
Bruce L. Alford
MISSISSIPPI STATE UNIVERSITY
Brian T. Engelland
MISSISSIPPI STATE UNIVERSITY

Research suggests that consumers respond to reference prices relative to some internal standards developed from experience. In dispute, however, is whether reference prices that are implausible produce the same effects on consumers as plausible reference prices. The two integrative reference price models available in the literature predict conflicting results, and empirical studies have not provided consistent support for either. Based upon a three-stage study involving prices for tennis shoes and telephones, results of this research support a differential response between plausible and implausible advertised reference price exposure conditions. Findings suggest that implausible prices have no effect on consumer’s internal price continuum, perception of value, or intention to search. Furthermore, the findings suggest that plausible reference prices affect a consumer’s price continuum differently than previous models predict. The authors discuss these findings, propose a modified reference price model, and provide practical implications for marketers.

Address correspondence to Bruce L. Alford, College of Business and Industry Mississippi State University, P. O. Box 9582, Mississippi State, MS 39762, USA.

An earlier version of this article was presented at the 1996 meeting of the Southern Marketing Association.

Internal Reference Prices

There have been many definitions proposed for internal reference price (Kamen and Toman, 1970; Winer, 1988; Jacobson and Obermiller, 1990; Thaler, 1985; Monroe, 1973, 1984). Thaler (1985) defined internal reference price as a “fair” price. Urbany et al. (1988b) interpreted fair price to be reflected by the expected average market price, while Kalyanaram and Little (1994) interpreted it as a weighted average of recent

Lichtenstein and Bearden (1989; Urbany et al., 1988a; Biswas and Blair, 1991).

Since consumers’ perceptions of value and search intention are a function of the influence of reference prices on internal price estimates (Urbany et al., 1988a; Biswas and Blair, 1991), clarification of the nature of internal price continuum shift would benefit researchers and practitioners. Specifically, reference price effects on consumer’s internal price estimates is unclear. Theory posits that only plausible reference prices should influence internal price estimates, yet Lichtenstein and Bearden (1989) found that implausible reference prices influenced internal price estimates.

The current study attempts to determine (1) the effects of both plausible and implausible reference prices on a consumer’s internal price continuum, as defined by lowest, average, and highest price estimates (Urbany et al., 1988a; Biswas and Blair, 1991; Monroe 1984); and, (2) the effects of plausible and implausible reference prices on subsequent value perception and search intention. The results of this investigation will then be integrated into the Urbany et al. (1988a) process model of reference price effects, thus extending and improving the model so that it more thoroughly depicts reference price effects. Accordingly, this article reviews the reference price literature, applies social judgment theory to develop three research hypotheses, presents the results of an empirical investigation that supports the hypotheses, and suggests several research implications.

A standard practice among retailers is to present a “compare at” reference price alongside an advertised sale price in order to enhance consumer perception of value. Research has shown that this practice focuses consumer attention on the difference between the advertised sale and reference prices, and precipitates an evaluation and possible shift in the consumer’s internal price continuum (cf. Urbany et al., 1988a; Biswas and Blair, 1991). This retail strategy is generally successful in both enhancing consumer value perception and reducing the intention for further search (Biswas, Wilson, and Licata, 1993). However, empirical support has been inconsistent and, at times, conflicting, especially when the reference price is outside the consumers’ plausible range.

Address correspondence to Bruce L. Alford, College of Business and Industry Mississippi State University, P. O. Box 9582, Mississippi State, MS 39762, USA.

An earlier version of this article was presented at the 1996 meeting of the Southern Marketing Association.

© 2000 Elsevier Science Inc. All rights reserved.
655 Avenue of the Americas, New York, NY 10010
ISSN 0148-2963/00/$—see front matter
PII S0148-2963(98)00095-2
purchase prices. Internal reference price has also been defined as the lowest market price (Biswas and Blair, 1991), the lowest acceptable price (Stoetzel, 1970), the most frequently encountered price (Olander, 1970), and the expected future price (Jacobson and Obermiller, 1990).

The divergence in definition has led to viewing internal reference price as not just one price, but as a range of prices. For instance, Urbany et al. (1988a) and Biswas and Blair (1991) both used expected high, average, and low prices to define a consumer's internal price range. Similarly, Chandrashekar and Harsharanjeet (1995) used fair price, lowest price seen, highest price seen, and normal price; while Lichtenstein and Bearden (1989) used normal price, low price, and fair price perceptions.

Accordingly, in view of the complexity of the internal price construct, much internal reference price research is rightly beginning to focus on a range of consumers' estimates, including three points—the lowest, average, and highest price—as an appropriate means of capturing the full dimension of a consumer's internal price continuum. This price range focus is appropriate as it has a strong basis in social judgment theory.

Social Judgment Theory as a Theoretical Basis

Social judgment theory, developed by Sherif and Hovland (1961) and later refined by Atkins et al. (1967), Sherif et al. (1965), Sherif et al. (1973) and others, is principally concerned with the psychological processes underlying the development and expression of attitudes. This theory suggests that when evaluating other people and things (advertised reference prices, for example) individuals develop latitudes of acceptance, latitudes of rejection, and latitudes of noncommitment, which they use as guidelines to speed the evaluation. Thus, the theory reflects a price continuum approach.

The latitude of acceptance consists of all the possible behaviors (internal reference prices in this instance) that are deemed as plausible by the subject. When a subject is confronted by an advertised price that is within this internal latitude of acceptance, the subject assimilates that advertised price as a credible bit of additional information. On the other hand, when a subject is confronted by an advertised reference price that falls within the latitude of rejection, the subject discounts or contrasts the information, treating it as implausible. The latitude of noncommitment is comprised of all behaviors not belonging to acceptance or rejection.

The reference price literature has demonstrated support for the applicability of social judgment theory by finding that consumers do possess a fairly wide range of internal prices—formed over time and stored in memory—against which an advertised price may be judged (Kalyanaram and Little, 1994; Klein and Oglethorpe, 1987; Lichtenstein and Bearden, 1989; Urbany et al., 1988a). This individual price continuum is composed of the latitudes of acceptance, rejection, and noncommitment described previously.

Development of Hypotheses

Empirical evidence supports the notion that consumers' internal price estimates shift in response to advertised reference prices (Lichtenstein and Bearden, 1988, 1989; Urbany et al., 1988a; Biswas and Blair, 1991). According to theory, this shift would indicate assimilation or at least assimilation with discounting of the plausible advertised reference price. But, contrary to social judgment theory, Lichtenstein and Bearden (1989) found that an implausible reference price does influence consumers' normal price estimate, although effects on fair and low price estimates were insignificant. In addition, the same study found that plausible reference prices did not affect consumer price estimates.

The contrary findings of Lichtenstein and Bearden may be the result of a lack of price familiarity. Because the influence of advertised reference prices on internal price estimates is based on the consumer possessing enough price information so that the internal price continuum is established, theory has not attempted to account for consumers without price familiarity. Lichtenstein and Bearden used a desk as the product in their study. Due to a lack of buying experience, student subjects may not have had sufficient price familiarity with desks, and thus, did not have an established price continuum. In other words, subjects did not possess enough information to discriminate between a plausible and implausible advertised reference price. This relationship is supported by Zaichkowsky (1988), who found that as involvement with a product category increases, the relative influence of the price cue on purchase decisions decreases. Thus, high involvement consumers tend to rely less on price as a cue in making a purchase decision. The same results may also occur with new products unknown to consumers, which would also be evaluated with little information by consumers.

Another potential explanation for contrary findings is that different types of price estimates were used in the studies. Lichtenstein and Bearden (1989) and Urbany et al. (1988a) used only post-exposure price estimates, while Biswas and Blair (1991) examined the average of absolute differences between subjects' pre- and post-exposure estimates. The current study obtains pre- and post-exposure subject price estimates, consisting of low, average, and high; and, also ensures price familiarity among subjects by pre-test selection of the types of products to be used.

Consistent with social judgment theory, when the stimulus is deemed implausible, this difference should result in a rejection of the validity of the advertised price information. When the information is rejected, it follows that the implausible price cannot have any material effect on the formation of the consumer's internal price continuum. Accordingly, we propose the following hypothesis:
**H1:** Only in the condition of a plausible advertised reference price will there be a change in consumers’ lowest, average, and highest price estimate.

The next two hypotheses are derived from the effect of the advertised reference price on a consumer’s internal price continuum. Theoretical discussions concerning the process by which advertised reference prices influence consumers are consistent (Urbany et al., 1988a; Biswas and Blair, 1991). Once the advertised reference price is evaluated, the internal price continuum may shift, and only after this shift will judgments concerning perception of value or benefit of additional search take place. To support this point, the reference price literature has defined benefits of search using either a multi-item scale or a numerical comparison between the advertised sale price and the lowest expected price. These alternative measures rely on internal price continuum shifts occurring prior to any judgments concerning value and search.

The foregoing view is consistent with social judgment theory. When a consumer is presented with a reference price that seems plausible, the information is accepted and used by the consumer to update his or her internal price continuum and then form an evaluation of both the offer and any benefits of additional search. If the reference price is deemed implausible, that price is rejected as unbelievable, and no change is made to the internal price continuum, the value perception, or the perceived benefits of search. Accordingly, we propose:

**H2:** Consumers will have a greater perception of offer value when exposed to a plausible advertised reference price as opposed to an implausible advertised reference price.

**H3:** Consumers will perceive a smaller degree of benefits of search when exposed to a plausible advertised reference price as opposed to an implausible advertised reference price.

The current study attempts to examine the reaction of consumers’ internal reference price estimates at each of three levels of price estimates (low, average, high) using pre-exposure and post-exposure measures, along with their perception of the offer value and benefits of additional search.

**Methods**

**Subjects and Product Selection**

This project encompassed two pretests and a main study involving volunteer university students on two Southeastern campuses. So that the use of student samples would not compromise the validity of the study (Calder, Phillips, and Tybout, 1982), a pretest (n = 65) was used to select two products—tennis shoes and telephones—with which the sample population had a great deal of purchase experience. Following Biswas and Blair (1991), products were selected that displayed a high mean price familiarity score and a low standard deviation to ensure that the largest number of members of the sample population would have price familiarity with the products used in the main study. Two products were selected in an attempt to enhance generalizability.

**Advertised Reference Price and Sale Price Determination**

Once the products were selected, another pretest (n = 69) was undertaken to ascertain the sample population’s lowest, average, and highest price estimate for each product. This step was taken to establish the level of the advertised reference prices in a manner similar to Urbany et al. (1988a) and Biswas and Blair (1991).

Since advertised reference prices can either be plausible or implausible, both conditions were established and used in an attempt to more thoroughly represent the marketplace. The pretest subjects’ lowest, average, and highest estimated price for both products are shown in Table 1 along with the reference prices to be used in the advertisements. The subjects were provided one brand name for each product, a description consisting of four attributes, and a picture of the product in order to assist their price estimation process. The brand for tennis shoes was New Balance and for telephones Panasonic. The four attributes for tennis shoes were (1) rubber outsoles, (2) EVA midsole, (3) leather uppers, and (4) padded ankle collar. Attributes for the telephone were (1) speakerphone, (2) hold button, (3) 20 number programmable, and (4) redial.

As defined by Biswas and Blair (1991), the implausible reference price was set at a level below which 95% of the highest price estimates fell. The plausible reference price was defined as the average price estimate for each product, and the sale price for each product was set between the plausible reference price and the average lowest price estimate.

**Experimental Procedures**

A convenience sample of marketing students at two Southeastern universities resulted in a sample size of 213, consisting of 117 men and 96 women. Subjects were given an experimental booklet and initially responded to questions pertaining to their lowest, average, and highest price estimates for the two products, with the same descriptive material present as used.
Table 2: Paired t-tests Results for Hypothesis 1

<table>
<thead>
<tr>
<th>Price Estimate</th>
<th>Pre-Exposure Mean (SD)</th>
<th>Post-Exposure Mean (SD)</th>
<th>T-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plausible reference price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennis shoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>39.73 (16.31)</td>
<td>36.45 (8.23)</td>
<td>1.75*</td>
</tr>
<tr>
<td>Average</td>
<td>55.76 (17.64)</td>
<td>47.00 (9.13)</td>
<td>4.16*</td>
</tr>
<tr>
<td>Highest</td>
<td>78.29 (27.51)</td>
<td>61.37 (15.83)</td>
<td>5.30*</td>
</tr>
<tr>
<td>Telephones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>53.01 (31.57)</td>
<td>48.34 (16.02)</td>
<td>1.34</td>
</tr>
<tr>
<td>Average</td>
<td>70.06 (40.16)</td>
<td>60.40 (16.34)</td>
<td>2.16*</td>
</tr>
<tr>
<td>Highest</td>
<td>101.00 (55.23)</td>
<td>77.42 (20.01)</td>
<td>3.69*</td>
</tr>
<tr>
<td>Implausible reference price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennis shoes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>40.08 (40.08)</td>
<td>39.65 (39.65)</td>
<td>0.26</td>
</tr>
<tr>
<td>Average</td>
<td>56.13 (15.03)</td>
<td>56.16 (13.37)</td>
<td>-0.02</td>
</tr>
<tr>
<td>Highest</td>
<td>79.29 (26.62)</td>
<td>79.03 (21.37)</td>
<td>0.08</td>
</tr>
<tr>
<td>Telephones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>56.93 (31.52)</td>
<td>57.44 (18.09)</td>
<td>-0.13</td>
</tr>
<tr>
<td>Average</td>
<td>81.03 (44.96)</td>
<td>79.41 (24.46)</td>
<td>0.28</td>
</tr>
<tr>
<td>Highest</td>
<td>114.34 (66.14)</td>
<td>118.85 (37.73)</td>
<td>-0.52</td>
</tr>
</tbody>
</table>

* Significant at the 0.1 level.
** Significant at the 0.05 level.

in the second pretest. Subjects were then exposed to two advertisements, one for each product. These advertisements contained the descriptive material and also the plausible or implausible reference prices along with the sale price of each product. After exposure to the advertisements, the subjects were questioned regarding the affective nature of the two advertisements as a distraction task. Once post-advertisement price estimates were gathered, information pertaining to the benefits of search and offer value assessments were gathered using seven-point Likert scales.

It was hypothesized that the plausible reference price would influence consumers price estimates, result in greater perceptions of value, and trigger fewer benefits of search as compared to the implausible reference price. To test these hypotheses, paired T-tests were used to assess changes in consumers price estimates and MANOVA was used to assess differences concerning perceptions of value and benefits of search.

Results

Internal consistency reliabilities (coefficient alpha) for the scales measuring offer value and benefits of search were acceptable, ranging from 0.76 to 0.85. The first hypotheses stated that only under conditions of plausible advertised reference prices will there be a change in consumers' lowest, average, and highest price estimates. As shown in Table 2, there is a significant difference between consumers' pre-exposure and post-exposure price estimates at all three levels for the plausible reference price, except for the case involving the lowest price estimate for telephones. In contrast, there are no significant differences between consumers' pre-exposure and post-exposure price estimates for the implausible reference price. The results support H1.

Under the plausible reference price condition, the highest price estimate moved toward the advertised reference price, while the average price estimate moved toward the advertised sale price. In other words, there was a shift in the price continuum for consumers, as suggested by social judgment theory. But the nature of the shift is contradictory to Urbany et al. (1988a), who suggested that the average price estimate should move toward the plausible advertised reference price. This result suggests that consumers' average price estimates may be influenced more by what consumers believe they would pay if they bought today, rather than the plausible reference price they see advertised. The absence of price shifts at any level for the implausible reference price condition indicates that consumers rejected the implausible reference price as suggested by social judgment theory, but contrary to Lichtenstein and Bearden (1989).

The movement of consumers’ highest price estimate toward the plausible advertised reference price also contradicts previous research. According to Biswas and Blair (1991) the plausible advertised reference price is set at a level equal to consumers' average price estimate. In this study, consumers seem to be using the plausible advertised reference price as their anchor for their highest price estimate.

The second hypothesis posited that consumers will have a greater perception of offer value when exposed to a plausible advertised reference price as opposed to an implausible advertised reference price. The MANOVA results indicate that consumers did perceive a better value for the plausible reference price. The Wilk’s lambda for the dependent variables (perceived offer value and perceived benefits of search) is significant for each product category (tennis shoes: lambda = 0.90, \( p \leq 0.05 \); telephones: lambda = 0.91 \( p \leq 0.05 \)). Roy-Bargmann stepdown F-tests were performed to assess the difference for each dependent variable. The stepdown F-test for perceived offer value is 3.29 for tennis shoes (\( p \leq 0.1 \)) and 2.75 for telephones (\( p \leq 0.1 \)). Under the plausible reference price condition, respondents had a higher mean level of perceived offer value (tennis shoes 3.94, telephones 3.74) than those
respondents under the implausible reference price condition (tennis shoes 3.25, telephones 3.16). Thus, H2 is supported.

The final hypothesis suggested that consumers will perceive a smaller degree of benefits of search when exposed to a plausible advertised reference price as opposed to an implausible advertised reference price. For the dependent variable, perceived benefits of search, the stepdown F-test is 10.96 for tennis shoes ($p < 0.05$) and 8.91 for telephones ($p < 0.05$). Thus, the mean level of benefits of search for plausible advertised reference price consumers was lower (tennis shoes 3.44, telephones 3.12) than the mean level for implausible advertised reference price consumers (tennis shoes 4.24, telephones 3.81). Hypothesis 3 is also supported.

**Discussion**

**Differential Adjustment**

While consumers’ price estimates did adjust as suggested by theory, the nature of this adjustment is contrary to previous research. Consumers’ average price estimate moved toward the advertised sale price and their highest price estimate moved toward the plausible advertised reference price. This indicates a narrower range of price acceptability than previously expected. Consumers seem to utilize the plausible advertised reference price as their highest price anchor and then construct their average price estimate from the actual current prices to be paid. This finding underscores the fact that internal reference prices are a moving target. Consumers’ average price estimates may develop from actual prices encountered and then are modified each time consumers encounter another sale price.

**Price Familiarity as a Moderator**

Consistent with Biswas and Blair (1991) and social judgment theory, price familiarity may be a moderator of advertised reference price effects. While this study was not designed to test price familiarity, the findings combined with previous findings suggest a potential moderator effect. This study selected and utilized products that displayed high price familiarity with subjects in order to ensure reference price knowledge, and the results may have been influenced by price familiarity. This type of price adjustment may not be evident with product/subject combinations having lower price familiarity.

Familiarity may also explain the lack of effect when the subject is exposed to an implausible advertised reference price. While Lichtenstein and Bearden (1989) selected a product students were familiar with because of usage (a desk), the subject subjects may not have been familiar with prices due to lack of purchase experience. This reduced price familiarity may have led to the influence of the implausible reference price they reported. A greater level of price familiarity may provide more confidence in price estimates among consumers, thus reducing susceptibility to an implausible reference price. Although the current study did not test either price familiarity or involvement, because the study used a pretest from the subject population to measure price familiarity with the products to be used in the study, subject price familiarity (and, perhaps, involvement) was ensured.

**Value Perception and Benefits of Search**

As hypothesized, consumers’ perceptions of value were greater when confronted with a plausible reference price than with an implausible reference price. Also as expected, the reverse was true for consumers’ perceptions of the benefit of additional search.

Contrary to the finding of Urbany et al. (1988a), the plausible reference price created a perception of fewer benefits of search than the implausible reference price. This perception may also be contingent on consumers’ price familiarity with the product. Greater confidence in price estimates may lead to less susceptibility to the implausible reference price and thus greater perception of benefits of search.

**Price Continuum Shifts**

A plausible advertised reference price influences consumers’ internal price continuum, moving the average and highest price estimates closer to the advertised sale price and the advertised reference price, respectively, while moving the lowest estimated price in the same direction as the average estimated price moved. A result of this movement was a significant reduction in the width (or range) of consumers’ price continuum ($35\%$, $t = 5.19$ for tennis shoes and $39\%$, $t = 5.06$ for telephones) reflecting the assimilation of the plausible reference price and sale price relationship. Consumers learn from new pricing information and refine their understanding of the applicable price range. No change in internal price estimates occurs if consumers reject the price claims. The plausible reference price also created a more favorable perception toward the product by influencing perceptions of the value of the offer and the benefits of additional search.

Figure 1 summarizes the findings of this study pertaining to shifts in consumers’ internal price estimates. This graphic is a modified form of the Urbany et al. (1988a) model and attempts to clarify the center section of that model concerning the shift in internal reference prices.

**Practical Implications**

Generally, retail strategists attempt to implement strategies that maximize the consumer value perception of their store’s offer while minimizing the benefits to additional search. Given a product and brand combination that has achieved a high price familiarity among target consumers, our findings suggest six strategic considerations that affect the implementation of pricing strategies at the retail level.

First, pricing decisions should be made within the context of price positioning over the long term, a positioning that
helps consumers form appropriate and intended price/value relationships for the product, brand, and retailer. Our study demonstrates that consumers adjust their internal reference price continuum when confronted with plausible information about price, and it can be expected that this adjustment influences subsequent evaluations of value and search benefit. Accordingly, the selection and display of properly conceived reference prices can adversely impact the formation of correct price understanding and undermine the impact of future price advertisements. If advertised prices condition consumers to expect low prices in the future, consumers will not be pleased when those expectations are not met.

Second, the effects of plausible advertised prices on the formation of consumers' internal reference prices should be respected when undertaking pricing strategy decisions. The current study found consumers' average price estimate moved toward the advertised sale price and not the plausible advertised reference price as previous research suggested. Instead, consumers' highest price estimate moved toward the plausible advertised reference price. This movement suggests that consumers may be weighing recency more heavily in developing price estimates. Repetitive advertising of a plausible reference price/advertised sale price combination could create an expectation of lower levels of price in the future. The plausible advertised reference price becomes an anchor for consumers' highest price estimate and thus narrows the range of price acceptability.

Third, the overuse of sale prices may erode the desired effect of advertised reference prices by reducing consumer price expectations and narrowing their internal price continuum. This situation may be dependent on the frequency of exposure to the advertised reference price and sale price. If consumers encounter the sale price often enough, this price becomes the average price and not a below-average price.

Fourth, the strategist can maximize value perception and minimize search intention by setting the reference price at the highest plausible price, while setting the sale price at the average consumer reference price. Because this action matches the consumer's expectation, there should be no deterioration in reference price perception over time. On the other hand, setting the reference and sale prices at any other plausible combination will result in a narrowing of the consumer's plausible range and a potential reduction in the value perception of any future offer. To achieve desired effectiveness, subsequent administrations of reference price actions would require lower and lower sale prices, a downward spiral that reduces retail profit potential.

Fifth, sufficient research should be undertaken by the retailer to ensure that reference prices chosen for advertisement by the retailer fall within the plausible range. Our study suggests that there is a latitude of acceptance in which advertised reference prices will produce the desired effects on consumer behavior. When an implausibly high advertised reference price is presented, consumers will tend to reject its influence, causing its presentation to have negligible effects on consumer perception of value and intention to search. Accordingly, before retailers publish price comparison advertisements, they should conduct sufficient research to understand their target consumers' internal price references for the products to be included in the offer. Given prior understanding of consumer perceptions, the retailer can ensure that the reference prices presented are within the plausible range.

Finally, the use of reference prices may be an inappropriate action if undertaken as part of the implementation of skimming or prestige price strategies because of the reduced plausible range. The strategist is faced with the dilemma of selecting a reference price that is high enough to accomplish the intended value perception of the deal, yet a price that is not so high that it becomes implausible to the intended target audience. When the actual price is established at a relatively high level, as with skimming and prestige strategies, the plausible range may be too narrow to effect a safe reference price choice. In this situation, the retailer is advised to utilize other cues for value, perhaps contextual ones as suggested by Rajendran and Tellis (1994).
**Limitations**

There are a number of limitations as a result of the particular selection of products, the design of the elicitation, and the chosen sample population. The study is region specific and product specific, since the data were gathered in the southeast and only two products were used. Two products were used in an attempt to provide more robust findings, but additional product categories are needed to enhance the generalizability of the study.

The current study used only products that displayed a high degree of price familiarity with the subject population. Thus, the findings may only be generalizable to high price familiarity consumers. Examination using both high and low price familiarity subjects would broaden the implications of the research.

By definition, the operationalization we adopted requires that the advertised sale price is set below the average price estimate and above the lowest price estimate. Accordingly, this study did not examine the effect of an advertised sale price set above the average price estimate. While this study found that consumers adjusted their average price estimate down toward the advertised sale price, it remains to be seen whether consumers will adjust their average price estimate up toward a higher advertised sale price.

Although students are consumers and reflect a sizeable proportion of the target market for the products used, there are generalizability issues in using student convenience samples. Therefore, application of the results of this study to other populations should be done cautiously. Because students often rely on parental funding, they may not possess the same degree of price consciousness as other consumer groups or as the general population at large.

**Research Extensions**

A number of opportunities for additional research are raised by this study. Our results suggest that price familiarity may have a contingent role in modifying the effects of reference price plausibility. Additional research is required to achieve a comprehensive understanding of the influence of price familiarity with respect to reference pricing.

Second, our results suggest that plausible advertised reference prices may not affect all the parameters of a consumer’s internal price estimate equally. Further research is required to understand the consumer’s cognitive processes in assimilating the various inputs regarding the price levels of the products that are purchased, especially with respect to the lowest price estimate. These processes may be dependent on the level of price familiarity possessed by consumers.

Our research also suggests that implausible reference prices have an effect on the perception of deal by subject consumers, but we have not evaluated possible longitudinal effects regarding consumer attitudes toward the retailer or brand. For instance, frequent use of implausible reference prices may be adversely valued by consumers resulting in a reduced likelihood that the brand and retailer would gain inclusion in the consumer’s evoked set. If the use of implausible advertised reference prices can be linked to unfavorable choice evaluations and reduced purchase intentions, this finding would have substantial practical implications.

Finally, examination of the interaction between store image and advertised reference prices would expand the results presented in this article. Our study attempted to examine the advertised reference price itself and inclusion of store name would provide additional information as to consumer’s shifts in internal reference prices, given varying levels of store image.

**References**


Olander, Folke: The Influence of Price on the Consumer’s Evaluation of Products and Purchases in *Pricing Strategy* Bernard Taylor and


