 7.15, p < .01$ ). Put differently, the Chinese were less affected by what a stranger paid than what a friend paid whereas Americans were uniformly sensitive to price discrimination regardless of whether the price paid by a different customer was a friend or stranger.<sup>2</sup>

-----  
Insert table 1 and figure 2 here.  
-----

To reinforce these conclusions, alternative analyses were conducted that substituted an individual-difference variable for nationality. Indices were constructed by averaging the scale items for independent (coefficient  $\alpha = 0.68$ ) and interdependent self-construal (coefficient  $\alpha = 0.76$ ). As a matter of cultural confirmation, the Chinese sample indeed scored higher than the American sample on interdependence ( $M_{American} = 4.65 (.71)$  vs.  $M_{Chinese} = 5.31 (.63)$ ;  $F(1, 330) = 81.34, p < .01$ ) but did not differ on independence ( $M_{American} = 4.69 (.71)$  vs.  $M_{Chinese} = 4.65 (.72)$ ;

---

<sup>2</sup> A personal anecdote supports this view. When presenting this research to a culturally mixed group of students, an Asian member of the audience shrugged and said “why would it matter to me what a stranger paid?” An American member of the audience was extremely puzzled by this dismissal of the stranger’s price.

$F < 1$ ). An ANOVA using the standardized interdependence score ( $M = 0, SD = 1$ ) again revealed the predicted three-way interaction of interdependence, referent, and price difference ( $F(1, 324) = 3.49, p = .06$ ). [For completeness, a main effect of price difference ( $F(1, 324) = 113.66, p < .01$ ) and a price difference X interdependence interaction ( $F(1, 324) = 3.01, p = .08$ ) also emerged.] As the coefficient of the interdependence covariate nested within each condition indicates, interdependence had no effect when prices differed with friends ( $b_{higher} = -0.09 (0.18), t = -0.49, p = .63; b_{lower} = -0.06 (0.19), t = -0.33, p = .74$ ) but did affect fairness judgments when prices differed with strangers ( $b_{higher} = 0.29 (0.15), t = 1.92, p = .06; b_{lower} = -0.32 (0.16), t = -2.01, p < .05$ ). That is, all subjects were sensitive to in-group or friend comparisons but interdependence determined whether out-group or stranger comparisons affected fairness response—a pattern consistent with H1.

Taken together, these results show a difference in price fairness perceptions arising from across-customer comparisons as a function of culture, with culture operationalized either as nationality or as individual differences in self-construal. Paying a higher (lower) price than another customer was deemed unfair (fair); moreover, Chinese/collectivists were more sensitive to in-group versus out-group (friend vs. stranger) comparisons than were American/individualists. Notably, fairness response reflected an egocentric bias that was accentuated, not attenuated, for Chinese in-group (vs. out-group) price comparisons, thereby disconfirming a competing attenuation prediction based on collectivist concern for in-group harmony (e.g., Leung and Bond 1984). Instead, our data support an explanation whereby collectivists are oriented toward relationships and therefore more sensitive to price comparisons that evoke self-relevant in-groups. (Individualists are relatively insensitive to the in-group/out-group distinction.) We return to this issue in the general discussion, but we also note that the

robustness of our present findings is supported by our subsequent studies via the use of alternative operationalizations of individualism/collectivism and relational context.

### ***STUDY 2: ACROSS-CUSTOMER PRICE COMPARISONS AND RELATIONSHIP LOYALTY***

In study 2 we examined the situation in which the referent consumer is held constant and the relationship of each consumer with the seller is varied. All consumers compared the price they paid to the price paid by another consumer, but the consumers differed in terms of their relationship with the seller (first-time or loyal customer). As before, we naturally expect fairness judgments to be lower (higher) when the price paid is higher (lower) than another consumer's price. However, we also expect Chinese consumers to be more sensitive than American consumers to relational context, in this case operationalized in terms of relationship history. The relationship between a vendor and customer may affect the extent to which the vendor and customer perceive themselves as members of an in-group versus out-group. Chinese consumers should be more sensitive than American consumers to the distinction. Hence, Chinese consumers (as collectivists) should show greater sensitivity to loyalty differences between themselves and referent customers; American consumers (as individualists) should be relatively unaffected by relationship loyalty.<sup>3</sup> Formally,

**H2:** When judging price fairness, Chinese/collectivists will react more strongly in a loyal versus first-time buyer-seller relationship than will Americans/individualists.

Hypothesis 2 predicts a three-way interaction of culture, price comparison, and buyer-seller relationship (operationalized as relative loyalty). Consumers will judge it more unfair (fair) when

---

<sup>3</sup> Darke and Dahl (2003) found that another consumer's relationship with the seller mitigated unfairness reactions to across-customer price differences but did not control for, or examine, cultural variables. The researchers confirm (personal communication) that most participants in their sample were of Asian heritage, which is arguably consistent with our prediction that relationship information will affect fairness response among collectivists.

charged a higher (lower) price than another customer. Chinese consumers will react more strongly to price comparisons when loyal versus first-time shoppers; American price fairness reactions will differ across relationship loyalty to a lesser degree. Although hypotheses 1 and 2 may be seen as testing the same fundamental proposition (fairness response to in-group/out-group differences as a function of culture) using different operationalizations of in-group/out-group (friend/stranger and loyal/first-time customer), each hypothesis is important in its own right in terms of its implications for dynamic pricing and relationship marketing. The present results will address whether fairness concerns will constrain the ability of marketers to charge a “loyalty premium” in different ways across culture. Moreover, the investigation of loyalty prompted us to examine not only perceived fairness but also re-purchase intentions; a corollary to hypothesis 2 is that re-purchase intentions not only track perceived fairness but also are mediated by them. For comparison purposes, we included a control group in which relationship loyalty was unspecified.

## Method

*Subjects and Design.* The experiment was a 2 (Price difference: higher vs. lower than referent) x 3 (Relationship: Loyal vs. First-time vs. Unknown) x 2 (Culture: Chinese vs. American) between-subjects design. Participants were undergraduate students from China and the United States (both screened to omit non-native participants and Asian-Americans) who received financial payment for participating in the study. A total of 255 individuals participated (45% male in the USA, 47% male in China).

*Materials and Procedure.* Participants read a short scenario in which price difference and relative relationship were manipulated. (The participant was loyal and a comparison referent was a first-time shopper, the participant was a first-time shopper and the referent was loyal, or neither was specified.) The American version (with manipulations shown in square brackets) read as follows:

You are shopping for a jacket. You find one that you like at a clothing store and buy it. [You are a satisfied and loyal shopper at the store, know the store personnel, and buy clothes there frequently. / You are a first-time shopper at the store. / omitted ]

You find out that a friend bought the same jacket (same brand, same quality, same style) for 20% [more / less]. It was bought at the same time from the same store. [Your friend is a first-time shopper at the store. / Your friend is a satisfied and loyal shopper at the store, knows the store personnel, and buys clothes there frequently. / omitted ]

Fairness reactions were elicited via the same three scales as in study 1. After an open-ended thought-listing task, participants were also asked their likelihood of repurchasing at the same store on a 0-100% scale anchored by “very unlikely” and “very likely.”

## Results

A fairness index was constructed from the three individual items (coefficient  $\alpha = 0.92$  in both samples). ANOVA revealed main effects of relationship ( $F(2, 243) = 3.88, p < .05$ ), price difference ( $F(1, 243) = 91.83, p < .01$ ), and their interaction ( $F(2, 243) = 4.28, p < .05$ ), qualified by the predicted three-way interaction of culture, relationship, and price difference embodied in H2 ( $F(2, 243) = 5.78, p < .05$ ). To understand the nature of the three-way interaction, follow-up tests were conducted for each cultural sample.

The American sample revealed a main effect of price difference ( $F(1, 118) = 47.84, p < .01$ ) and relationship ( $F(2, 118) = 3.47, p < .05$ ) but no interaction ( $F < 1$ ). As table 2 and figure

3 indicate, the price paid by the consumer expectedly was perceived as less (more) fair when the comparative reference price was lower (higher), irrespective of prior relationship. Fairness perceptions also were higher overall for a first-time relationship ( $F(1, 118) = 6.29, p < .05$ ) than loyal or unknown relationships (which did not differ,  $F < 1$ ), presumably reflecting lower standards of fairness in the former case. When buyer-seller relationships were unspecified, responses mimicked the loyalty condition.

The Chinese sample revealed a main effect of price difference ( $F(1, 125) = 43.62, p < .01$ ) that was qualified by an interaction with relationship ( $F(2, 125) = 10.51, p < .01$ ). As the pattern in table 2 and figure 3 indicates, consumers were more sensitive to price differences in a loyal relationship than in a first-time relationship ( $F(1, 125) = 20.82, p < .01$ ). In a loyal relationship, the price paid by the consumer was perceived as less (more) fair when the comparative reference price was lower (higher) ( $F(1, 125) = 46.36, p < .01$ ). In a first-time relationship, the comparative price difference had no effect ( $F < 1$ ). Moreover, the unknown case differed only marginally from the loyal case ( $F(1, 125) = 3.68, p = .06$ ), suggesting that consumers responded to fairness as if the relationship was loyal.

-----  
Insert table 2 and figure 3 here.  
-----

Data for repeat-purchase intention revealed a statistically identical pattern of results: main effects of relationship ( $F(2, 243) = 10.46, p < .01$ ), price difference ( $F(1, 243) = 59.67, p < .01$ ), and their interaction ( $F(2, 243) = 10.39, p < .01$ ), qualified by the predicted three-way interaction of culture, relationship, and price difference ( $F(2, 243) = 7.26, p < .01$ ). In the American sample, shopping intention reveals main effects of relationship ( $F(2, 118) = 3.47, p < .05$ ) and price difference ( $F(1, 118) = 47.84, p < .01$ ) but no interaction ( $F < 1$ ). In the Chinese

sample, a main effect of price ( $F(1, 125) = 24.99, p < .01$ ) was qualified by its interaction with relationship ( $F(2, 125) = 19.11, p < .01$ ).<sup>4</sup>

An analysis was conducted to test whether the effects of culture, relationship, and price difference on re-purchase intention were mediated by fairness perceptions. As noted, the three-way interaction was significant for both fairness and intention. When fairness was included in the full model for intention, fairness was a significant predictor ( $F(1, 231) = 85.26, p < .01$ ) and the three-way interaction was no longer significant ( $F < 1$ ). These results support mediation.

Consistent with hypothesis 2, Chinese consumers appear to be more sensitive to relationship loyalty when judging fairness than their American counterparts. When loyal to a firm, both Chinese and American consumers perceived prices as less (more) fair when paying more (less) than another first-time customer. When a first-time customer (i.e., not loyal), American consumers responded in a similar manner. In contrast, first-time Chinese consumers were strikingly unaffected by comparison to a higher or lower price paid by another loyal customer, judging the price as equally fair. In the absence of a stated relationship, both Chinese and American consumers reacted as if loyalty were the default (i.e., assuming their own loyalty was greater than another customer)—an egocentric bias that may increase demands in the marketplace for fairness in pricing.

Together, studies 1 and 2 support the hypotheses that Chinese consumers are more sensitive than American consumers to in-group/out-group differences when judging price fairness. Specifically, Chinese consumers reacted more strongly to price comparisons with friends (versus strangers) and in a loyal (versus first-time) buyer-seller relationship; American

---

<sup>4</sup> It occurred to us that sensitivity to marketplace dynamics could vary as a function of first-hand exposure, particularly in an emerging economy. Thus, participants were also asked to describe their primary background as rural or urban. Of Chinese (US) participants, 45% (28%) came from a rural vs. urban background. An analysis that includes only urban participants reveals a similar pattern of results. (A similar analysis for rural participants is precluded due to low sample sizes.)

consumers were less sensitive to these distinctions. Indeed, Americans appear to hold beliefs that are relatively invariant to relationship context. This pattern is consistent with the notion that the Chinese are more oriented toward relationships whereas Americans are more oriented towards rule-based reasoning (Nisbett et al. 2001). In this case, the American pricing “rule” appears to be that paying a higher price than another customer is unfair; Chinese consumers respond with more contextualized judgments of these situations and are relatively insensitive to comparisons that evoke an out-group.

### ***STUDY 3: ACROSS-CUSTOMER PRICE COMPARISONS AND SELF-CONSTRUAL***

The preceding results notwithstanding, it is not our contention that consumer price fairness perceptions will be invariant within a culture. Indeed, research suggests that the self can be viewed as either an independent entity, distinct from others, or as an interdependent entity, connected to others; moreover, these competing construals may co-exist within an individual (Brewer and Gardner 1996). Supporting evidence comes from studies that selectively prime each construal and produce effects consistent with culture-based observations (e.g., Lee, Aaker, and Gardner 2000; Aaker and Lee 2001; Ng and Houston 2006). In the present study we adopt the priming approach in order to draw firmer conclusions regarding causality by controlling for the myriad differences that exist across cultures—including differences in the marketplace itself.

Study 3 specifically primed an independent versus interdependent self-construal and then measured the effects of across-customer price comparisons on perceived fairness and re-purchase intentions, all within an American sample. Consistent with H1, we expect that consumers with an accessible interdependent self-construal should react more strongly to a price comparison when

the referent is an in-group versus out-group member; consumers with an accessible independent self-construal should be relatively less affected by the nature of the referent. Formally,

**H3:** When judging price fairness, consumers primed with an interdependent self-construal will react more strongly to in-group versus out-group price comparisons than will consumers primed with an independent self-construal.

Hypothesis 3 predicts a three-way interaction of self-construal prime, price comparison, and in-group/out-group (operationalized as friend/stranger). Consumers should judge it more unfair (fair) when charged a higher (lower) price than another customer. Consumers primed with an interdependent self-construal should react more strongly for price comparisons to friends than strangers; reactions of consumers primed with an independent self-construal will differ across friends and strangers to a lesser degree. That is, we expect that the cross-cultural effects of individualism/collectivism tested in hypothesis 1 and observed in study 1 will be replicated within-culture via selective priming of an independent versus interdependent self-construal.

## Method

*Subjects and Design.* The experiment was a 2 (Price difference: higher vs. lower than referent) x 2 (Referent: in-group vs. out-group) x 2 (Prime: interdependent vs. independent self-construal) between-subjects design. Participants were undergraduate students from the United States who received financial payment or course credit for participating in the study. A gender-balanced total of 188 individuals participated.

*Materials and Procedure.* Borrowing from prior research (Aaker and Williams 1998; Ng and Houston 2006), participants were first exposed to an advertisement for a travel website

designed to prime either an independent or interdependent self-construal. In the independent self-construal condition, the ad featured a single individual walking along the beach. The text (header, text, and footer) read:

Escape the ordinary. We supply the sand and sun. The rest is up to you. Visit [simplicitytravel.com](http://simplicitytravel.com) for more information about creating your own getaway experience. Simplicity Travel: Where getting away from it all matters most.

In the interdependent self-construal condition, the ad featured 2 adults and 2 children holding hands along the beach. The text (header, text, and footer) read:

Escape the ordinary. We supply the sand and sun. You supply the family, friends, and fun. Visit us at [traveltogether.com](http://traveltogether.com) for further information about our group getaway experiences. Together Travel: Where spending time together matters most.

After an open-ended thought-listing task, participants rated the ad as favorable and effective (on 5-point disagree-agree scales).<sup>5</sup>

Participants then responded to a short scenario in which price difference and referent were manipulated (as shown in square brackets).

You are shopping for luggage for an upcoming vacation. You find one that you like at an online store and buy it. You then discover that a [stranger / friend] bought the exact same luggage (same brand, same style, same features and quality) for 20% [more / less]. It was bought at the same time from the same online store.

After reading the scenario, participants responded to the same questions used in study 2.

## Results

A fairness index was constructed by averaging the three fairness questions (coefficient  $\alpha = 0.95$ ). An ANOVA performed on this index revealed main effects of prime ( $F(1, 180) = 7.62, p < .01$ ), price difference ( $F(1, 180) = 38.50, p < .01$ ), and their interaction ( $F(1, 180) = 5.49, p <$

---

<sup>5</sup> Ad ratings did not differ as a function of prime ( $p$ 's  $> .30$ ) and will not be discussed further.

.05), qualified by the predicted three-way interaction of prime, referent, and price difference predicted by H3 ( $F(1, 180) = 8.02, p < .01$ ). To understand the nature of the three-way interaction, follow-up tests were conducted for each level of prime.

The independent prime condition revealed only a main effect of price difference ( $F(1, 104) = 24.73, p < .01$ ; all other  $F$ 's  $< 1$ ). As revealed in table 3 and figure 4, fairness was perceived as more (less) unfair when the comparative reference price is lower (higher). In the interdependent prime condition, however, the main effect of price difference ( $F(1, 76) = 15.01, p < .01$ ) was qualified by its interaction with referent ( $F(1, 76) = 9.75, p < .01$ ). Consistent with H1, the interaction reflects a larger fairness difference between the higher and lower price conditions when the referent was a friend ( $F(1, 76) = 21.96, p < .01$ ) than a stranger ( $F < 1$ ). Put differently, it was deemed less (more) fair to pay a higher (lower) price than a friend versus stranger. Consumers appear sensitive to referent (in-group/out-group) context when interdependence is primed but not when independence is primed.

-----  
Insert table 3 and figure 4 here.  
-----

Data for repeat-purchase intention revealed a statistically identical pattern of results: main effects of prime ( $F(1, 180) = 3.60, p = .06$ ), price difference ( $F(1, 180) = 37.99, p < .01$ ), and their interaction ( $F(1, 180) = 3.64, p = .06$ ), qualified by the predicted three-way interaction of prime, relationship, and price difference ( $F(1, 180) = 6.79, p < .01$ ). In the independent condition, main effects of referent ( $F(1, 104) = 3.46, p = .07$ ) and price difference ( $F(1, 104) = 26.42, p < .01$ ) and their interaction ( $F(1, 104) = 4.11, p < .05$ ) were obtained. Purchase intention was rated higher (lower) when the comparative reference price was higher (lower), more so for a stranger than a friend ( $F(1, 104) = 26.12, p < .01$ ;  $F(1, 104) = 4.76, p < .05$ , respectively). In the

interdependent condition, shopping intention revealed a main effect of price difference ( $F(1, 76) = 13.82, p < .01$ ), qualified by its interaction with referent ( $F(1, 76) = 2.85, p < .10$ ). Purchase intention was higher (lower) when the comparative reference price was higher (lower), more so for a friend than a stranger ( $F(1, 76) = 13.11, p < .01$ ;  $F(1, 76) = 2.32, p = .13$ , respectively). Relative to the independence condition, consumers appear more sensitive to an in-group versus out-group price comparison when interdependence is primed.

An analysis was conducted to test whether the effects of prime, relationship, and price difference on re-purchase intention were mediated by fairness perceptions. As noted, the three-way interaction was significant for both fairness and intention. When fairness was included in the full model for intention, fairness was a significant predictor ( $F(1, 172) = 51.08, p < .01$ ) and the three-way interaction was no longer significant ( $F < 1$ ). These results support mediation.

Taken together, these results are wholly consistent with hypothesis H3 and the findings from studies 1 and 2, thereby lending credence to our contention that the individualism/collectivism cultural mechanism underlies the results of those studies. Accounts of cross-cultural differences are inherently plagued by a wide array of confounding factors that correlate with culture. In the present context, those differences include not only socio-cognitive cultural factors but also differences in marketplace familiarity. We have pursued several different lines of evidence to isolate causality, including multiple operationalizations of our constructs, mediational analysis using individual measures of those constructs, and manipulation of surrogates for those constructs. In the remaining studies, we offer corroboration while shedding additional light on cross-cultural fairness perceptions.

#### ***STUDY 4: LOOKING BEYOND ACROSS-CUSTOMER COMPARISONS***

Our hypotheses and results thus far are predicated on cultural differences that affect sensitivity to across-customer price comparisons. In across-customer price comparisons, Chinese consumers reacted more strongly to price comparisons with friends (versus strangers) and in a loyal (versus first-time) buyer-seller relationship; American consumers responded equally regardless of such differences. These results were attributed to collectivist (individualist) cultural characteristics of Chinese (American) consumers that orient Chinese consumers toward the in-group. Expanding on these results, the present study has the following objectives: (1) to investigate the potency of across-customer price comparisons; (2) to consider other aspects of the transaction (i.e., looking beyond across-customer comparisons), and (3) to examine the role of cross-cultural marketplace differences.

The potency objective is inspired in part by Haws and Bearden's (2006) observation that consumers are very sensitive to across-customer differences in price paid relative to other situational differences in prices. As a precursor to the present experiment, we attempted to replicate Haws and Bearden's findings while simultaneously probing culture as a moderator. We expected and found that culture would have no effect, inasmuch as across-customer differences driving the results of studies 1 and 2 were held constant. Specifically, consumers deemed it least fair to pay 20% more than another customer (a student) purchasing the same product (a portable hard disk) versus paying 20% more than the price of another product (a different brand and model) or 20% more than the price of the same product from a different seller. Both American and Chinese consumers reacted similarly; that is, relative unfairness reactions did not differ as a function of culture. Hence, unfairness reactions arising from across-customer comparisons appear most potent (compared to across-seller and across-product price differences, and holding

other transaction factors constant). Study 4 pursues this result further by broadening the transaction factors investigated and, moreover, does so within the across-customer comparison context explored in studies 1-3. Specifically, the study design focused on unfavorable price comparisons that evoke an unfairness response, holding the referent constant but varying other aspects of the transaction. This approach permits us to address the potency question in a new way, namely: Will other transaction differences “undo” the unfavorable response to an across-customer price comparison? And, will differences emerge for Chinese and American consumers?

With regard to other aspects of a transaction, Bolton et al. (2003) identified three other dimensions—product, seller, and time—by which transactions may also differ and affect fairness response. As affirmed by Haws and Bearden (2006), the robust result is that (a) the fairest justification for a price difference is that of quality, (b) cueing other costs, such as retailer differences, can have a modest effect on price fairness reactions, and (c) proximal time differences in price will be judged unfair. These factors were varied in the present experiment while holding constant in-group/out-group differences. Operationally, we examined comparisons to the price paid by another customer (a friend) who purchased the same item at the same time from the same seller (“all-same” control group) to equivalent purchases made either at a different time (next day), or from a different seller, or for a different product. We argue that, relative to the control group, factors that can justify a price difference across customers (different product and different seller, but not a one-day time difference) will mitigate judgments of unfairness. Moreover, the predicted pattern should not be moderated by culture, inasmuch as none of these factors contain an element of social comparison. In other words, inasmuch as individualism/collectivism drives differential response as a function of in-group/out-group

distinctions, varying other transaction factors that are unrelated to in-group/out-group distinctions should not produce differential response across culture. Formally,

**H4:** Regardless of culture, across-customer unfairness reactions will be mitigated most by product differences, somewhat by seller differences, and least by proximal time differences (versus all-same control group).

Although we do not anticipate marketplace differences, we note that product differences may be more effective at mitigating unfairness reactions in the United States versus China given weak price-quality beliefs among Chinese consumers (Zhou, Su, and Bao 2002).

Another powerful influence on perceived price fairness is the price-setting mechanism utilized by a vendor to set a price, with some mechanisms deemed fairer than others. In the US, for example, an acceptable method of pricing is to add a modest amount to the vendor's costs, with large markups viewed dimly by consumers (Bolton et al. 2003; Thaler 1985). Such pricing mechanisms may make little economic sense and may be divorced from the calculus of customer value, but they nonetheless exert strong pressure on price-setting because they rise to the status of social norms (see Xia et al. 2004). However, the strength of a social norm may vary across contexts. For example, the fairness of a price is moderated in part by attributions consumers make about vendor control or responsibility for the price (Campbell 2007; Xia et al. 2004). Thus, Haws and Bearden (2006) find that unfairness reactions are weaker for participants who actively engage in setting the price via auction than for participants in traditional fixed-price markets (relative to across-customer comparisons).

When applied to the present context, we argue that consumers will be more accepting of across-customer price differences when the consumers have played a role in setting their individual prices via auctions. The more critical question concerns cross-cultural marketplace differences. As a guiding principle, we argue that differences from baseline in perceived fairness

will emerge only to the extent that there are differences in cultural norms—or familiarity with the price-setting mechanisms. In the case of auctions, there is no evidence of long-standing cross-national differences in familiarity with auctions. Thus, if two consumers pay different prices for the same good through auctions, consumers in both China and the US should view the difference as more acceptable relative to the baseline or control condition (wherein the vendor sets the price, two customers pay different prices, and there are no apparent mitigating circumstances). In contrast, consider the case of negotiation as a price-setting mechanism. Most common consumer goods purchased in the US adhere to a fixed-priced mechanism whereas bargaining is the norm in China (Lee 2000; Orr 2007). Hence, a shift from the baseline condition to the bargaining condition arguably represents a larger change in perceived responsibility or consumer control for US as opposed to Chinese consumers. If so, American consumers should be more accepting of across-customer price differences than will Chinese consumers when prices are set via negotiation.

Formally, we argue that across-customers price differences will prompt differences in fairness perceptions such that

**H5a:** In the USA, across-customer unfairness reactions will be mitigated by auction and negotiation price-setting mechanisms (vs. control group).

**H5b:** In China, across-customer unfairness reactions will be mitigated by auction but not by negotiation price-setting mechanisms (vs. control group).

Taken together, hypotheses 4 and 5 predict both similarities and differences in consumer fairness response across cultures. Indeed, it is not our contention that American and Chinese consumers will differ on all issues pertaining to price fairness. We believe that cultural differences driven by individualism/collectivism will emerge only when the fairness question has a social dimension involving the relational context. The present study investigates other

dimensions of price comparison and tests the extent to which fairness response differs across culture when relational context (i.e., across-customer differences) are held constant. Insofar as fairness reactions correspond across cultures, our claims regarding causality in studies 1 and 2 are strengthened. Insofar as the hypothesized differences do emerge, the present study supports the role of the marketplace in driving price fairness response.

## Method

*Subjects and Design.* The experiment was a 6 (Transaction factors) x 2 (Culture: Chinese vs. American) between-subjects design. Participants were undergraduate students from China and the United States (both screened to omit non-native participants and Asian-Americans) who received financial payment for participating in the study. A total of 303 participants (44% male in China, 45% male in the USA) completed the study.

*Materials and Procedure.* Participants read a short scenario in which price comparison was manipulated. All participants read the following: “You want to buy a new jacket and have selected the brand, style and color you will buy. You purchase it for \$100 from a well-known retailer.” Participants then learn about a price paid by a friend (\$80) for a jacket. (In the Chinese version, prices were set at ¥500 and ¥400 based on local market base prices and an equivalent percentage price difference.)

In the control group, the friend purchased the same product from the same retailer on the same day. In three other conditions (used to test H4), the reference point was manipulated to reflect an across-customer price comparison involving a different seller, different product, or

next day (holding other transaction factors constant). In two other conditions (used to test H5), the price-setting was manipulated to reflect negotiation or auction. Exact wording is shown in table 4.

Following the scenario, fairness reactions were elicited via the same three scales as in studies 1-3.

-----  
Insert tables 4 and 5 and figure 5 here.  
-----

## Results

A fairness index was again created by averaging the three fairness items (coefficient  $\alpha = 0.89$  in USA sample,  $0.87$  in China sample). The means presented in table 5 and figure 5 indicate nearly identical patterns for the US and China samples, with two predicted exceptions.

Hypothesis 4 was tested by examining fairness judgments as a function of reference point (across customer, product, seller, and time) and culture. As expected, planned contrasts reveal no differences for next-day comparisons (vs. control group) as a function of cultural sample ( $F < 1$ ). Comparing to another customer who purchase the next (vs. same) day did not mitigate unfairness perceptions in either American or Chinese samples ( $F$ 's  $< 1$ ). Second, planned contrasts revealed no differences for different-seller comparisons (vs. control group) as a function of cultural sample ( $F < 1$ ). Comparing to another consumer who purchased from a different (vs. same) seller mitigated unfairness perceptions in both American and Chinese samples (respectively,  $F(1, 291) = 7.65, p < .01$ ;  $F(1, 291) = 2.28, p = .13$ ). Third, planned contrasts for different-product comparisons (vs. control group) as a function of cultural sample revealed a significant interaction

contrast ( $F(1, 291) = 5.56, p < .05$ ). Comparing to another customer who purchased a different (vs. same) product mitigated unfairness perceptions in the American sample more than in the Chinese sample (respectively,  $F(1, 291) = 28.50, p < .01$ ;  $F(1, 291) = 3.46, p = .06$ ). That is, Chinese consumers appear less sensitive than American consumers to a product justification for across-customer price differences. Indeed, the highest fairness reactions were found for price comparisons to a different product (vs. all others)—more so in the American sample ( $F(1, 291) = 20.70, p < .01$ ) than in the Chinese sample ( $F(1, 291) = 3.14, p = .08$ ; interaction contrast  $F(1, 291) = 3.67, p = .06$ ). Overall, these results suggest that, while consumers are sensitive to across-customer price comparisons, unfairness reactions can be mitigated by seller or product differences (especially the latter in the USA).<sup>6</sup>

Hypothesis 5 was tested by comparing the same-day control group to each price-setting condition. As predicted, planned contrasts revealed no differences for auction (vs. control group) as a function of cultural sample ( $F < 1$ ). Accounting for a price difference across customers with an auction explanation mitigated unfairness reactions equally in both American and Chinese samples (respectively,  $F(1, 291) = 11.05, p < .01$ ;  $F(1, 291) = 4.17, p < .05$ ). In contrast, planned contrasts revealed differences for negotiation (vs. control group) as a function of cultural sample ( $F(1, 291) = 6.33, p < .05$ ). Providing a negotiation explanation for the price difference across customers mitigated unfairness reactions in the USA ( $F(1, 291) = 7.83, p < .01$ ) but not in China ( $F < 1$ ). This result is consistent with our argument that negotiation is a common price-setting mechanism (or marketplace norm) in China that is spontaneously salient to Chinese consumers when judging prices; consequently, it does not mitigate unfairness reactions. Overall, these

---

<sup>6</sup> Our primary interest revolved around cross-dimensional (product/vendor/time) differences as a function of culture. However, we examined a range of time differences, including next day, previous day, next week, and next month. Consistent with intuition, unfairness reactions were mitigated by longer inter-purchase times in a monotonic manner. Moreover, the same pattern of results was obtained across cultural samples. For expositional simplicity, only next day comparisons are reported in the text.

results suggest that, although consumers are sensitive to across-customer price comparisons, unfairness reactions can be mitigated by price-setting mechanisms (when such mechanisms are not already spontaneously salient).

Finally, we note an additional analysis that controlled for rural-urban differences within and across national samples. Of our Chinese (American) participants, 47% (30%) reported a rural background. An analysis that included only urban participants corresponded to the omnibus analysis with one exception: the quality difference across cultures evaporated ( $F(1, 279) = 1.41$ ,  $p = .24$ ). This result may arise from reduced statistical power but also lends itself to a plausible process explanation; that is, urban consumers in China are exposed to a wider variety of goods that differ on quality and may be more willing to make price-quality inferences, thereby reducing any quality differences across samples. (A separate analysis for rural participants was precluded due to low sample sizes.) Note that negotiation differences across culture endured in the urban-only analysis, as expected. In other words, a comparison of urban consumers from each sample showed identical patterns of response across dimensions that should not be affected by cultural differences but differed on the lone dimension associated with a marketplace difference. We elaborate on this point in the next experiment.

#### *STUDY 5: MARKETPLACE METACOGNITION*

We end this series of experiments with an eye toward future research on marketplace differences and consumer perceptions of price fairness. A central concept in the study of perceived price fairness is the Principle of Dual Entitlement (Kahneman, Knetsch, and Thaler 1986), which argues that consumers are not insensitive to the plight of vendors and are willing to

grant them a reasonable profit on an exchange. However, recent research has shown the principle to be less than monolithic. Specifically, consumers do not appear to be equally accepting of all reasons for a price increase, even when the price increase has no effect on a vendor's skimpy profits (Bolton et al. 2003). We have no reason to believe that American and Chinese consumers have different senses of equity in an exchange but, due to their differential familiarity with economic behavior, market dynamics, and the practice of business, as well as differences in legal and regulatory structures (e.g., business regulations, consumer protection; Batra 1997), consumers from emerging economies may not mimic consumers from established free-market economies in the latitude they are willing to grant a vendor in price-setting.

The present study borrows a paradigm from previous research to examine the extent to which Chinese consumers are more or less likely than American consumers to pay a price differential across vendors as a function of the reason for the price differential. Bolton et al. (2003) found that (a) quality is the most fair justification for a price difference, (b) a margin strategy is the least fair justification, and (c) other explanations are seen as moderately unfair. Formally,

**H6:** The most (least) fair explanation for a price difference across vendors is quality (a margin strategy); other explanations lie in between.

Although we expect that such an ordering will largely hold, prior research is silent regarding differences across culture and marketplace.

## Method

*Subjects and Design.* The experiment was a 6 (Price difference explanation) x 2 (Culture: Chinese vs. American) between-subjects design. Participants were undergraduate students from

China and the United States (both screened to omit non-native participants and Asian-Americans) who received financial payment for participating in the study. A total of 489 individuals participated (48% male in the US sample and 45% male in the Chinese sample).

*Materials and Procedure.* Participants read a short scenario in which the explanation for a price difference between two stores was manipulated. Six different explanations were offered: quality, margin strategy, other costs, risky inventory, and customer base were adopted from Bolton et al. (2003), along with store vouchers (a frequent store practice in China). The American store-voucher version (shown in square brackets) is reproduced below. The other conditions, adopted from Bolton et al. (2003), are reproduced in the appendix.

We are interested in your views, as a consumer, on the fairness of store finances and pricing. As you know, stores make a profit from selling goods and overall profit is a function of many factors. Consider the case of two stores. Both stores have the same level of service, the same costs and overall sales revenue, and the same net profit. Both stores sell the exact same blouse (same brand, same quality, same style). Store A charges \$29.95; Store B charges \$39.95. [Store A charges a lower price because its costs for shopping vouchers are lower (as it seldom offers them). Store B charges a higher price because it has to cover higher costs for shopping vouchers as it frequently offers them. For example, consumers buying the blouse at Store B would be given a voucher that can be used like cash at the store for spending on non-promotional products. As a result, Store B has to charge a higher price to make the same profit as Store A.] Please take a moment to consider these stores. What do you think is a fair price at each store? (Enter a \$ amount for each store.)

The net profit margin for each store was held constant and low at 5% (and presented in a table along with price information for each store following the scenario text). In the Chinese version, prices were set at ¥119 and ¥159 (based on local market base prices and an equivalent percentage price difference). Note that the currency metric used here is more immune to scale-response bias than direct fairness ratings.

## Results

A variable representing the relative fair price difference was constructed by taking the differences in the fair prices provided by participants for the two stores and dividing by the actual price difference. A value of 100% indicates that participants perceived the entire difference (\$10 in the USA, ¥40 in China) as fair; a value of 50% indicates that only half the actual price difference was considered fair. Table 6 contains the descriptive means.

Analysis consisted of a series of planned interaction contrasts. The first contrast indicates that the most and least fair price explanation belonged to the quality and margin strategy explanations, respectively. The contrast of these two explanations was significant ( $F(1, 477) = 64.07, p < .01$ ) and did not differ by cultural sample ( $F < 1$ ). Second, the contrast of other costs and store vouchers was not significant ( $F < 1$ ) and did not differ by cultural sample ( $F < 1$ ). Similarly, the contrast of customer base and risky inventory explanations was not significant ( $F < 1$ ) and did not differ by cultural sample ( $F < 1$ ). However, the relative fairness of these two sets of explanations differed as a function of cultural sample ( $F(1, 477) = 4.80, p = .03$ ): the latter were perceived as less fair than the former in China ( $F(1, 477) = 5.20, p = .02$ ) but not in the United States ( $F < 1$ ). Indeed, customer base and risky inventory explanations were seen as equally unfair as a margin strategy explanation in China ( $F < 1$ ) but were judged more fair than a margin strategy in the USA ( $F(1, 477) = 9.92, p < .01$ ). On the other end of fairness, a quality explanation was judged fairer than the runner-up store voucher and other cost explanations in both China ( $F(1, 477) = 16.64, p < .01$ ) and the United States ( $F(1, 477) = 13.57, p < .01$ ).

-----  
Insert table 6 and figure 6 here  
-----

As in study 4, a post-hoc analysis was conducted for consumers who reported having an urban (versus rural) background. It seems plausible that consumers lacking familiarity with such free-market tactics and profit requirements might respond differently from more savvy consumers, particularly with regard to explanations arising from a broad versus narrow customer base (with rural consumers judging it less fair out of self-interest) or arising from a risky inventory (with rural consumers again judging it less fair due to more conservative attitudes toward products that are “seasonal or very fashion-forward or from new/unknown designers or manufacturers”). Results were again supportive (see figure 6). An analysis that included only urban participants revealed a remarkably similar pattern for the US and China that is consistent with hypothesis 6; that is, quality differences were judged fairest, margin strategy differences least fair, and the remaining explanations—which did not vary by cultural sample—lay in between. In contrast, rural participants perceived risky inventory and customer base explanations as relatively unfair—especially in China—which seems consistent with more conservative attitudes likely to be held among rural consumers.

### *GENERAL DISCUSSION*

The predominant focus of this research was consumer perceptions of price fairness arising from across-customer price comparisons. Consistent with our hypotheses, Chinese/collectivist consumers in study 1 judged it more unfair (fair) when charged a higher (lower) price than an in-group versus out-group member (friend vs. stranger); American/individualist consumers were less affected by the referent. In study 2, Chinese consumers judged it more unfair (fair) when charged a higher (lower) price in a loyal versus

first-time buyer-seller relationship; American consumers were indifferent to the relationship. Study 3 conceptually replicated study 1 via priming of independent/interdependent self-construal and a pattern of results that map onto cultural differences in individualism/collectivism. In study 4, various transaction factors were shown to mitigate unfairness reactions to across-customer price comparisons in similar ways across cultures, except when the transaction factor was marketplace-specific (e.g., price-setting via negotiation). Study 5 also showed that reactions to across-vendor price differences were similar across cultures, especially for those consumers familiar with a highly competitive urban marketplace.

On the one hand, results of studies 1 and 2 provide evidence for powerful effects of culture on the perceived fairness of different prices charged to different consumers. Consistent with cultural tendencies towards collectivism/individualism, Chinese consumers were sensitive to relational context and influenced by in-group/out-group differences (friend vs. stranger comparisons; loyal vs. first-time buyer-seller relationships) whereas American consumers evinced a rule-like response less dependent on relational context. On the other hand, study 4 showed that these cultural differences in across-customer price comparisons were mitigated by other transaction factors (product and seller differences, price-setting mechanisms). Although the studies reported herein provide evidence for cultural differences in fairness reactions (especially as a function of in-group/out-group comparisons), the findings also provide some evidence for convergence in fairness response—inasmuch as several transaction factors (e.g., product, seller, and time differences; auction price-setting mechanism) had consistent effects across cultural samples.

Overall, the present research makes several contributions to the price fairness literature. First, we provide evidence for the moderating roles of type of referent (in-group/out-group) and

relationship to the seller (loyal/first-time buyer) in determining fairness reactions to across-customer price comparisons. Second, we investigate whether other transaction factors (product, seller, time, and price-setting mechanisms) are sufficient to “undo” an unfavorable fairness reaction. Third, we investigate the roles of culture (individualism/collectivism) and marketplace differences that affect price fairness response. To our knowledge, past research has not investigated these factors, nor has it examined price fairness reactions in a cross-national setting.

More generally, the present research contributes to the broader literature on fairness and culture. Prior research in this area has tended to focus somewhat narrowly on fairness, particularly within a reward allocation context. For example, individualists use an equity rule in reward allocation regardless of the group membership of their interaction partner; in contrast, collectivists use an equality (equity) rule when interacting with an in-group (out-group) member (e.g., Leung and Bond 1984; Hui, Triandis, and Yee 1991). However, other research (e.g., Fadil et al. 2004; Fischer & Smith 2003; Tower, Kelly, and Richards 1997, Chen 1995) has produced mixed results that question the generalizability to other contexts—such as when the allocator is not also a recipient of the reward, when the allocation is not zero-sum, and when the predominant goal is economic (versus interpersonal). On each criterion, the relevance of these findings to the present price-comparison context thus seems questionable. Moreover, it is unclear why the collectivist value of harmony or duty to the in-group (purported to drive resource allocation response) would affect fairness response in across-customer price comparisons. Indeed, our research does not support such an explanation; instead, we find an egocentric bias in fairness response that is enhanced, not attenuated, when collectivists make price comparisons to in-groups versus out-groups—thereby pointing to the need for a more expansive understanding of fairness and culture that incorporates pricing contexts.

## Limitations and Future Research

Despite ample precedents in the literature, the usual caveats apply to scenario-based laboratory research using college student samples. We note that these results are in line with prior research that provided some variation across population sample (Bolton et al. 2003). Moreover, the cultural differences observed in studies 1 and 2 are arguably conservative inasmuch as college-educated consumers in China are more westernized than the general population. The present research also examined rural/urban background to assess generalizability related to this factor. Nonetheless, future research investigating cross-cultural differences in price fairness perceptions is merited.

We suggest that future cross-national research on price fairness should consider two fundamental dimensions: cultural differences and marketplace differences (see figure 1). Studies 1—3 focused primarily on cultural differences in individualism/collectivism and their implications for price fairness perceptions in the United States and China. This dimension, one of Hofstede's (1980) original cultural dimensions, has received the lion's share of attention in the literature, and we agree with other researchers who call for a more expansive consideration of cross-cultural variation (e.g., Oyserman et al. 2002; Brewer and Chen 2007). Moreover, we suggest that the cultural environment “on the ground” also merits further attention—in this case, the characteristics of the marketplace (such as social norms, traditional practices, and socioeconomic history) experienced by consumers that likely shape their attitudes, expectations, beliefs and behaviors. Indeed, our analyses in studies 4 and 5 indicate that urban consumers in China and the United States evince remarkably similar fairness responses when (out-group)

across-customer price comparisons are not involved—consistent with these consumers’ similar experiences in a well-developed urban marketplace. Moreover, the rural differences that emerged seem consistent with, and may generalize to, other developing economies. Further research of this nature would contribute to a greater understanding of marketplace metacognition (Wright 2002)—how consumers think the marketplace does and should work—and how it is shaped by culture and developed through experience.

### Implications

Marketers have paid increasing attention to the potential of dynamic pricing—or individual-level price discrimination—as technology and the internet increase its prevalence. The present research, consistent with Haws and Bearden (2006), suggests that fairness concerns may limit consumer acceptance of such pricing practices *and may do so differentially across cultures*. However, unfairness response is mitigated when certain other aspects of the transaction differ, thereby enabling a seller to utilize differentiation, customization, and price-setting mechanisms as defenses against unfairness reactions. Of course, exceptions to the rule (such as special pricing for seniors or children), as well as our findings for price-setting mechanisms, suggest that traditional practice and social norms may also play a role—and that, given time, dynamic pricing could become a better understood and more accepted practice.

In addition, the foundation of relationship marketing is that loyal customers are more profitable, in part due to decreased price sensitivity. Contrary to this popular wisdom, some past research suggests that long-time customers may be more sensitive to price and therefore less profitable to firms (Bolton et al. 2003; Huppertz, Arenson, and Evans 1978; Reinartz and Kumar

2000). The present research demonstrates that Chinese consumers are especially sensitive to relationship loyalty, judging it more unfair (fair) to pay a higher (lower) price when in a loyal versus first-time buyer-seller relationship. Interestingly, both Chinese and American participants react as if relatively loyal when the relationship is unspecified, suggesting that the “loyalty standard” may be widely applied, putting increased pressure on marketers to deliver fair pricing. Moreover, fair pricing may be viewed as a form of distributive justice, and it seems reasonable to expect that culture will also influence demands for, and impact of, interactional and procedural justice (e.g., Brockner et al. 2005; Mattila and Patterson 2004)—topics that merit future research.

**APPENDIX**  
**PRICE DIFFERENCE EXPLANATIONS (STUDY 5)**

Explanation	Manipulation Wording
Quality	Consider the case of two stores. Both stores have the same level of service and other costs, the same overall sales revenue, and the same net profit. Both stores sell blouses. Store A charges \$29.95; Store B charges \$39.95. Store A charges a lower price because it carries a lower quality blouse. The store pays less to the manufacturer for the blouse; as a result, the same markup leads to a lower price than in Store B. Store B carries a higher quality blouse. The store pays the manufacturer more for this blouse; with the same markup as Store A, its prices are higher.
Other Costs	Consider the case of two stores. Both stores have the same overall sales revenue and the same net profit. Both stores sell the exact same blouse (same brand, same quality, same style, same cost paid to the manufacturer). Store A charges \$29.95; Store B charges \$39.95. Store A charges a lower price because its other costs (service, admin, rent, etc.) are lower. (For example, it offers less service, rent is lower in its location, etc.) Store B charges a higher price because it has to cover higher other costs. (For example, it offers better service, has higher rental costs in its location, etc.). As a result, Store B has to charge a higher price to make the same profit as Store A.
Store Vouchers	Consider the case of two stores. Both stores have the same overall sales revenue and the same net profit. Both stores sell the exact same blouse (same brand, same quality, same style, same cost paid to the manufacturer). Store A charges \$29.95; Store B charges \$39.95. Store A charges a lower price because its costs for shopping vouchers are lower (as it seldom offers them). Store B charges a higher price because it has to cover higher costs for shopping vouchers as it frequently offers them. For example, consumers buying the blouse at store B would be given a voucher that can be used like cash at the store for spending on non-promotional products. As a result, Store B has to charge a higher price to make the same profit as Store A.
Risky Inventory	Consider the case of two stores. Both stores have the same level of service, the same costs and overall sales revenue, and the same net profit. Both stores sell blouses of the same quality and pay the same cost to their manufacturers. Store A charges \$29.95; Store B charges \$39.95. Store A charges a lower price because it faces less risk that it will not be able to sell its inventory. Store B carries riskier inventory. (For example, its blouses may be seasonal or very fashion-forward or from new/unknown designers or manufacturers.) As a result, it faces more risk that it will not be able to sell its inventory and will have to dump blouses at the end of the season. Store B covers this risk by charging higher prices for the same quality goods than Store A.
Customer Base	Consider the case of two stores. Both stores have the same level of service, the same costs and overall sales revenue, and the same net profit. Both stores sell the exact same blouse (same brand, same quality, same style). Store A charges \$29.95; Store B charges \$39.95. Store A charges a lower price because it has a broad customer base due to its geography. The broad customer base results in higher turnover so Store A can charge lower prices to make the same profit as Store B. Store B, with its narrow customer base due to its geography, has lower turnover so must charge higher prices to make the same profit.
Margin Strategy	Consider the case of two stores. Both stores have the same level of service, the same costs and overall sales revenue, and the same net profit. Both stores sell the exact same blouse (same brand, same quality, same style). Store A charges \$29.95; Store B charges \$39.95. Store A charges a lower price because it follows a “volume strategy”. It charges a lower price, which increases sales; with a lower margin per sale but higher volume of sales, it makes the same profit as Store B. Store B, following a “margin strategy”, charges a higher price; its lower volume of sales is offset by a higher margin in order to make the same profit.

Note: Price difference explanations (with the exception of store vouchers) were adopted from Bolton et al. (2003) and are reproduced here for readers' convenience.

**REFERENCES**

- Aaker, Jennifer L., and Angela Y. Lee (2001), "'I' Seek Pleasures and 'We' Avoid Pains: The Role of Self-Regulatory Goals in Information Processing and Persuasion," *Journal of Consumer Research*, 28 (June), 33-49.
- Aaker, Jennifer L., and Patti Williams (1998), "Empathy versus Pride: The Influence of Emotional Appeals across Culture," *Journal of Consumer Research*, 25 (Dec), 241-261.
- Ackerman, David, and Gerard Tellis (2001), "Can Culture Affect Prices? A Cross-Cultural Study of Shopping and Retail Prices," *Journal of Retailing*, 77, 57-82.
- Batra, Rajeev (1997), "Marketing Issues and Challenges in Transitional Economies," *Journal of International Marketing*, 5 (4), 95-114.
- Bolton, Lisa E., Luk Warlop, and Joseph W. Alba (2003), "Consumer Perceptions of Price (Un)Fairness," *Journal of Consumer Research*, 29 (March), 474-91.
- Brewer, Marilyn B., and Ya-Ru Chen (2007), "Where (Who) Are Collectives in Collectivism? Toward Conceptual Clarification of Individualism and Collectivism," *Psychological Review*, 114 (1), 133-151.
- Brewer, Marilyn B., and Wendi Gardner (1996), "Who is This We? Levels of Collective Identity and Self Representations," *Journal of Personality and Social Psychology*, 71 (1), 83-93.
- Briley, Donnel A., and Jennifer L. Aaker (2006), "When Does Culture Matter? Effects of Personal Knowledge on the Correction of Culture-Based Judgments," *Journal of Marketing Research*, 53 (Aug), 395-408.

- Brockner, Joel, David De Cremer, Kees van den Bos, and Ya-Ru Chen (2005), "The Influence of Interdependent Self-Construal on Procedural Fairness," *Organizational Behavior and Human Decision Processes*, 96, 155-167.
- Burgess, Steven Michael, and Jan-Benedict E.M. Steenkamp (2006), "Marketing Renaissance: How Research in Emerging Markets Advances Marketing Science and Practice," *International Journal of Research in Marketing*, 23, 337-356.
- Campbell, Margaret C. (2007), "Who Says?!: How the Source of Price Information and Affect Influence Perceived Price (Un)fairness," *Journal of Marketing Research*, 54 (May), 261-71.
- Chen, Chao C. (1995), "New Trends in Rewards Allocation Preferences: A Singo-U.S. Comparison," *Academy of Management Journal*, 38 (2), 408-428.
- Chen, Ya-Ru, Joel Brockner, and Tal Katz (1998), "Toward an Explanation of Cultural Differences in In-Group Favoritism: The Role of Individual Versus Collective Primacy," *Journal of Personality and Social Psychology*, 75 (6), 1490-1502.
- Darke, Peter R., and Darren W. Dahl (2003), "Fairness and Discounts: The Subjective Value of a Bargain," *Journal of Consumer Psychology*, 13 (3), 328-38.
- Fadil, Paul, et al. (2004), "Distributive Justice in Northern Mexico and the US: A Cross-Cultural Comparison," *Cross-Cultural Management*, 11 (3), 3-24.
- Fischer, Ronald, and Peter B. Smith (2003), "Reward Allocation and Culture: A Meta-Analysis," *Journal of Cross-Cultural Psychology*, 34 (May), 251-268.
- Haws, Kelly L., and William O. Bearden (2006), "Dynamic Pricing and Consumer Fairness Perceptions," *Journal of Consumer Research*, 33, 304-311.

- Hofstede, Geert (1980). *Culture's Consequences: International Differences in Work-related Values*. Newbury Park, CA: Sage.
- Hui, C.H., H.C. Triandis, and C. Yee (1991), "Cultural Differences in Reward Allocation: Is Collectivism the Explanation?", *British Journal of Social Psychology*, 30 (2), 145-157.
- Huppertz, John W., Sidney J. Arenson, and Richard H. Evans (1978), "An Application of Equity Theory to Buyer-Seller Exchange Situations," *Journal of Marketing Research*, 15 (May), 250-60.
- Jain, Shailendra Pratap, Kalpesh Kaushik Desai, and Huifang Mao (2007), "The Influence of Chronic and Situational Self-Construal on Categorization," *Journal of Consumer Research*, 34 (June), 66-76.
- Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler (1986), "Fairness as a Constraint on Profit Seeking: Entitlements in the Market," *American Economic Review*, 76 (September), 728-741.
- Lee, Angela, Jennifer L. Aaker, Wendi L. Gardner (2000), "The Pleasures and Pains of Distinct Self-Construals: The Role of Interdependence in Regulatory Focus," *Journal of Personality and Social Psychology*, 78 (6), 1122-1134.
- Lee, Don Y. (2000), "Retail Bargaining Behaviour of American and Chinese Customers," *European Journal of Marketing*, 34 (1/2), 190-202.
- Leung, Kwok, and Michael H. Bond (1984), "The Impact of Cultural Collectivism on Reward Allocation," *Journal of Personality and Social Psychology*, 47 (4), 793-804.
- Markus, Hazel Rose, and Shinobu Kitayama (1991), "Culture and the Self: Implications for Cognition, Emotion, and Motivation," *Psychological Review*, 98 (2), 224-253.

- Mattila, Anna S., and Paul G. Patterson (2004), "Service Recovery and Fairness Perceptions in Collectivist and Individualist Contexts," *Journal of Service Research*, 6 (May), 336-346.
- Monga, Alokparna Basu, and Deborah Roedder John (2007), "Cultural Differences in Brand Extension Evaluation: The Influence of Analytic versus Holistic Thinking," *Journal of Consumer Research*, 33 (Mar), 529-536.
- Ng, Sharon, and Michael J. Houston (2006), "Exemplars or Beliefs? The Impact of Self-View on the Nature and Relative Influence of Brand Associations," *Journal of Consumer Research*, 32 (Mar), 519-529.
- Nisbett, Richard, Kaiping Peng, Incheol Choi, and Ara Norenzayan (2001), "Culture and Systems of Thought: Holistic versus Analytic Cognition," *Psychological Review*, 108 (2), 291-310.
- Orr, Winnie W.F. (2007) "The Bargaining Genre: A Study of Retail Encounters in Traditional Chinese Local Markets," *Language in Society*, 36 (1), 73-80.
- Oyserman, Daphna (1993), "The Lens of Personhood: Viewing the Self, Others, and Conflict in a Multicultural Society," *Journal of Personality and Social Psychology*, 65, 993-1009.
- Oyserman, Daphna, Heather M. Coon, and Markus Kemmelmeier (2002), "Rethinking Individualism and Collectivism: Evaluation of Theoretical Assumptions and Meta-Analyses," *Psychological Bulletin*, 128 (1), 3-72.
- Reinartz, Werner J., and V. Kumar (2000), "On the Profitability of Long-Life Customers in a Noncontractual Setting: An Empirical Investigation," *Journal of Marketing*, 64 (Oct), 17-35.
- Roberts, Dexter (2007), "Cautious Consumers," *Business Week*, Apr 30.

- Shavitt, Sharon, Ashok K. Lalwani, Jing Zhang, and Carlos J. Torelli (2006), "The Horizontal/Vertical Distinction in Cross-Cultural Consumer Research," *Journal of Consumer Psychology*, 16 (4), 325-356.
- Singelis, Theodore M. (1994), "The Measurement of Independent and Interdependent Self-Concepts," *Personality and Social Psychology Bulletin*, 20 (Oct), 580-591.
- Sternquist, Brenda, Sang-Eun Byun, and ByoungHo Jin (2004), "The Dimensionality of Price Perceptions: A Cross Cultural Comparison of Asian Consumers," *International Review of Retail, Distribution and Consumer Research*, 14 (Jan), 83-100.
- Thaler, Richard (1985), "Mental Accounting and Consumer Choice," *Marketing Science*, 4 (Summer), 199-214.
- Tower, Rupert Kinglake, Caroline Kelly, and Anne Richards (1997), "Individualism, Collectivism, and Reward Allocation: A Cross-Cultural Study in Russia and Britain," *British Journal of Social Psychology*, 36 (3), 331-45.
- Wright, Peter (2002), "Marketplace Metacognition and Social Intelligence," *Journal of Consumer Research*, 28 (March), 677-682.
- Xia, Lan, Kent B. Monroe, and Jennifer L. Cox (2004), "The Price is Unfair! A Conceptual Framework of Price Fairness Perceptions," *Journal of Marketing*, 68 (Oct), 1-15.
- Zhou, Kevin Zheng, Chenting Su, and Yeqing Bao (2002), "A Paradox of Price-Quality and Market Efficiency: A Comparative Study of the US and China Markets," *International Journal of Research in Marketing*, 19, 349-365.

TABLE 1: FAIRNESS AS A FUNCTION OF PRICE DIFFERENCE, REFERENT, AND CULTURAL SAMPLE  
(STUDY 1)

Culture	Referent	Price comparison	N	Fairness
China	Friend	Higher	44	2.58 (1.47)
China	Friend	Lower	44	4.56 (1.57)
China	Stranger	Higher	45	3.17 (1.80)
China	Stranger	Lower	45	4.05 (1.39)
USA	Friend	Higher	34	1.93 (0.91)
USA	Friend	Lower	32	3.95 (1.37)
USA	Stranger	Higher	54	1.70 (1.02)
USA	Stranger	Lower	36	3.93 (2.08)

Note: In studies 1—3, price comparison refers to whether price paid by the target customer is higher or lower than the price paid by the referent customer.

TABLE 2: FAIRNESS AND RE-PURCHASE INTENTION AS A FUNCTION OF PRICE COMPARISON, BUYER-SELLER RELATIONSHIP, AND CULTURAL SAMPLE (STUDY 2)

Culture	Relationship	Price comparison	N	Fairness	Re-purchase intention
China	Loyal	Higher	24	2.03 (1.01)	29.58 (27.89)
China	Loyal	Lower	19	4.86 (1.37)	78.95 (18.83)
China	First-time	Higher	22	3.67 (1.37)	56.36 (21.94)
China	First-time	Lower	24	3.86 (1.56)	44.17 (26.03)
China	Unspecified	Higher	23	2.64 (1.25)	31.30 (19.84)
China	Unspecified	Lower	19	4.33 (1.55)	56.32 (24.77)
USA	Loyal	Higher	21	2.25 (1.33)	53.81 (26.74)
USA	Loyal	Lower	23	3.75 (1.70)	79.57 (22.05)
USA	First-time	Higher	22	2.97 (1.47)	43.41 (29.98)
USA	First-time	Lower	17	4.75 (1.43)	64.71 (20.65)
USA	Unspecified	Higher	18	2.07 (1.13)	25.56 (24.06)
USA	Unspecified	Lower	23	4.42 (1.73)	59.57 (26.88)

TABLE 3: FAIRNESS AS A FUNCTION OF PRICE DIFFERENCE, REFERENT, AND SELF-CONSTRUAL  
(STUDY 3)

Self-construal	Referent	Price comparison	N	Fairness	Re-purchase Intention
Interdependent	Friend	Higher	21	2.22 (1.74)	29.52 (28.89)
Interdependent	Friend	Lower	14	5.43 (1.30)	63.57 (25.30)
Interdependent	Stranger	Higher	28	3.38 (2.04)	34.29 (25.74)
Interdependent	Stranger	Lower	17	3.73 (2.54)	47.06 (29.10)
Independent	Friend	Higher	28	2.21 (1.54)	23.21 (24.95)
Independent	Friend	Lower	24	3.73 (1.86)	39.17 (30.78)
Independent	Stranger	Higher	34	1.98 (1.69)	22.35 (21.47)
Independent	Stranger	Lower	22	3.77 (1.76)	59.09 (29.26)

TABLE 4: SCENARIO WORDING FOR MANIPULATION OF TRANSACTION FACTORS (STUDY 4)

Transaction factors	Scenario wording
All-same control group	Later, you learn that your friend bought the exact same jacket for \$80 from the same retailer that same day.
Different product	Later, you learn that your friend bought a different jacket for \$80 from the same retailer the same day.
Different seller	Later, you learn that your friend bought the exact same jacket for \$80 from a different well-known retailer that same day.
Next day	Later, you learn that your friend bought the exact same jacket for \$80 from the same retailer the next day.
Cue Auction	Later, you learn that your friend bought the exact same jacket for \$80 from the same retailer that same day. You both participated in auctions, which is customary with this retailer.
Cue Negotiation	Later, you learn that your friend bought the exact same jacket for \$80 from the same retailer that same day. You both negotiated your prices, which is customary with this retailer.

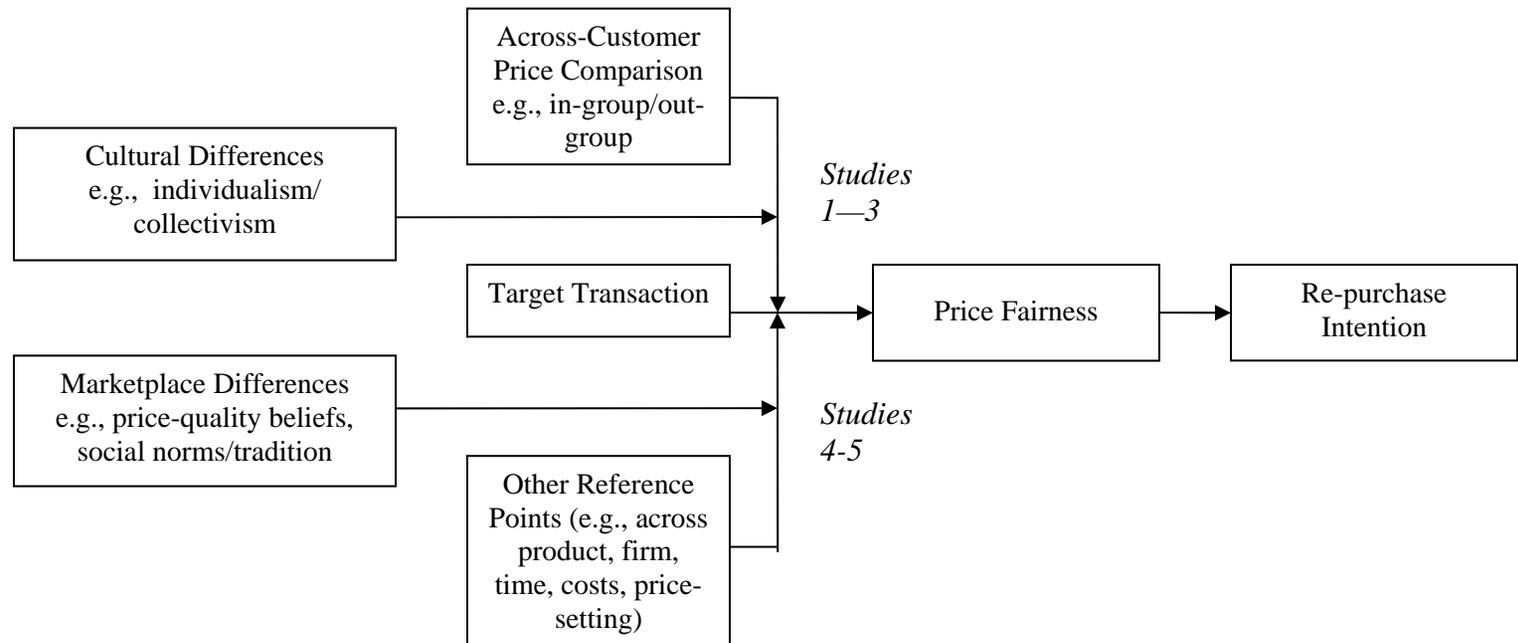
TABLE 5: FAIRNESS AS A FUNCTION OF TRANSACTION FACTORS (STUDY 4)

Culture	Transaction factor	N	Fairness
China	Control group	24	2.72 (1.44)
China	Different product	25	3.52 (1.78)
China	Different seller	27	3.36 (1.21)
China	Next day	21	2.63 (1.37)
China	Cue auction	26	3.59 (1.51)
China	Cue negotiation	24	2.38 (1.39)
USA	Control group	27	2.90 (1.39)
USA	Different product	26	5.10 (1.86)
USA	Different seller	25	4.05 (1.74)
USA	Next day	26	2.90 (1.44)
USA	Cue auction	27	4.26 (1.31)
USA	Cue negotiation	25	4.07 (1.42)

TABLE 6: RELATIVE FAIR PRICE DIFFERENCE AS A FUNCTION OF EXPLANATION AND CULTURAL SAMPLE (STUDY 5)

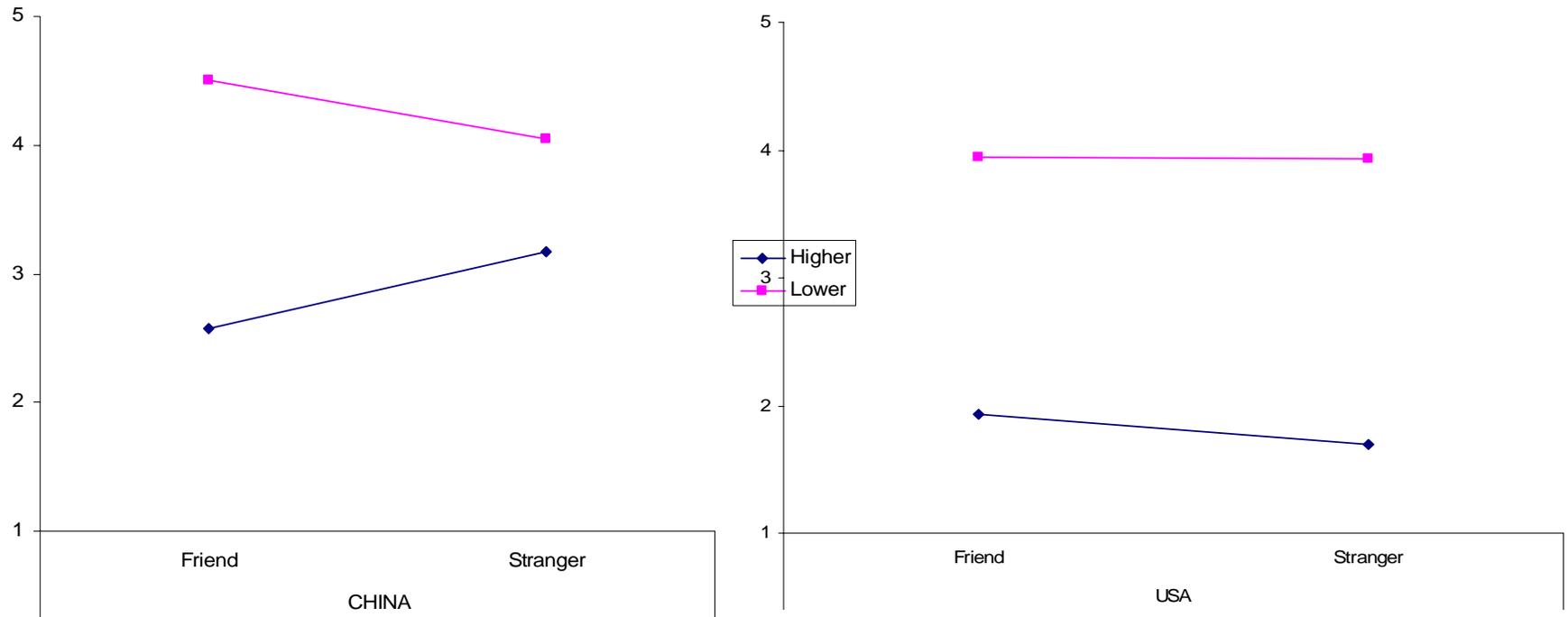
Culture	Explanation	N	Relative Fairness
China	Quality	35	103.9 (49.6)
China	Other Costs	40	71.0 (41.8)
China	Store Vouchers	37	64.1 (49.2)
China	Risky Inventory	39	47.5 (45.3)
China	Customer Base	39	55.5 (45.9)
China	Margin Strategy	40	43.9 (45.9)
USA	Quality	41	101.8 (18.9)
USA	Other Costs	42	74.3 (37.9)
USA	Store Vouchers	43	68.2 (40.5)
USA	Risky Inventory	44	78.4 (51.2)
USA	Customer Base	43	74.4 (41.1)
USA	Margin Strategy	46	51.3 (48.9)

FIGURE 1: A FRAMEWORK FOR INVESTIGATING CULTURE AND MARKETPLACE EFFECTS ON PERCEIVED PRICE FAIRNESS



Note: The cultural and marketplace differences denoted in this figure are not intended to be comprehensive but reflect the reported empirical work.

FIGURE 2: FAIRNESS AS A FUNCTION OF PRICE DIFFERENCE, REFERENT, AND CULTURAL SAMPLE (STUDY 1)



Note: In this and subsequent studies, the patterns of response within each cultural sample are of focal interest; main effect comparisons across sample are inadvisable due to cross-cultural measurement issues.

FIGURE 3: FAIRNESS AS A FUNCTION OF PRICE COMPARISON, BUYER-SELLER RELATIONSHIP, AND CULTURAL SAMPLE (STUDY 2)

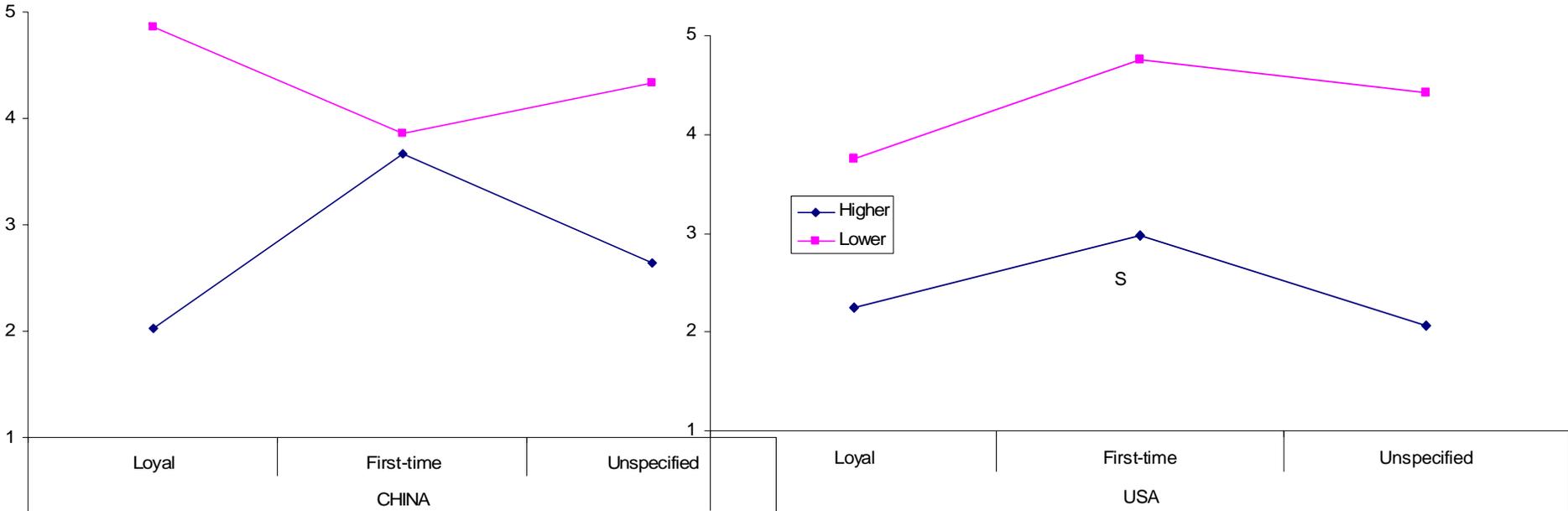


FIGURE 4: FAIRNESS AS A FUNCTION OF PRICE DIFFERENCE, REFERENT, AND SELF-CONSTRUAL (STUDY 3)

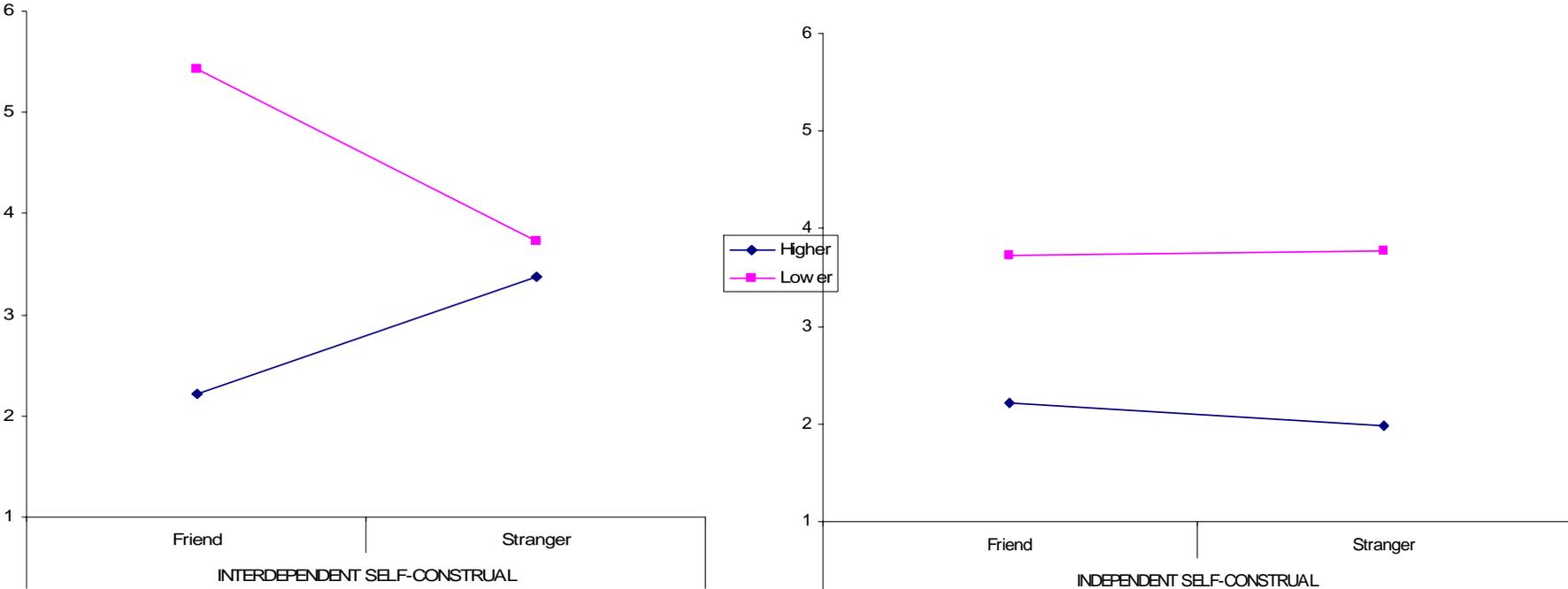


FIGURE 5: FAIRNESS AS A FUNCTION OF TRANSACTION FACTORS (STUDY 4)

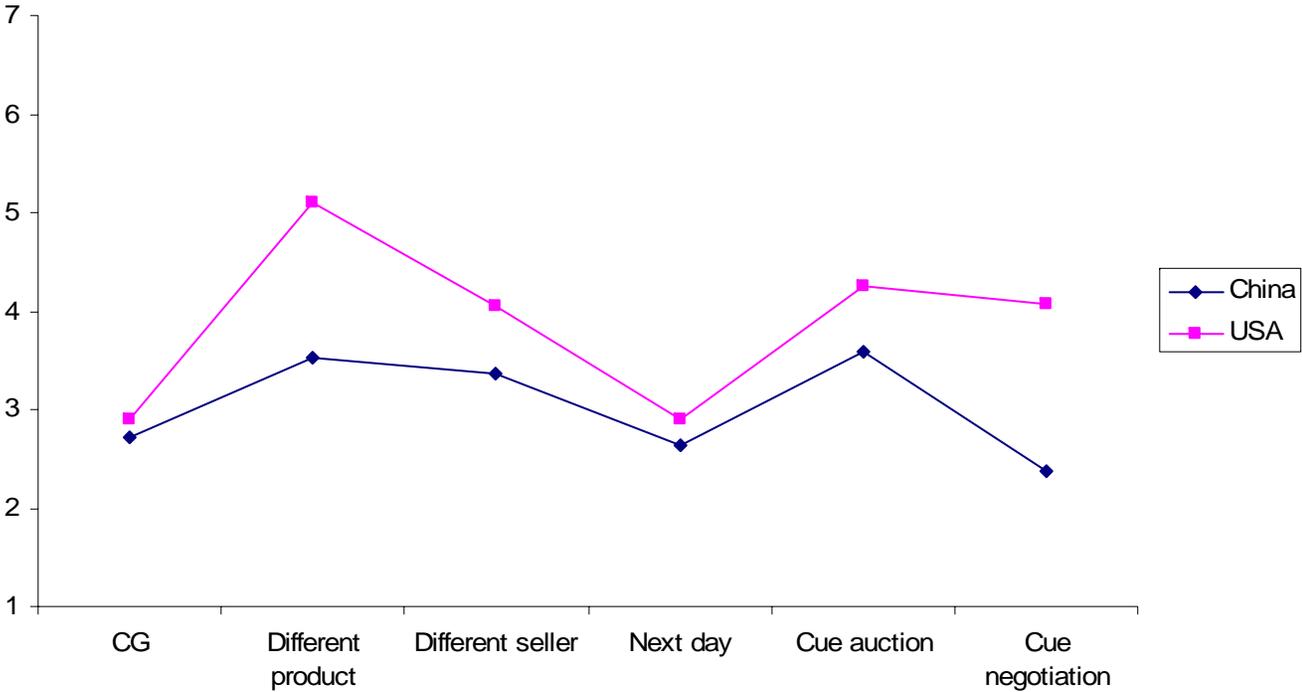
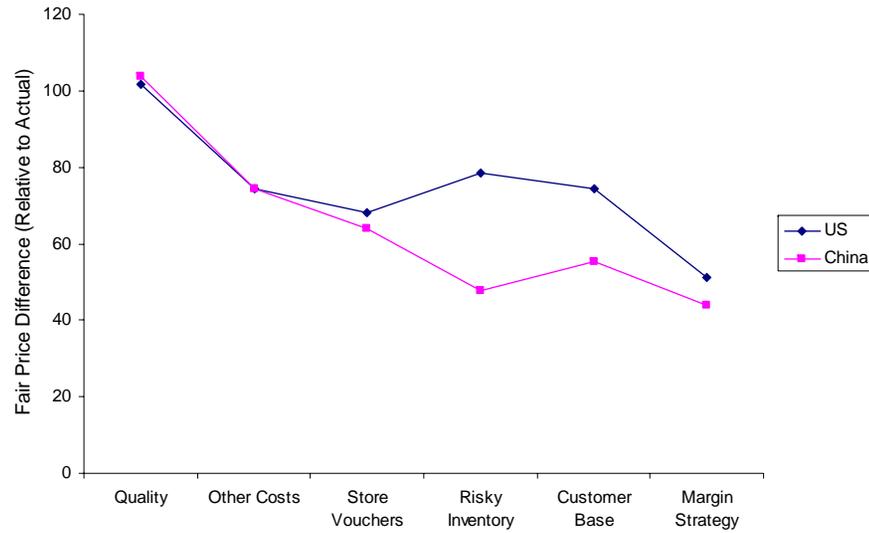
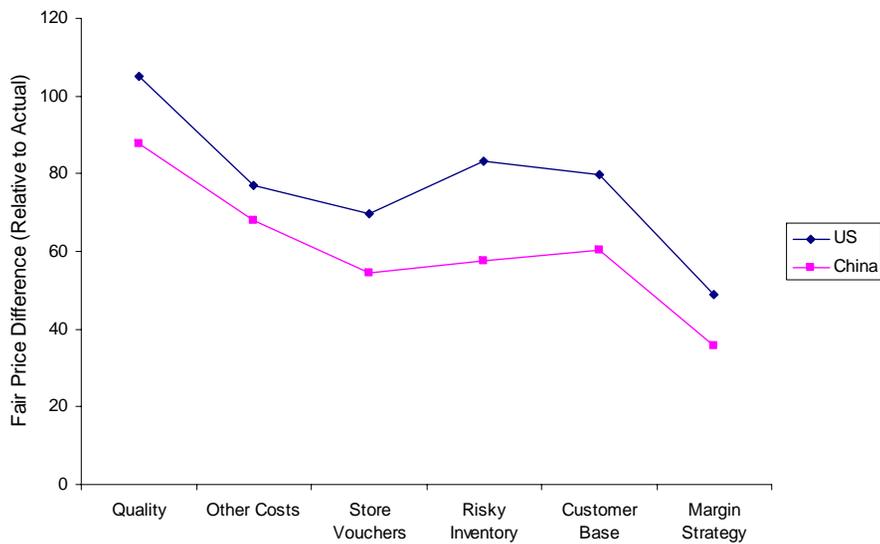


FIGURE 6: RELATIVE FAIR PRICE DIFFERENCE AS A FUNCTION OF EXPLANATION AND CULTURAL SAMPLE (STUDY 5)

PANEL A: Urban and Rural Background (Combined)



PANEL B: Urban Background



PANEL C: Rural Background

