

Reactions to a Large Increase in Admission Price to State Parks

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ABSTRACT: Substantial price increases were enacted in Texas state parks on May 1, 1996. Data for the study reported here were taken from three surveys that were subsequently undertaken to monitor the impact of these price increases. The data were collected in May 1996 (data set 1), September 1996 (data set 2), and September 1997 (data set 3). The sampling for data set 3 was derived from data sets 1 and 2, so it was possible to monitor the reaction of a panel of respondents over time.

Three research questions were addressed: (1) did the impact of the substantial price increase decay over time? (2) was there a difference in response to the price increases by TCP [annual pass] holders and per visit payers? (3) was there a difference in response to the price increases among those with different levels of income?

The concept of a visitor adjustment period suggests there is likely to be a decay in the resistance to price increases over time. However, the analyses revealed only narrow and limited support for decay in resistance over time among per visit payers. Much stronger evidence of decay was apparent among Texas Conservation Passport (TCP) holders, but this finding was tempered by some concern over sample mortality. The analyses addressing research question 2 indicated a generally consistent pattern of per visit payers being significantly more resistant to the price increases than were TCP holders. Finally, analyses relating to research question #3 confirmed the economic aphorism that there is likely to be a higher level of resistance toward price increases by lower income cohorts than by higher income groups.

KEYWORDS: State parks, price increase, visitor adjustment period.

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Introduction

On May 1, 1996, a substantial price increase was implemented in the admission price to Texas state parks. Prior to that date, admission to the state parks considered in this study had been \$2 or \$3 per *vehicle*, while the new prices were \$2 or \$3 per *person*. Given that the modal number of park visitors in a vehicle was four, the new admission price represented a 400% increase for a typical group of park visitors. As an alternative to paying the per visit admission price, visitors could purchase a Texas Conservation

Passport (TCP), which was an annual pass giving admission to all individuals in a vehicle. The price of a TCP was increased at the same time from \$25 to \$50.

There were four main reasons for this shift in pricing policy. First, the agency needed more income to finance infrastructure renovations and arrest facility deterioration across the system. The legislature failed to provide sufficient tax funds for these purposes and directed the department to raise these funds from increased fees.

Second, large increases in per vehicle fees were likely to encounter substantial resistance from both visitor and legislative publics. It was considered likely that these publics were more likely to accept a \$3 per person park entry fee than to endorse a \$10-\$12 vehicle entry charge. There were two reasons for this belief: (1) opponents of the price increases would emphasize the worst scenarios to try and discredit them, e.g., one poor person in a car paying \$10-\$12; and (2) people tend to react to the dollar figure and ignore the unit of analysis to which it is tied. Thus, emphasis was likely to be on the \$12 and not on the four people average per vehicle which reduces the price to \$3 per person.

Third, it was argued that per person pricing was fairer than per vehicle admission. If the per vehicle admission is \$12 and there are four people in the car, then the cost is \$3 per person. However, if there are two people in the car, the cost to them is \$6 per person. All else equal, it is likely that the four people will adversely impact the resource more than the two people, but they pay a lower price. This appeared to breach the principle of horizontal equity (Crompton & Lamb, 1986) and, thus, was perceived to be inequitable.

Finally, several previous surveys of state park visitors undertaken in-house by the Texas Parks and Wildlife Department indicated that they were relatively affluent. Thus, it was anticipated they would be able to afford to pay the new per-person prices and unlikely to organize protests against them.

It seems likely that other state, regional and federal park systems may find themselves in a similar situation in the future. Although California state parks have substantially reduced prices in an effort to facilitate greater access to all segments of the population, this is atypical. The prevailing trend was discussed by Dustin, More and McAvoy (2000) who noted that New Hampshire state parks are funded on a pay-as-you-go basis; fees and charges in Vermont state parks more than offset the cost of providing them; federal land management agencies have launched fee demonstration projects; and multiple studies report that Americans are willing to embrace fees to maintain parks. Given this trend, it seemed that documentation of visitor reactions to these increases in prices at Texas state parks is likely to be useful to park managers.

To guide and monitor the impact of its pricing decisions over the transition period of shifting from per vehicle to per person fees, the Texas Parks and Wildlife Department commissioned a series of six studies. Three

of these preceded the implementation date, while the other three followed it. The analyses reported here used data from the latter three studies to address three research questions:

1. Did the impact of the substantial price increase decay over time?
2. (a) Were TCP holders more resistant to price increases in the TCP, than per visit payers?
(b) Were per-visit payers more resistant to increases in the daily admission price than TCP holders?
3. Were lower income cohorts more resistant to price increases than higher income cohorts?

Conceptual Background

It has long been recognized that economic models of pricing are incomplete in that they do not incorporate visitors' potential psychological reactions. Visitors frequently do not respond as anticipated to rational pricing decisions. Central to all discussions of the psychology of pricing is the construct of reference price. Reference price is the standard or reference point against which state park visitors assess the reasonableness of a given price. Adaptation theory (Helson, 1964) suggests that perceptions of a given price are influenced by two types of external stimuli: residual stimuli and contextual stimuli. The actual adaptation level is defined as the "adjustment of internal to external relations" (p. 57). Residual stimuli represent the influence of previous experience at the state park being visited, other Texas state parks, and state parks in other states. Contextual stimuli reflect a recognition that all state parks are not the same and a willingness to adjust the price reference point to accommodate the changes in context.

Reference price has been defined by both a single criterion and by multiple criteria (Jacobson & Obermiller, 1989). Single criterion definitions include "price last paid" (Gabor, 1977; McCarville, 1996; Uhl, 1970); "the average price" (Monroe, 1973); and "anticipated or expected price" (Assael, 1995; Helgeson & Beatty, 1987; Jacobson & Obermiller, 1989; Lattin & Bucklin, 1989; Winer, 1986). Those who have used multiple criteria to define the concept include Jacoby and Olson (1977) who considered reference price to be an amalgam of "fair price", "price most recently charged", "price last paid", and "price normally paid"; Klein and Oglethorpe (1987) who defined it as a combination of "aspiration price" (the most an individual is willing to pay), "market price", and "historical price"; and Diamond and Campbell (1989) who recognized two categories of definition: (1) definitions related to previous payment experience, such as average price paid and price last paid; and (2) definitions such as fair price, and the most an individual would pay.

Two constructs, which both derive from the construct of reference price, that have been used to explain psychological reactions to price are the notions of a tolerance zone (Crompton & Lamb, 1986) or latitude of acceptance (Sherif, 1963), and a visitor adjustment period (Crompton &

Lamb, 1986). The tolerance zone or latitude of acceptance is the range of increased prices that visitors are willing to pay without exhibiting resistance. It derives from acceptance level theory which was developed by Sherif in the context of social psychology (Sherif, 1963; Sherif & Holvond, 1961; Sherif, Sherif & Nebergall, 1965). Latitude of acceptance is defined as “that range of stimulus values judged acceptable by members of a group,” whereas latitude of rejection represents “the range found objectionable” (Sherif, 1963, p. 148). If the price is below the acceptance range, visitors are likely to suspect the quality of a park. If it is higher than this range, then it is likely to result in a decision not to visit (Fedler & Miles, 1989; Howard & Selin, 1987).

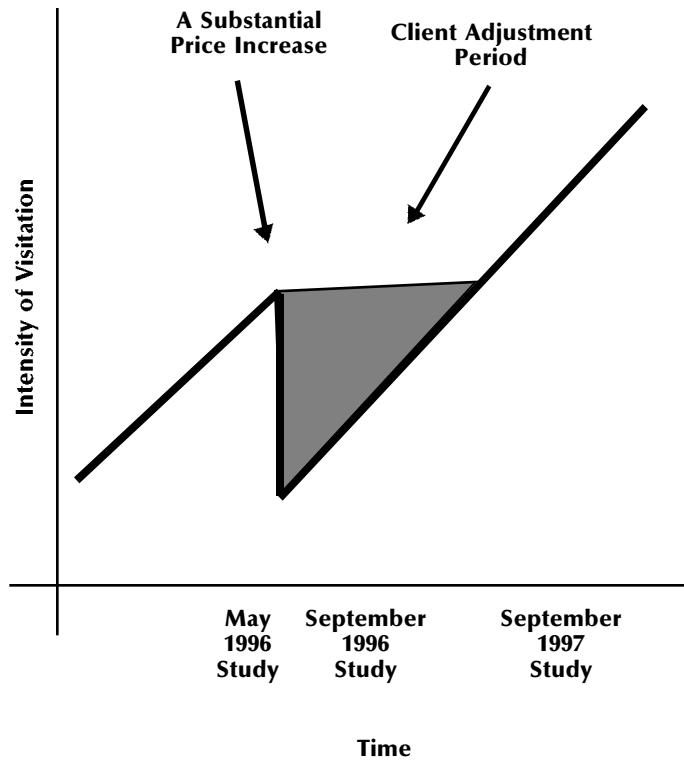
The point at which acceptance latitudes are likely to be exceeded is influenced by Weber’s law, which was first postulated in the nineteenth century, suggesting that it will vary according to proportionality (Monroe, 1973). Weber’s law proposed that visitors’ perceptions are affected by the proportionate difference between two price levels rather than the absolute dollar difference between them. If admission price is raised from \$3.00 to \$4.00, for example, this is a 33% difference and may fall outside the latitude of acceptance. However, if a similar absolute \$1 increase is made at another park from \$10 to \$11.00, Weber’s law suggests this might be acceptable since it is only a 10% increase.

Thus, if a state park’s admission price is raised from \$2 to \$2.25, for example, the increase is likely to be sufficiently small that it is within the latitude of acceptance around the reference price so visitors will tolerate it without resistance. This leads to the advice that, “A series of small increment increases in price over a period of time—all of which fall within the tolerance zone—are less likely to meet client group resistance than a single major increase” (Crompton & Lamb, 1986, p. 368). Empirical evidence verifying the influence of tolerance zones in the context of parks and recreation was provided by Howard and Selin (1987) who reported that participants in different public recreation programs had different latitudes of acceptance zones. They found participants were willing to pay increased prices for programs within their tolerance zones, while they rejected those programs whose prices were outside the acceptable range.

It seemed likely that the large increases in admission prices to Texas state parks would fall outside the boundaries of visitors’ latitude of acceptance. Senior managers were aware of this, but the change in policy was mandated by political forces to which they were required to respond. They anticipated that visitors’ responses would exemplify the characteristics of a visitor adjustment period.

The concept of a visitor adjustment period recognizes that immediate visitor resistance is likely to follow a large price increase of this nature. After an initial period of time, however, visitors will probably adjust, accept the new price as the reference price, and regard it as fair (Crompton & Lamb, 1986). Figure 1 illustrates the concept of a visitor adjustment period. It shows the time at which the three surveys were undertaken from which the

Figure 1
An Illustration of the Expected Pattern of Visitor
Acceptance of the New Admission Prices for State Parks



data analyzed in this study are derived, and indicates the conceptual expectation that by the time of the September 1997 survey, resistance to the price increases would have eroded.

Initial resistance occurs because the new prices contrast with a visitor's reference price. Emory (1970) and Thaler (1985) suggest that reference price represents a visitor's assessment of the "fair" price. Because visitors' reference prices had been consistently reinforced over many years by the past pricing policy in state parks to believe that \$2 to \$3 per vehicle was the "fair" price, it was recognized that they were likely to resist and express outrage at the "unfair" price represented by a 400% increase. Over time, however, it was anticipated their angst would recede as continued exposure to the new price gradually led to it becoming the reference price and being accepted as the prevailing "fair" price. The expectation, shown in Figure 1, of resistance decaying over both the 16-month period between May 1996 and September 1997 and the 12-month period between September 1996 and September 1997, appeared reasonable, given the observation that

“only with very substantial price increases is [the length of the adjustment period] likely to endure for more than three months” (Crompton & Lamb, 1986, p. 370).

It was anticipated that responses to the second research question would reflect self-interest. That is, those who held a TCP would be more resentful of the decision to double its price, while per visit payers would be more concerned about the daily admission price increases.

However, while TCP holders were exposed to a 100% increase, per visit payers typically were exposed to a 400% increase. Hence, following the logic of Weber's law discussed earlier, the resistance of per visit payers was expected to be stronger to the per visit increases than that of the TCP holders to the annual pass increase.

The anticipated response to the third research question was governed by standard economic theory (Loomis & Walsh, 1997). This states that as prices increase, use will decline, and this decline is likely to be most pronounced among park visitors who are in the lower income cohorts. They have smaller amounts of discretionary income and, thus, are likely to be most resistant to park increases. Watson & Herath (1999) note, “Historically, there has been concern that low income members of the population will be heavily influenced by access fees to public lands” (p. 331). It was noted earlier that many Texas state park visitors are relatively affluent. Various in-house surveys estimated between 40% and 50% of them had household incomes in excess of \$50,000. However, those same surveys showed that there were also 11%- 12% of visitors with household incomes under \$25,000. More (1999) points out that it is these people “at the margin” who live “with constant economic and financial anxiety” (p. 232) where the impact of a price increase is likely to weigh most heavily.

Empirical evidence supporting the contention that low income users are disproportionately affected by price increases is cited by Martin (1999). Similarly, Reiling, Cheng and Trott (1992) concluded that when price increases occurred, decline in participation in camping was most pronounced among low income campers. When fees were low, low income campers camped more than upper income campers, but they dropped out of the activity quickly as prices rose. Schneider and Budruk's (1999) results complemented these findings by showing that price increases do lead to displacement.

Methods

Three sets of data were analyzed. The first data set was collected from visitors to nine different Texas state parks. The questionnaire distribution was undertaken during two weekends in May, 1996. Prospective respondents were selected at each park on a systematic basis (i.e., every n th person was selected, the n depending on the rate at which traffic was entering the park). The selected visitors were asked for their names and addresses; were personally handed a survey as they entered the park; and were asked to return it in a prepaid envelope that was provided. Two days later a reminder

postcard was sent to each visitor. If a response had still not been received, second and third mailings of the questionnaire were sent two and four weeks, respectively, after the original questionnaires had been given out. The cover letter included announcement of an incentive by which each returned questionnaire was entered in a drawing to win one of five free Texas Conservation Passports (\$50 value) which allow vehicular entry to Texas state parks and wildlife management areas for one year. Overall response rate was 68% (n=1,610) out of an effective sample size of 2,373.

The second set of data was collected from a different group of people in the fall of 1996. The sample comprised 2,964 individuals who had responded to a survey of Texas state park visitors that was undertaken for another purpose in the summer of 1994. The survey instrument was mailed in September 1996. There were 390 respondents from the 1994 sampling frame who could not be located because they had changed their addresses. In addition, 150 surveys were returned by the postal service with a different address from that which the respondent used in 1994, but the postal service would not forward these surveys directly because the three months time limit for doing this had expired. These 150 were readdressed and sent out as part of the second wave. The overall response rate was 56% (1,440 responses) from the effective sample size of 2,574.

A third survey was conducted in September 1997. This survey selected samples from data sets 1 and 2 described above. A sample of 806 was selected from the 1,610 respondents in data set 1 by a stratified systematic sampling method. After undeliverables were removed, the effective sample size was 735. Total usable responses were 295 (40%). The second sample comprising data set 3 was derived from 966 of the respondents in data set 2. (The 966 reflected those among the 1,440 respondents to data set 2 who answered affirmatively to a question which had no relevance to the present study). Thus, the total size of the data set 3 sample was 1,772 (806 + 966). Preliminary notification postcards were sent, followed by the survey, and a subsequent second wave. Again an incentive of a draw for five free Texas Conservation Passports was offered to those who returned questionnaires. The final response for this sample was 55% (n=880) out of an effective sample size of 1,606 after 166 undeliverable mailings were deleted.

Responses to the five scale items listed in Table 1 and in all the subsequent results tables presented here were extracted for analysis from each of the three data sets. Each of these items appeared to have potential for offering insights that were germane to the three research questions. The first three of these items were independent questions on the survey instruments, while the last two items were part of an 11- or 14-item constraints scale. These were the only two items on the scale that related to price.

The item #1 question asked: "For the money, are admission fees to Texas State Parks..." and respondents were presented with a 5-point scale [very poor value (1), poor value (2), fair value (3), good value (4), very good value (5)]. The same scale was used for item 2 for which the question read,

Table 1
Results of GLM with Repeated Measures

	Data Set 1	Data Set 3	Within-subject one-way	p-value
On Data Set 1 and Data Set 3 Among Those Who Paid Per-person Price				
Value for money of the admission price (n=120)	3.23	3.15	.78	.38
Value for money of the TCP (n=121)	3.27	3.15	1.50	.22
Perception of level of price for admission to the state park (n=122)	3.23	3.39	5.61	.02
Did cost of admission reduce the number of visits to state parks (n=121)	2.59	2.74	1.90	.17
Did the cost of camping fees reduce the number of visits to state parks (n=119)	2.55	2.67	1.04	.31
On Data Set 1 and Data Set 3 Among TCP Holders				
Value for money of the admission price (n=89)	3.64	3.57	.37	.55
Value for money of the TCP (n=91)	3.51	3.69	4.34	.04
Perception of level of price for admission to the state park (n=87)	3.09	3.17	1.98	.16
Did cost of admission reduce the number of visits to state parks (n=92)	2.14	1.91	2.66	.11
Did the cost of camping fees reduce the number of visits to state parks (n=93)	2.24	2.06	1.48	.23
On Data Set 2 and Data Set 3 Among Those Who Paid Per-person Price				
Value for money of the admission price (n=218)	3.16	3.29	5.54	.02
Value for money of the TCP (n=207)	3.25	3.33	1.30	.26
Perception of level of price for admission to the state park (n=216)	3.36	3.37	.01	.92
Did cost of admission reduce the number of visits to state parks (n=214)	2.61	2.62	.01	.91
Did the cost of camping fees reduce the number of visits to state parks (n=211)	2.64	2.51	2.71	.10
On Data Set 2 and Data Set 3 Among TCP Holders				
Value for money of the admission price (n=226)	3.37	3.40	.35	.55
Value for money of the TCP (n=219)	3.22	3.64	46.98	.00
Perception of level of price for admission to the state park (n=217)	3.28	3.33	1.54	.22
Did cost of admission reduce the number of visits to state parks (n=214)	2.41	2.24	4.02	.05
Did the cost of camping fees reduce the number of visits to state parks (n=206)	2.42	2.16	11.12	.00

“For the money, do you consider a TCP to be...” Item 3 asked: “Was the price for admission to this state park...” and the 5-point scale comprised much too low (1), low (2), about right (3), too high (4), much too high (5). The final two items were among a comprehensive list of constraint items headed by the rubric: “Did the following factors reduce the number of visits you made to Texas State Parks during the last 12 months” and the 5-point scale was definitely yes (1), probably yes (2), not sure (3), probably no (4), definitely no (5).

Results

Research Question #1: Did the impact of the substantial price increase decay over time?

A General Linear Model (GLM) with repeated measures was used to identify significant shifts in responses over the 16-month period between data sets 1 (May 1996) and 3 (September 1997), and over the 12-month period between data sets 2 (September 1996), and 3. The responses of per-person visitors and TCP holders were analyzed independently. The results are reported in Table 1.

Among per visit payers (Table 1), the only significant difference was on perception of level of admission price and it was antithetical to the expected direction, indicating there was a greater tendency to regard prices as too high in data set 3 than in data set 1. However, among TCP holders there was significant evidence of decay on the value for money of a TCP item that was of central interest to this group. There was a perception among respondents in data set 3 that the value for money of a TCP was higher than when they addressed the issue 16 months previously.

The only significant difference between data sets 2 and 3 among per person payers was on the item value for money of the admission price. It indicated some increase in perceived value occurred in the 12-month period between the data sets. There was much stronger evidence for decay among the TCP holders, with three of the five items showing significant differences in the anticipated direction, including the value for money of a TCP item.

Research Question #2 (a): Were TCP holders more resistant to price increases in the TCP than per visit payers?

Research Question #2 (b): Were per-visit payers more resistant to increases in the daily admission price than TCP holders?

Table 2 shows the results from a multivariate analysis of variance (MANOVA) that was used to test for differences between TCP holders and per-visit payers on the five price-related items. The MANOVA revealed that the two types of payments had a significant effect on the perceptions of the five price-related variables, since all the p values for Pillai's V, Hotelling's trace, Roy's greatest characteristic root, and Wilks' lambda were significant at the .001 level.

Follow-up univariate analyses revealed that on almost all of the items at each of the three time periods, TCP holders were significantly more favorable and less resistant than per visit payers. However, there were some

Table 2
Results of MANOVAs on Price-related Variables Between Those Who Paid Per-person Price and TCP Holders

Dependent Variables (Data Set 1)		Per-person price payers (n=797)	TCP holders (n=426)	F-value	P-value
Value for money of the admission price					
Value for money of the TCP					
Perception of level of price for admission to the state park					
Did cost of admission reduce the number of visits to state parks					
Did the cost of camping fees reduce the number of visits to state parks					
Dependent Variables (Data Set 2)					
Value for money of the admission price					
Value for money of the TCP					
Perception of level of price for admission to the state park					
Did cost of admission reduce the number of visits to state parks					
Did the cost of camping fees reduce the number of visits to state parks					
Dependent Variable (Data Set 3)					
Value for money of the admission price					
Value for money of the TCP					
Perception of level of price for admission to the state park					
Did cost of admission reduce the number of visits to state parks					
Did the cost of camping fees reduce the number of visits to state parks					

interesting shifts across the data sets in the value for money of the TCP. In data set 1, there was no significant difference between the two groups; in data set 2, TCP holders perceived it to be significantly lower value for money than per person payers; but by the time these same individuals were surveyed 16 and 12 months later, respectively, in data 3, TCP holders believed it was significantly better value than per person payers. The mean scores suggest that the views of per person payers did not change much, and that the dramatic shift between the two groups' views resulted primarily from a marked increase in the positive views of TCP holders.

Research Question #3: Were lower income cohorts more resistant to price increases than higher income cohorts?

Respondents were classified into four income cohorts: under \$25,000 (group 1), \$25,000- \$49,999 (group 2), \$50,000-\$75,000 (group 3) and over \$75,000 (group 4). MANOVA tests reported in Table 3 were significant on all three data sets at the .01 or .001 levels. Follow-up univariate analyses indicated there were significant differences on all five dependent variables in data set 1 and on three of them in data sets 2 and 3, the exceptions being value for money of the admission price and value for money of the TCP. On every item in each data set there was a gradation of resistance ranging from most resistance at the lowest income level to least resistance in the highest income cohort and the gradation was significant on 12 of the 15 items.

Discussion

Among per-person payers, the expected significant decay in resistance to price over time occurred on the item, perception of level of price for admission to the state park, among respondents in data sets 1 and 3; and on the item, value for money of the admission price, among respondents in data sets 2 and 3. It was anticipated that this pattern would be replicated across all items. However, these were the only items among the items reported in Table 1 where the decay occurred. Thus, for the most part, the evidence suggested that contrary to expectations, the initial level of resistance to the new prices was sustained and did not dissipate over time.

The criteria which it has been suggested govern the length of a client adjustment period are: (1) magnitude of the price increase; (2) income level of the impacted group; (3) availability of substitute suppliers; and (4) type of service offered (Crompton & Lamb, 1986). The magnitude of the price increase was substantial. However, it was anticipated that its effect would be mitigated in the analyses by the time periods of 12 and 16 months over which the decay was measured because those were substantially longer than the three months' dissipation time suggested by the conventional wisdom (Crompton & Lamb, 1986). The income level of the samples was relatively high (Table 3). Thus, neither of these first two criteria appear to offer convincing explanations for the lack of decay.

There are few popular national parks in Texas, so the potential substitute suppliers consisted mainly of parks operated by the forest service,

Table 3
Results of MANOVAs on Price-related Variables Among Income Levels

Dependent Variables (Data Set 1)	Group 1 (n=199)	Group 2 (n=486)	Group 3 (n=325)	Group 4 (n=246)	F-value	P-value
Value for money of the admission price	3.23	3.37	3.46	3.54	4.39	.00
Value for money of the TCP	3.41	3.33	3.35	3.58	3.86	.01
Perception of level of price for admission to the state park	3.43	3.25	3.18	3.14	10.93	.00
Did cost of admission reduce the number of visits to state parks	2.66	2.50	2.25	2.06	11.58	.00
Did the cost of camping fees reduce the number of visits to state parks	2.82	2.59	2.33	2.06	20.81	.00
Dependent Variables (Data Set 2)	Group 1 (n=96)	Group 2 (n=338)	Group 3 (n=227)	Group 4 (n=154)	F-value	P-value
Value for money of the admission price	3.03	3.16	3.27	3.29	2.19	.09
Value for money of the TCP	3.08	3.19	3.22	3.29	.86	.46
Perception of level of price for admission to the state park	3.51	3.42	3.30	3.28	4.17	.01
Did cost of admission reduce the number of visits to state parks	3.14	2.80	2.39	2.16	14.88	.00
Did the cost of camping fees reduce the number of visits to state parks	3.10	2.68	2.35	2.17	13.32	.00
Dependent Variable (Data Set 3)	Group 1 (n=81)	Group 2 (n=255)	Group 3 (n=189)	Group 4 (n=124)	F-value	P-value
Value for money of the admission price	3.22	3.29	3.37	3.51	2.25	.08
Value for money of the TCP	3.31	3.40	3.42	3.60	1.58	.19
Perception of level of price for admission to the state park	3.54	3.40	3.21	3.18	8.52	.00
Did cost of admission reduce the number of visits to state parks	2.91	2.62	2.29	1.98	11.52	.00
Did the cost of camping fees reduce the number of visits to state parks	2.99	2.64	2.32	2.06	11.33	.00

river authorities, counties and municipalities. Prices at these facilities were almost exclusively based on a per-vehicle charge so they were much lower, and none of them dramatically increased prices during this time period. Hence, the lower prices of these substitute suppliers may have remained the reference price for many state park visitors who continued to compare the new state park prices unfavorably against the substitute supplier prices.

The fourth criterion appeared to reinforce this explanation because one of the premises associated with the concept of a visitor adjustment period is that the new price becomes the reference price with the passage of time. This assumes there is reinforcement that the new price is the fair price and the primary source of such reinforcement is likely to be repeated exposure to the new price. This repeated exposure drives the previous price out of consciousness or consigns it to an historical archive in the mind, so the new price gradually emerges as the norm. However, per person payers are infrequent park visitors. If they were frequent visitors and acted rationally, they would purchase a TCP. Infrequent exposure to the new price may mean that the long established previous price remains dominant as the reference price and no adjustment takes place. From a managerial perspective, these results suggest that the concept of a visitor adjustment period may not be useful in cases where purchases of a service are infrequent.

A recommended action for reducing the length of a visitor adjustment period is to provide visitors with as much warning as possible of a forthcoming price increase and to explain the rationale for it (Crompton & Lamb, 1986). If awareness and understanding of such an increase is established in visitors' minds some time before actual implementation, then at least some visitor adjustment is likely to have taken place by the time the price change occurs. A brochure was developed explaining reasons for the price increase, but it was not available until after the new prices were implemented; was not widely disseminated; and was not part of a more extensive public information campaign explaining the price increases.

Over the two time periods, there was a significant improvement in the perceptions of value for money of the TCP among TCP holders in both data sets 1 and 2 (Table 1). However, in the case of data set 1, this was the only item on which the decay effect emerged, whereas on data set 2, it was reflected on three of the five items. The two items in data set 2 on which there was no evidence of significant decay were the least relevant to TCP holders (Table 1). TCP holders were not impacted by per person admission fees which these two items addressed, so it was probably not reasonable to expect them to have meaningful opinions on that issue. In contrast, they were impacted by camping fees because a larger proportion of annual pass holders than per person payers also reported camping in the state parks.

Ostensibly, the different levels of support for decay among TCP holders between the two data sets was contrary to the logical expectation that evidence of decay would be greater between data sets 1 and 3 than between data sets 2 and 3 because the time period between the former was 16 months compared to 12 months for the latter. The mean scores in Table

1 indicate that initial resistance to the price increase among TCP holders was much higher among the data set 2 sample than among those in data set 1. This may be explained by most TCP holders not being impacted by the price increase immediately, because they did not have to pay the new \$50 price until their 12-month pass needed renewing. Most TCPs were bought and renewed in the peak June-September summer period. The lack of immediacy may have led to a lack of concern by the TCP holders in data set 1 for the 100% price increase that awaited them later in the year since they responded in May, resulting in relatively low initial resistance. However, by September when respondents to data set 2 were surveyed, many TCP holders had been required to actually pay the new higher annual pass fee heightening their awareness of it and leading to increased resistance. The initial stronger resistance of data set 2 respondents meant it was more likely there would be evidence of decay when respondents' reactions were measured again in data set 3.

The evidence of decay from these data indicates that respondents exhibited relative indifference in reacting to price increases which did not directly impact them. There was evidence of decay among TCP holders on items related to the TCP price increases. Similarly, the limited evidence of decay among per visit payers was restricted to the item that directly impacted them.

It was noted earlier that the analyses which addressed research question #2b revealed an interesting shift on the value for money of the TCP item across the three data sets. TCP holders' perceptions in data set 3 were substantially higher than in the earlier data sets and, for the first time, significantly higher than the perceptions of per person payers on this item. Two reasons may account for this shift. First, the dramatic improvements in perception of value for money in data set 3, reflected the significant decay in resistance to the initial TCP increase which was noted earlier (Table 1). As acceptance of the new TCP price as being fair increased over time, so too did perceptions of its value for money.

A second factor accounting for this shift in response may be mortality in the sample. This concern also tempers the findings of resistance decay reported for TCP holders in the analyses addressing research question #1. The sample of TCP holders in data set 3 was substantially smaller than the samples in data sets 1 and 2. Some of the missing respondents were a priori randomly excluded from the sampling frame for data set 3 and this should not have led to any bias in the results. However, many other respondents were lost in these analyses. Most importantly, some disappeared because they did not renew their TCP between data sets 1 and 2, and data set 3. In these cases, it may be that they rationalized they did not visit state parks sufficiently frequently to make it cost efficient to buy an annual pass at the new higher price, so they reverted to per person payers. By their actions, such individuals demonstrated that they perceived the TCP to be lower value for money, but since they did not appear as TCP holders in data set 3 their views were not captured in the analyses. A second source of mortality

was the more mundane problem of non-response bias. It is possible that those who considered the parks to be a lower value for money experience may have been less inclined to return their surveys.

With the exception of the value for money of the TCP item, at all three time periods when data were collected, there was a consistent pattern of per-visit payers being significantly more resistant to the price increases than were TCP holders (Table 2). Four factors may account for this. First, while TCP holders were exposed to a 100% increase, per visit payers typically were confronted with a 400% increase. Second, this finding may reflect the lower cost per visit that accrued to annual pass holders, which was likely to be their primary motivation for purchasing an annual pass. Third, the TCP represented extraordinarily good value for money for many who purchased it. For example, if a family of four (with no one under the age of 12 or over the age of 65) visited a park at which the daily admission charge was \$3 per person, their total cost of admission would be \$12. A TCP cost \$50 per vehicle. Thus, if the family went to a state park ten times during a year, they would save \$70. Fourth, TCP holders had significantly higher income levels than per visit payers, suggesting that they were less likely to be adversely impacted by price increases.

Analyses relating to research question #3 confirmed the economic aphorism that responses to price increases are strongly influenced by income level. In data set 3, the difference between the groups on value for money of the admission price was significant only at the .08 level. In data sets 2 and 3 there was not a significant difference on the value for money of the TCP. The lack of discrimination on this item may reflect an indifference to it by lower income groups who were much less likely to be TCP holders than higher income cohorts.

This finding of higher level of resistance toward increased price by lower income groups is consistent with findings reported by others (Daniels, 1987; Howard & Crompton, 1984; Reiling, McCarville & White, 1994). It was anticipated that there might be a threshold level above which this pattern ceased to apply, but this did not occur. Rather, the gradation of resistance was consistent across the four income cohorts. Thus, if such a threshold level existed, it would have to be in an income cohort beyond the \$75,000 upper level that was used in this study. These data show that the challenge of accommodating the economically disadvantaged and those who are "at the margins" (More, 1999) remains.

More (1999) points out the conundrum, "We have generally believed that participation in outdoor recreation activities is desirable and should be encouraged. User fees clearly militate against this" (p. 232). In urban park and recreation systems a variety of strategies have evolved to waive or reduce fees for those in need including: waiving fees at specified times of the day or week; adjusting prices to fit the neighborhood's income; and waiving fees for welfare or subsidized school meal recipients. However, in the context of state parks, the logistical challenges of dealing with much larger populations spread over much more extensive geographical areas than cities make these strategies problematic.

The discussion of results in this paper is predicated on the premise that price adversely impacts visitation decisions among lower income individuals. It is recognized, however, especially in the case of state parks located some distance from urban populations, it is likely that there may be more substantial financial obstacles to the economically disadvantaged than the relatively small fees being charged (Watson & Herath, 1999). Others would support this line of reasoning by pointing to the constraints literature where there is an emerging body of literature recognizing that it is not the presence or absence of constraints which is critical, but rather the inclination to develop strategies to negotiate through them (Jackson & Scott, 1999; Kay & Jackson, 1991; Shaw, Bonen & McCabe, 1991).

To the best of our knowledge, this is the first study to empirically evaluate the concept of a visitor adjustment period in a leisure context. Crompton & Lamb (1986) who introduced the notion, suggested on the basis of anecdotal experience that "only with very substantial price increases is it likely to endure for longer than three months" (p. 370). The evidence in this paper suggests that this may be optimistic. Since fee revenues continue to be important to park and recreation agencies, the development of empirically derived guidelines identifying the variables which impact visitor adjustment periods would be a useful research program to pursue.

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