Did You Hear What My Friend Paid! Examining the Consequences of Social Comparisons of Prices

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ABSTRACT

This paper examines the impact of social comparisons of prices. It considers the effects of price comparisons on consumers when they get a better bargain and when they pay more. This study finds that satisfaction with both the store and the product purchased are lower when consumers pay more than others. Findings also suggest that prices consumers are willing to pay more easily go down than up, where as perceptions of prices stores normally charge stay the same or even increase.

Does it matter to consumers what others pay for products? Consumers have ample opportunities to find special bargains in retail stores, even though bargaining is not as common in the United States as it is in some societies. This means that different consumers often end up paying very different prices for similar products and services. Haggling and internet bidding are examples of contexts in which the pricing for the sale of products varies considerably by customer (Heun 2001). Although electronic forums allow for increasingly sophisticated methods to set profit maximizing prices for each customer, many of these types of transactions still take place in the traditional retail environment. University and medical fees are often based on willingness and or ability to pay for a particular service. Even for consumer products in which direct negotiation of prices is not possible, prices may vary quite a bit depending on the retailer and the location.

One way in which consumers can find out about differences in prices is through social comparisons. Social influence can be a source of informational influence on purchases. Information from friends or peers is sought by consumers to make purchases, especially for symbolic products (Midgely 1983). Information passed along by others can also be a one factor in facilitating fads (Bikchandani, Hershleifer and Welch 1998). Specifically, price information can also be shared among consumers (e.g., Feick and Price 1987). Sharing of price information can have an impact on the effectiveness of targeted promotions (Feinberg, Krishna, and Zhang 2002).

This paper is an exploratory study examining the impact of social comparisons of prices. It considers the effects of price comparisons on consumers when they get a better bargain and when they pay more. It examines the consequences for satisfaction with the product and the retailer and product repurchase intentions. It also looks at the impact of appraisals on and the emotional reactions to the price comparison process.

Price Comparisons and Satisfaction

Comparisons with consumers who purchased the same product at a cheaper price can lead to dissatisfaction with a previously satisfactory purchase. These are social comparisons that can lower the reference price so that a consumer can become dissatisfied even when everything about the product they just purchased remains the same. An early study, Brickman and Campbell (1971), identified social comparison as potentially the most potent influence to raise comparison standards and create dissatisfaction. They found that this comparison increases standards that can result in a negative discrepancy with the performance of the existing product. Social comparisons of prices paid for a product should do the same.

A link between social comparisons and dissatisfaction with income has already been identified. Management studies have indicated that the pay of referent others can be an important part of pay dissatisfaction (Scholl et al. 1987). Martin (1981) suggested relative deprivation as an important construct to explain dissatisfaction with pay. More recently, Sweeney, McFarlin and Inderridieden (1990) tested relative deprivation across a variety of contexts and found it to be an important predictor of pay satisfaction. Dissatisfaction regarding differences in pay involves appraisals of inequity and injustice (Martin 1981). Would these same appraisals be made if the entity of comparison was the outflow of money as part of a cost rather than the inflow of income?

Unfavorable social comparisons can lead to dissatisfaction even without these negative appraisals. Richins (1991) found that idealized images of women in advertising can invite unfavorable comparisons with the self. These comparisons led to raised comparison standards and to dissatisfaction with the self.

Impact on Satisfaction. These findings can be applied to price comparisons. When consumers compare prices with a friend who has paid a lower price, they should feel less satisfied with the store where they bought the product than when they compare with friends who paid a higher price.

Price Comparisons and Reference prices

A consumer’s internal reference price, or the price that he or she would expect to be charged for a given product in a given situation, is a standard which has been closely examined in the marketing literature (e.g; Kalwani and Yim 1992). Consumers are further exposed to external reference prices, or cues in the external environment such as prices suggested by merchants in order to influence the consumer’s evaluation of an offering price. Consumers’ evaluation of prices are influenced both by internal reference prices and by external reference prices (Rajendran and Tellis 1994). Typically, a relatively high external reference price is provided so that the target price is “contrasted”—that is, seen as a bargain. For example, a sign or advertisement may compare a sale price to the “regular” price, that of a competing brand, the price of the same brand in a different store, the “manufacturer’s suggested retail price,” or an “original” price. There are limits to the credulity of the consumer, but Urbany, Bearden and Weilbaker (1988) and Lichtenstein and Bearden (1989) show that even “implausibly high” external reference prices tend to increase internal expectations. By contrast, Yadav and Seiders (1998) suggest that the respective impact of new high and low price stimuli is quite asymmetric. Their results found that price expectations of consumers knowledgeable about a product category were influenced significantly more by prices that were below their established reference price levels.

Impact on Internal Reference Prices. Internal reference prices may be influenced downward by external sources of comparison. When a consumer compares prices paid for a product with bargain prices paid by another, this lower price forms the anchor by which other prices are judged. Thus, exposure to lower prices paid by others can lead to lowering of consumers’ internal reference prices for that product category. Similarly, under some circumstances consumers may also raise their internal reference prices by com-
Social Comparisons and Emotions

Social comparisons can elicit quite a range of emotional responses. They can result in a reduction of closeness with the comparison other (Pleban and Tesser 1981), disparagement of the comparison other (Achee, Tesser, and Pilkinson 1994), anxiety (Tesser and Collins 1988) or jealousy (DeSteno and Salovey 1996). They can also be mixed with positive emotions such as happiness (Ackerman, MaInnis and Folkes 2000).

Impact on Emotions. Within the context of pricing, Feinberg, Krishna, and Zhang (2002) present experimental data to suggest consumers loyal to a firm felt “envy” when special pricing is made available to potential “switchers” currently served by other firms. When consumers compare with friends who have found cheaper prices for the same product they are likely to feel envy, anxiety and even anger. By contrast, when they compare with friends who have paid more for the same product they should feel positive feelings such as happiness, gratefulness and even pride.

METHOD

The research required a method that would allow us to explore and compare reference prices, product and store satisfaction, emotions and appraisals when the comparison was with a more expensive price for the same product and when it was with a cheaper price. To facilitate the comparison and to control for individual differences in emotionality, appraisal biases, and optimistic vs. pessimistic tendencies, we used a within-subjects design. Fifty-five undergraduate business students served as respondents. All who agreed to participate completed the task.

Procedure

Subjects were asked to remember and describe in detail two experiences involving the social comparisons of prices (cf. Roseman, Antoniou and Jose 1990; Smith and Ellsworth 1987). In one condition, subjects were asked to describe a time when they purchased a product and then soon after discovered a friend who had found the same product for a much cheaper price. In another condition, subjects were asked to describe a time when their friend purchased a product and soon after discovered that they (the subject) had found the same product for a much cheaper price. The order in which the reports were generated was randomized.

In each of the conditions, respondents were asked to fill out a survey with various measures of satisfaction, appraisals, emotional responses and assessments of reference price. Responses were paired by subjects’ mothers’ birth dates. The two reports were separated by 45 minutes of filler activity.

Clothing was mentioned most frequently by subjects in both conditions (M_selfbargain=24, M_otherbargain=18). Entertainment (M_selfbargain=8) and electronics equipment (M_selfbargain=6) were the second and third most frequently mentioned in the condition in which subjects bought at the cheaper price, hereafter referred to as the self-bargain condition. Communications equipment (M_selfbargain=9) and entertainment (M_selfbargain=6) were the second and third most frequently mentioned in the condition in the other person bought at the cheaper price, hereafter referred to as the other-bargain condition.

Measures

Social Comparison Emotions. A modified version of the emotion inventories of Burke and Edell (1989) and Richins (1997) was used to measure emotions elicited by a social comparison of products. Fifteen emotions, ten negative and five positive, were measured were measured with single item measures and then clustered using factor analysis. Correlation and factor analyses revealed three groups of negative emotions and one group of positive emotions. Regret, loss and envy loaded on one factor (M=1.38, α=.94), anger frustration and stress loaded on second factor (M=1.75, α=.91), happiness, enjoyment and exhilaration loaded on a third factor that represented a sort of general state of happiness (M=4.83, α=.90), shame, humiliation and hate loaded on a fourth (M=1.48, α=.95) and gratefulness and pride loaded on a fifth factor that represented both internally and externally attributed positive feelings about an outcome (M=3.96, α=.74).

APPRAISALS. Twenty-one items, each using a seven-point agree-disagree Likert scale, were used to indicate the various appraisal dimensions. The scale was derived from Lazarus’ (1991) appraisal components and modified by a review of the reference price (Biswas, Pullig, Yagci and Dwane 2002; Janiszewski and Lichtenstein 1999; Schindler 1998; Lichtenstein and Bearden 1989), social comparison (Tesser 1990; Tesser and Collins 1988) and relative deprivation (Sweeney, McFarlin and Inderrieden 1991; Martin 1981) literatures.

Seven subscales were identified through factor analysis. The first measures whether subjects felt they could undo what happened (M=5.48, α=.86), while the second assesses how much subjects cared about what happened (M=4.36, α=.92). The third assesses how good the outcome was for the subject (M=3.00, α=.94). The fourth component measured perceived unfairness of the situation (M=3.89, α=.97). The fifth component, assesses the degree to which the situation affected self-esteem (M=2.84, α=.97). The sixth component measures the degree of responsibility subjects felt for the outcome of the situation (M=4.61, α=.94). A higher number indicates higher self-blame. The seventh assesses the degree of control subjects felt they had over the outcome of the situation (M=4.56, α=.83).

Prices for the product were measured by open-ended questions asking how much was paid by subjects and their friends. Five items were used to assess reference prices (cf. Lichtenstein & Bearden 1989). The first 3 items measured the prices that consumers would really want to pay for a product. One item asked subjects what a fair price for the product would be. A second item asked subjects what was the lowest price by which they thought the product could be obtained. The third item asked subjects what they expect to pay if they bought the item again. The fourth and fifth items measured what subjects perceived to be price norms for a product. The fourth item asked subjects what they felt the store where they purchased normally charges for the product. The fifth item asked subjects the same question about the store where the other person bought. Satisfaction for the product (M=4.93, α=.98) and with the store (M=3.96, α=.97) were measured using a three-item, seven-point, likert scale. Desire to repurchase the product (M=3.91, α=.87) and to repurchase at the same store (M=3.72, α=.97) were also measured using a three-item, seven-point likert scale. Both scales were anchored by “strongly disagree” and “extremely agree.” A lower number indicates disagreement.

Manipulation Checks. Open-ended questioning revealed that in every case the price for the self in the self-bargain condition was lower than the friend’s price and the price for the self in the other-bargain condition was higher than the friend’s price. There were no

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1This scale was used to compare differences in the same emotion between conditions.

2Given the variability in prices, a loglinear transformation was done. Since the results using the transformed data were very similar, the raw data was used for analysis.
significant differences between the cheaper price in the self-bargain condition and the cheaper price in the other-bargain condition ($M_{selfbargain}=126$, $M_{otherbargain}=162$, $t(54)=1.13$, $p=.27$). Similarly, there were no significant differences between the more expensive price in the other-bargain condition and the more expensive price in the self-bargain condition ($M_{selfbargain}=191$, $M_{otherbargain}=226$, $t(54)=1.18$, $p=.24$).

**RESULTS**

Comparisons between the emotions, satisfaction, repurchase intentions and appraisals for consumers in the self-bargain and other-bargain emotions conditions were done by paired sample $t$-tests. We also examined the difference between prices paid by subjects and what was considered a fair price, the lowest price they felt they could obtain the product and what they would pay again. Lastly, we analyzed the relationship of appraisals to satisfaction with the product, store and repurchase intentions by regression analysis.

Table 1 reveals clear differences between the “self-bargain” and “other-bargain” social comparison of price conditions (see Table 1). Consumers reported feeling happier and more proud in the “self-bargain” vs. the “other-bargain” social comparison of price situations, and reported feeling more regret, frustration and shame in “other-bargain” situations. “Other-bargain” social comparisons of prices were also associated with less satisfaction with the product, the store, as well as lesser desire to repurchase the product and to purchase again at the same store. In both the “self-bargain” and the “other-bargain” conditions, satisfaction was lower with the store than with the product.

Within conditions, happiness and envy were the most intensely experienced emotions. However, happiness was a more intensely experienced emotion in the “self-bargain” condition. In the “other bargain” condition, anger and regret were the two strongest emotions. Of these two, frustration was the marginally more intensely experienced emotion.

Social comparisons of prices also differed in the appraisal of situations in which the subjects or the friend, respectively, got the bargain Table 1 shows that consumers tended to appraise “other-bargain” situations as more unfair than “self-bargain” situations, and tended to appraise the “self bargain” situation as one for which outcomes were more desirable, and which had a greater impact on self esteem. On the other hand, subjects appraised “other-bargain” (vs. “self-bargain”) situations as more easily undone.

The change in reference prices held by subjects was examined by a series of paired $t$-tests. Table 2 shows that reference prices more often differed from what the subjects paid when subjects compared with others who purchased at a lower price, than when they compared with those who purchased at a higher price. In the self-bargain condition, there was no significant difference between the price subjects paid and their perceptions of the fair price, the lowest price or the price that subjects expected to pay again. The price subjects paid was significantly lower than perceptions of the price normally charged both where subjects and where the other person bought.

By contrast, in the other-bargain condition, the results are the opposite. The price paid by subjects was significantly higher than either the “fair” price, the lowest price or the price subjects expected to pay again. It was not significantly different than the price...
normally charged either by the store where subjects or where the other person bought the product.

Differences in reference prices paid by the other person revealed a similar pattern. In the self-bargain condition, the price paid by the other person was significantly higher than the fair price, the lowest price, the price subjects expected to pay again or the price normally charged at the store where the subject purchased the product. In the other-bargain condition, the price paid by the other person was significantly higher than the lowest price for the product and significantly lower than the price normally charged at stores where either the subject or the other person made the purchase.

Further insight into the reaction from social comparisons of prices is gleaned from regressions of appraisals on satisfaction and repurchase intentions (see Table 3). Dissatisfaction with a product from a social comparison of prices is evoked in response to situations in which subjects feel there is unfairness. These results show that dissatisfaction with the store evoked from social comparison of possessions is driven by situations appraised as undesirable and having an impact on self-esteem. Desire to repurchase the product evoked from social comparison of prices is driven by situations appraised as those that subjects do not care about and had an impact on self-esteem. Lastly, desire to repurchase at the same store is evoked when the outcome is appraised as being desirable and when it impacts self-esteem. The remaining relationships between appraisals and satisfaction and desire to repurchase were insignificant, though some might gain significance with a larger sample size and greater power.

### TABLE 2
Changes in Reference Prices

**Self-bargain Condition:**

<table>
<thead>
<tr>
<th>t-value diff from self</th>
<th>Self Price</th>
<th>Reference Price</th>
<th>Other Price</th>
<th>t-value diff from other</th>
</tr>
</thead>
<tbody>
<tr>
<td>.95</td>
<td>126</td>
<td>120</td>
<td>191</td>
<td>3.55**</td>
</tr>
<tr>
<td>1.43</td>
<td>126</td>
<td>107</td>
<td>191</td>
<td>3.67**</td>
</tr>
<tr>
<td>1.16</td>
<td>126</td>
<td>115</td>
<td>191</td>
<td>3.48**</td>
</tr>
<tr>
<td>1.99*</td>
<td>126</td>
<td>159</td>
<td>191</td>
<td>2.35*</td>
</tr>
<tr>
<td>2.07*</td>
<td>126</td>
<td>177</td>
<td>191</td>
<td>1.06</td>
</tr>
</tbody>
</table>

**Other-bargain Condition:**

<table>
<thead>
<tr>
<th>t-value diff from self</th>
<th>Self Price</th>
<th>Reference Price</th>
<th>Other Price</th>
<th>t-value diff from other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.88**</td>
<td>226</td>
<td>172</td>
<td>162</td>
<td>-1.18</td>
</tr>
<tr>
<td>3.46**</td>
<td>226</td>
<td>137</td>
<td>162</td>
<td>2.17*</td>
</tr>
<tr>
<td>3.44**</td>
<td>226</td>
<td>152</td>
<td>162</td>
<td>1.01</td>
</tr>
<tr>
<td>-1.26</td>
<td>226</td>
<td>245</td>
<td>162</td>
<td>-2.88**</td>
</tr>
<tr>
<td>0.55</td>
<td>226</td>
<td>220</td>
<td>162</td>
<td>-2.08*</td>
</tr>
</tbody>
</table>

* p<.05  
** p<.01
lower price and those in which their friend paid the lower price. Consumers were much less satisfied and much less likely to repurchase when they discovered that their friends had purchased at a lower price than when they found they got a better price. These comparisons affected satisfaction and repurchase intentions not just with the store but also with the product. Even though the products themselves were not at fault, they also seemed to be tainted by the situation.

Satisfaction and repurchase intentions were lower for the store than for the product in both conditions. To the extent that shoppers believe that stores have the ultimate control over prices charged, it is quite surprising that subjects evaluated the store less favorably than the product even when they actually get a nice deal. It is not clear what drives this outcome. The answer may lie in attributions for the store’s pricing and promotional decisions. Alternatively, the formation of satisfaction with stores and products may involve different processes or may be influenced by different considerations. Future research needs to address the robustness and causes of this phenomenon.

Another key finding of this study is that there is an asymmetry of reference price change. When measuring what consumers were really willing to pay, reference prices only changed when consumers encountered lower prices. Exposure to higher prices in comparisons had no effect. Consumers seem to believe that the “real” price is not some higher price but always the lowest price in a situation. This price was even lower than the lowest observed price in one case. The perceived lowest price was significantly lower than that which their friends paid in the “other bargain” condition. Perhaps the frustration felt at having paid more than another could have led subjects to feel that an even better price lay hidden somewhere else. Although internal references seem to eventually follow increased market prices, Assimilation-Contrast Theory and Range Theory (Janiszewski and Lichtenstein 1999) both suggest that numerous exposures to a price higher than the expected range may be needed before the new and higher price levels are accepted. By contrast, a single exposure to a low price indicates that it is feasible for a retailer to offer such a price at a profit.

The exceptions to this pattern are consumers’ perceptions of the price normally charged at stores. In this case, consumers’ reference prices were more influenced upward than downward. This was especially true in the other-bargain condition. Consumers may be attempting to preserve or enhance their evaluation of themselves as shoppers by maintaining or adjusting their comparison standards upward. When consumers pay the lower price, their “normal price” should be significantly higher, otherwise they would not be smart shoppers. When friends pay a lower price, subjects’ reference prices should be equal to the higher prices that they paid; otherwise they would appear to be poor shoppers.

The results of this study suggest that there is a direct relationship between appraisals of fairness and product satisfaction but not with store satisfaction. These appraisals of fairness seem to be a factor in the spread of dissatisfaction with the store to the product. Just finding out a friend paid a lower price for the same product can make consumers upset at the store. If they feel cheated as well, they may...
blame all parties in the process. Satisfaction with and desire to repurchase at the store depend heavily on overall happiness with the outcome and how much the price comparison affected self-esteem. Subjects may have had to feel that the higher prices paid were unfair they before they became dissatisfied with the product as well. On the other hand, mere unhappiness with the store is enough to lower satisfaction, perhaps since it is the store that sets the price. Desire to repurchase the product was only impacted by how much subjects cared about what happened. The less they cared, more willing they were to purchase again.

This study also found that consumers feel a great deal of happiness and positive feelings about the outcome when they find a great deal. These were the strongest emotions felt in either condition. Pride is elicited by a good outcome for which people feel they are responsible (Lazarus 1991; Smith and Ellsworth 1987). Both of these appraisals were found to be associated with the “self-bargain” condition in this study. This finding also has support in past research that has found shopping—and especially successful shopping—can be quite an enjoyable experience (Schindler 1998; Babin et al.1994; Holbrook and Hirschman 1982). This study adds that finding a good bargain, and perhaps feeling proud about being a smart shopper, is an important factor in the pleasure of shopping.

Similarly, consumers feel a mixture of anger and regret when they discover they have paid a higher price than a friend. Subjects perceived the situation in the “other bargain condition” as unfair so that it is natural that they felt angry. Since responsibility felt by subjects for the outcome was equally strong in both conditions, a bad outcome should naturally elicit regret.

Nevertheless, our study is admittedly exploratory. We placed no restrictions on the context under which the social comparison of price took place, so the emotions elicited by these types of comparisons could vary widely depending on where they took place and what type of product was involved. Further, memory biases may have influenced the sort of experiences that subjects recalled.

**IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH**

An examination of social comparisons of prices may help explain the dynamics of any context in which prices are not fixed, which includes not just dynamic pricing and bargaining but almost any retail market. The implications are serious for marketers that charge different prices to different consumers. Consumers will be angry and will not be likely to shop at the same store. Manufacturers also need to be careful about pricing policies of distributors since customers will hold the products accountable for the pricing policies of the stores. Future research might address the dynamics by which consumers judge the extent to which manufacturers, intermediaries, and retailers, respectively, are responsible for retail prices and their fluctuations.

On the other hand, shopping for the best price seems to be a source of great pleasure for customers. Finding a better bargain elicited strong feelings of happiness and positive feelings regarding the outcome. This contradicts the popular opinion that consumers do not like to price comparison shop. Perhaps future research could look at the conditions in which consumers do and do not like to comparison shop. Further, additional research might address the question as to how much consumers learn from friends who receive better deals and whether such an appreciation for such learning may curtail resentment. The present research involved a comparison with bargains obtained with friends toward which subjects likely had considerable good will. Future research might address whether bargains received by strangers are resented more.

**REFERENCES**


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