EXAMINING PRICE PERCEPTIONS OF STATE PARKS' DUAL-PRICING

PRACTICE WITH PROSPECT THEORY

A Dissertation

by

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ABSTRACT

The purpose of this study was to gain a better understanding of tourists' reactions towards differential pricing practices in the tourism industry. Specifically, guided by prospect theory, the study examined how valence framing, a price-framing tactic, affected price-related perceptions (i.e., perceived price, perceived fairness and perceived value). Moreover, this study investigated the moderating roles of four factors (price magnitude, composite price, familiarity with price practices, and involvement) in the valence framing effects.

Based on prospect theory, a conceptual framework was proposed for this study. A hypothetical scenario-based experiment approach was utilized to examine the proposed model. Three independent variables (i.e., valence framing, price magnitude, and composite price) were manipulated in scenarios, and familiarity and involvement were measured as covariates. A 2 (valence framing: positive framing vs. negative framing) by 2 (price magnitude: high vs. low) by 2 (composite price: high vs. low) experiment was conducted online. Participants were randomly assigned to one of the eight scenarios and a total of 351 participants were recruited from the Amazon's Mechanical Turk.

The results revealed a significant main effect of valence framing on perceived fairness, a significant interaction effect on perceived price between valence framing and price magnitude, and a significant interaction effect on perceived value between valence framing and price magnitude. Although no interaction effect was found between valence

framing and familiarity and involvement, main effects of familiarity and involvement were found on perceived price, perceived fairness and perceived quality. Results provide both theoretical and practical implications for public tourism organizations in terms of differential pricing strategies based on visitors' residence.

DEDICATION

To my parents, Haiquan Zou and Xiaoling Wu,

for their unconditional love and support

谨以此文献给无私爱我的父母

and

To my beloved husband, Ya (Tony) Wang.

It is your perseverance that makes magic happen.

It is your belief that makes me confident.

It is your love that makes my life wonderful.

You made the past three years the best of my life.

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CHAPTER I

INTRODUCTION

Problem Statement

A dual-pricing system in tourism services refers to the practice of setting two separate prices for residents and non-residents (Sharifi-Tehrani *et al*., 2013), in which non-residents are asked to pay higher prices than local residents. While such pricing structure is mostly practiced in the developing countries (e.g., Taj Mahal in India, Khao Yai National Park in Thailand), it is also a common practice in the contexts of public-funded or government-run leisure services and tourism attractions across the United States. For example, Montana State Park entrance fees, Torrey Pines Golf Course Fees in San Diego, CA, Campgaw Mountain ski lift tickets in Mahwah, NJ currently charge separate prices for tourists and local residents.

Imposing differential pricing in public services has been considered an effective way to redistribute taxes collected from local residents to the local community (Crompton, 2016). However, a differential pricing system based on nationality or residence has been criticized in terms of social justice. As a result, its legitimacy in leisure and tourism contexts is still a controversial issue. The notion that tourists pay higher prices than local residents arouses antipathy or resentment among tourists (Howard, 2009). Apollo (2013) found that more than one third of the foreign tourists were angry about the dual pricing system adopted in Nepal and 84% of the foreign tourists tended to tell friend and family about the price discrimination they had

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experienced. It is not uncommon to see tourists complaining about dual pricing in online travel blogs (Zander, 2014; Goats on the Road, 2013; Sebastiaan, 2017) and online travel review platform such as TripAdvisor.

Moreover, even though dual pricing is a frequent adopted pricing practice, very few research has provided empirical support for the influence of such practice (Sharifi-Tehrani et al., 2013). To the author's best knowledge, Sharifi-Tehrani et al. (2013) and Apollo (2014) appear to be the only studies that has focused on dual pricing in the tourism context, and only the latter study emphasized the importance of understanding tourists' feelings towards paying higher prices. With this exception, no research has examined tourists' reaction and response to the dual pricing practice. Consequently, relevant literature is very scarce and more research is urgently needed on this topic. Given the above, this dissertation examined a price-framing tactic inspired by prospect theory and the effectiveness of the tacit in mitigating price-disadvantaged tourists' negative reactions towards dual-pricing practices.

Theoretical Foundation

This dissertation is primarily informed by Tversky and Kahneman's prospect theory. The original ideas were first articulated by Kahneman and Tversky (1979) and later the theory was extended and modified (Tversky & Kahneman, 1992). Neoclassic economic theories such as expected utility theory assume that when making decisions, people are rational and seek to maximize utility. The two psychologists, Tversky and Kahneman, did a series of simple, yet compelling experiments. They demonstrated that people systematically violate this assumption of rationality. The influence of prospect

theory was profound and Kahneman and Tversky (1979) became one of the most cited paper in the field of economics (Wu, Zhang, & Gonzales, 2014).

The term prospect theory reflects its emphasis on decision making when facing two or more alternatives. Prospect refers to the probabilities of the outcomes of each alternative. Over the past three decades, prospect theory has become one of the founding pillars of behavioral economics (Crompton, 2016), and has been extensively applied to various areas including political sciences, organizational management, finance and marketing (Masiero, Pan, & Heo, 2016). A few tourism scholars have adopted prospect theory to explain tourists' perceptions and behavior such as overspending behavior (Nguyen, 2016), destination choice (Nicolau, 2011a), hotel room choice (Masiero et al., 2016), willingness to pay (Román & Martín, 2016), and price sensitivity (Nicolau, 2011b).

Three tenets of prospect theory are particularly relevant to a pricing context. First, prospect theory suggests that consumer's perception of price is *reference dependent*. That is, individuals evaluate a given price, not based on its absolute level of wealth, but based on its difference from a reference price. While evaluating a price, individuals typically categorize prices lower than their reference price as gains and prices higher than their reference price as losses.

Second, prospect theory recognizes a *diminishing effect* in customers' *sensitivity* to price changes. The value function is concave in the domain of gains but convex in the domain of losses. That is, each additional gain or loss has a smaller impact than the equal gain or loss preceding it.

Lastly, prospect theory captures the strong influence of *loss aversion* in decision making. People in general are much more sensitive to losses than to gains, and thus the impact of the same amount of losses and gains are asymmetric.

Theoretical Framework

The present study intended to investigate ways in which tourists' perceptions towards dual-pricing practices might be altered based on the principles outlined by prospect theory. Perceived price and price fairness served as the dependent variables in the proposed model. This study will look at valence framing effects on perceived price and price fairness of the dual-pricing in a tourism context. Moreover, the study examined four moderators: price magnitude as informed by the principle of diminishing sensitivity, familiarity towards a pricing practice, involvement and composite price that a tourist has already paid for the trip.

Framing effect refers to a situation in which individuals react differently to different descriptions of the same decision question (Frisch, 1993). For instance, the description of a glass of water as "half empty" conveys a negative connotation whereas the description of "half full" evokes a positive feeling, even though both describe the same fact. Based on prospect theory, people tend to perceive a positive frame as a gain and a negative frame as a loss (Crompton, 2016). For example, differential prices can be framed in the forms of a discount to local residents, which anchors the tourist price (higher price) as the reference price, or a surcharge to tourists, which anchors the local resident price (lower price) as the reference price. This type of framing is termed valence framing. Discount and surcharge frames are both economically equivalent, but tourists

are likely to perceive a surcharge frame as a loss and a discount frame as a gain (Kimes & Wirtz, 2003a). It was proposed in this study that a discount-framed (positive-framed) pricing scheme would be perceived as lower priced, as fairer, and as of higher value than a surcharge-framed (negative-framed) one by tourists.

This dissertation also examined four moderator effects. The first moderator was price magnitude. According to prospect theory, the pleasure derived from perceived gains (losses) is proportional to the magnitude of price. That is, the difference between a tourist price $78 and a local resident price $70 is perceived to be much smaller than the difference between a tourist price $18 and a local resident price $10. Thus, it was proposed that price magnitude would influence the strength of valence framing effects on tourists' price perceptions.

A second moderator in this study's conceptual framework was composite price. Composite price refers to the totality of what a consumer sacrifice to engage in a leisure or tourism activity (Crompton, 2016; Zeithaml, 1988). This study proposed that the higher the composite price a tourist paid before going on a trip, the weaker the valence framing effect would be. This is consistent with prospect theory. Classical economic theory posits that a rational person should not take historical costs into consideration when making decisions because historical costs are irrelevant to the incremental payoffs of future decisions. Prospect theory invalidates the assumption of rationality, and contends that choices are not evaluated in terms of final payoffs but in relation to a reference point, which is associated with the concept of composite price, especially the

monetary costs that a tourist has paid before going on a trip such as pre-paid hotel rooms and flight tickets.

Furthermore, this dissertation examined how tourists' familiarity with a pricing practice and involvement with a type of services/products would influence the strength of valence framing effects on perceived price and price fairness. Extant research has suggested that consumers' familiarity with a price practice (Wirtz & Kimes, 2007) and a high level of involvement with a product class (Lichtenstein, Bloch, & Black, 1988) were likely to weaken framing effects.

Objectives and Hypotheses

The purpose of this dissertation was to better understand price-disadvantaged tourists' reactions to dual-pricing practices in a tourism setting in which different prices were charged for essentially identical services/products and price information was presented simultaneously to all buyers. This research intended to explore a price-framing tactic to effectively decrease perceived price, increase price fairness and perceived value towards a differential pricing scheme when the price inequality is to the tourists' disadvantage (i.e., when tourists are paying for the higher prices).

Given the above study purpose, the objective of this study was to examine the effects of valence framing on tourists' perceived price, price fairness and perceived value of a dual-pricing scheme, and to examine the moderating role of the four factors. Thus, it is proposed that:

Hypothesis 1a: if prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, perceived price will be lower.

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Hypothesis 2a: if prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, perceived price fairness will be higher.

Hypothesis 3a: if prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, perceived value will be higher.

Hypothesis 1b: The effect of valence framing on price perception will depend on levels of price magnitude.

Hypothesis 2b: The effect of valence framing on price fairness will depend on levels of price magnitude.

Hypothesis 3b: The effect of valence framing on perceived value will depend on levels of price magnitude.

Hypothesis 1c: The effect of valence framing on price perception will depend on levels of composite price.

Hypothesis 2c: The effect of valence framing on price fairness will depend on levels of composite price.

Hypothesis 3c: The effect of valence framing on perceived value will depend on levels of composite price.

Hypothesis 1d: The effect of valence framing on price perception will depend on levels of familiarity.

Hypothesis 2d: The effect of valence framing on price fairness will depend on levels of familiarity.

Hypothesis 3d: The effect of valence framing on perceived value will depend on levels of familiarity.

Hypothesis 1e: The effect of valence framing on price perception will depend on levels of involvement.

Hypothesis 2e: The effect of valence framing on price fairness will depend on levels of involvement.

Hypothesis 3e: The effect of valence framing on perceived value will depend on levels of involvement.

The hypothesized relationships pertaining to valence framing effects are visualized in **Figure 1**.
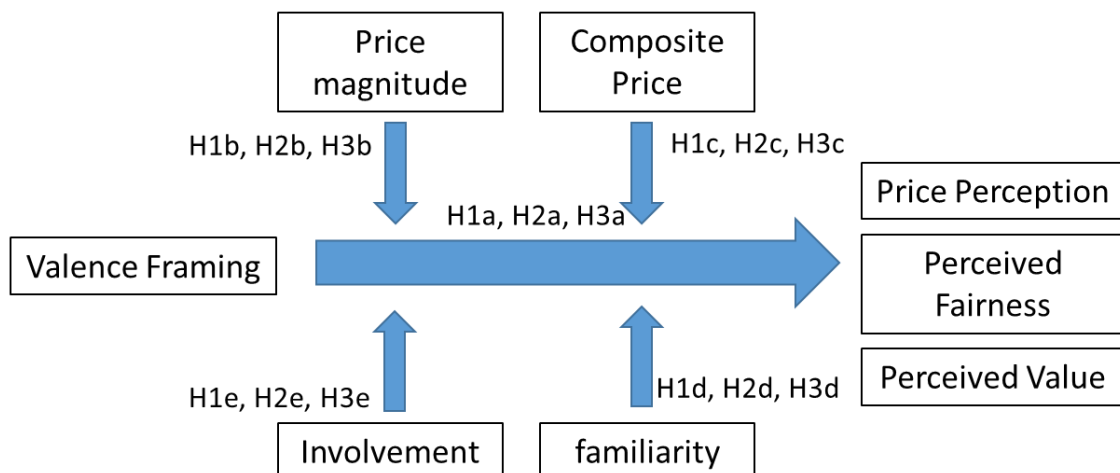
Figure 1 Illustration of Hypotheses Associated with Valence Framing

Delimitations

This study was subject to the following delimitations:

(1) The study was delimited to American residents;

(2) The findings of this study were only generalized to dual-pricing practices in which different prices were charged for the same products/services;

(3) The findings of this study were only applied to dual-pricing practices in which all differential prices were presented simultaneously to customers;

(4) This study only focused on tourists who were disadvantaged by the differential pricing policy (i.e., paying for the higher prices).

Limitations

This research was also subject to a couple of limitations:

(1) Even though the study population was defined as American residents, this study is limited to those who were included in Amazon's Mechanical Turk database, and who chose to participate;

(2) This research adopted a scenario-based experiment, which might weaken participants' emotional reactions to the price information in comparison to "real" consumption situations.

Conceptual Definitions

Price Perception – "Consumer's subjective judgments given to the magnitude of a nominal price in a way meaningful to him or herself" (H. Oh & Jeong, 2004, p. 344).

Price Fairness – "A consumer's assessment and associated emotions of whether the difference (or lack of difference) between a seller's price and the price of a

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comparative other party is reasonable, acceptable, or justifiable" (Xia, Monroe, & Cox, 2004, p. 3).

Perceived Value – "Consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (Zeithaml, 1988, p. 14).

Framing Effect – A situation in which individuals react differently to different descriptions of the same decision question (Frisch, 1993).

Composite Price – the totality of what a tourist sacrifices to engage in a tourism/leisure activity (Crompton, 2016; Zeithaml, 1988).

Familiarity – The number of price-related experiences that a consumer accumulates over time (Alba & Hutchinson, 1987).

Involvement – Consumer's perceived relevance of an object based on inherent needs, values, and interest (Bloch & Richins, 1983; Zaichkowsky, 1985).

CHAPTER II

LITERATURE REVIEW

This chapter aims at providing an in-depth literature review of key variables in this study, perceived price, perceived fairness and perceived value. It also attempts to synthesize the most pertinent conceptual as well as empirical research on all variables. The purpose of this chapter is to identify potential research gaps in the current literature and to help justify the research questions of this study.

Differential Pricing and Dual-Pricing System

Differential pricing is a widely-used pricing strategy to sell the same service or product to different customers at different prices. It is commonly seen that businesses segment their prices by consumer characteristics such as age (e.g., senior and youth discount), group size (e.g., group discount) and membership (e.g., AAA member rate), or by consumption characteristics such as duration of use (e.g., hotel minimum stay length discount) or time of use (e.g., restaurant early bird special).

The theoretical premise behind differential pricing is that different segments of customers are willing to pay different prices for the same or similar product/service (Choi & Mattila, 2006; Kimes & Wirtz, 2003b), and sellers are able to maximize their profits by charging less price-sensitive consumers a higher price and more price-sensitive consumers a lower price. Therefore, to maximize profitability, it has been suggested to be imperative for managers to understand consumers' reactions to differential pricing policy (Yelkur & Herbig, 1997).

According to Mak (2004), differential pricing is most effective under two conditions. First, when sellers are able to identify customers with different willingness-to-pay and separate them into distinct groups. For instance, local residents can purchase Disneyland admission tickets by showing their IDs to prove their residence. Second, when products cannot easily be resold to prevent reselling to customers with a higher willingness-to-pay. In the hospitality and tourism industry, differential pricing has been successfully implemented in pricing practices such as revenue management.

Dual pricing in the tourism context refers to the practice of setting a higher price for tourists than for local residents (Apollo, 2014). This practice is commonly seen in Asia, Africa, Latin America (Dallen & Boyd, 2003) and the U.S. (Crompton. 2016). For instance, at Taj Mahal in India, local people pay 20 Rupees (equivalent to $0.4 in USD) for the entrance fee but foreign tourists must pay 750 Rupees (equivalent to $14 in USD), which is 35 times more than what local people pay.

In the U.S., Hawaii is one of the states that openly advertise the dual pricing system for tourists and locals across different tourism and travel sectors (Mak, 2004). Hanauma Bay State Park in the state of Hawaii charged tourists $7.5 for park entry fee whereas there is no charge for local residents with state ID (Hanauma Bay State Park, n.a.). Similarly, Honolulu Zoo charges local residents $8 for a general admission and non-residents need to pay $14 (Honolulu Zoo, n.a.). It is worth mentioning that on the zoo's official website, the resident price is presented in Hawaiian language rather than in English (i.e., "Kama'aina" instead of "residents"), indicating the zoo administration's tendency to eliminate tourists' unfairness perception towards the pricing system. Similar

language implementations of dual pricing can be seen in other well-known attractions in Hawaii such as the Maui Ocean Center (Manu Ocean Center, n.a.) and the Waikiki Aquarium (Waikiki Aquarium, n.a.).

While service providers' justifications for imposing a dual-pricing structure vary from case to case, the underlying reasons for this practice can be summarized into three arguments. First, practitioners of the dual-pricing system use social equity to justify the differential prices (Park et al., 2010) and argue that local taxes as part of the taxes collected from local residents are allocated to build, operate and maintain public-funded or government-run tourism facilities or services (Laarman & Gregersen, 1996; Howard, 2009). In that sense, local residents already indirectly pay for the tourism attractions through taxation, and thus, local residents are entitled to a lower price since tourists do not pay local taxes. However, some tourists argue that in general local residents are heavy users of some tourism sites and services, and thus locals should pay the same price as tourists do.

Second, in some developing countries such as Thailand, Vietnam and India, the dual pricing practice is based on the assumption that tourists are wealthier than locals, and that tourists are more likely to have a higher level of willingness-to-pay (Sharifi-Tehrani *et al*., 2013; Samdin, 2007) due to a lower level of price sensitivity (Mak, 2004). If tourists can afford a vacation, they should also be able to afford a higher price, and governments of developing countries should maximize profits for the interests of the local economy. For tourists, this is probably the most outrageous statement as the

argument is flawed in a sense that ability to pay and willingness to pay, two distinct concepts, are used interchangeably.

Lastly, adopters of dual pricing hold the ground that the practice allows local residents with marginal income an easy access to tourism sites or attractions (Timothy & Nyaupane, 2009). This argument is particularly persuasive in the context of heritage sites. Heritage sites are bearers of national historic and cultural treasures, which locals should not be excluded from simply because of the cost. Nevertheless, tourists perceive a differential pricing based on nationality or residence unfair and consider it an alternative form of discrimination.

Despite of the motives tourism service providers have for adopting the dual pricing practice, previous research has demonstrated the negative impact of dual pricing on tourists. Apollo (2014) found that more than one third of the foreign tourists were angry about the dual pricing system adopted in Nepal and 84% of the foreign tourists tended to tell friend and family about the price discrimination they had experienced. It is not uncommon to see tourists complaining about dual pricing in online travel blogs (Zander, 2014; Goats on the Road, 2013; Sebastiaan, 2017) and online travel review platforms such as TripAdvisor.

Even though dual pricing is frequent adopted, very few research has provided empirical support for the influence of the practice (Sharifi-Tehrani et al., 2013). To the author's best knowledge, Sharifi-Tehrani et al. (2013) and Apollo (2013) appear to be the only studies that have focused on dual pricing in the tourism context. With these two exceptions, no research has examined tourists' reaction and response to the dual pricing

practice. Consequently, relevant literature is very scarce and more research is urgently needed on this topic.

Perceived Price

In her seminal paper, Zeithaml (1988) delineated the distinction between objective price and perceived price. She argued that objective price refers to the actual price of the product whereas perceived price refers to the price encoded by the consumer. It has frequently been observed that different consumers perceive the same objective price differently. For instance, for a $10 state park entrance fee, some tourists may encode it as "cheap" while others may encode it as "expensive", depending upon their internal reference price and/or contextual cues (W. B. Dodds, Monroe, & Grewal, 1991; Lichtenstein et al., 1988). As H. Oh (2000) argued, "the objective product price becomes meaningful to the consumer only when it receives the consumer's subjective interpretation" (p. 139). Although previous research suggests that actual price is positively related to perceived price (W.B. Dodds & Monroe, 1985; W. B. Dodds et al., 1991; K. B. Monroe, 2003; K. B. Monroe & Chapman, 1987), it is widely accepted that actual price and perceived price are two distinct concepts.

Perceived price is defined as customer's perception about what is sacrificed to obtain a product or service (Aga & Safakli, 2007; Lien & Yu, 2001; Zeithaml, 1988). Lichtenstein et al. (1988) defined price perception as "the process by which consumers translate prices into meaningful cognitions" (p. 243). H. Oh and Jeong (2004) further elaborated the concept as "consumer's subjective judgments given to the magnitude of a nominal price in a way meaningful to him or herself" (p. 343). This research adopts Oh

and Jeong's (2004) definition of perceived price given the similar context (i.e., tourism and hospitality industry) both studies share. Moreover, this dissertation explores how different price presentations will affect tourists' perceptions of price. Thus, it is further believed to be appropriate to use Oh and Jeong's (2004) definition.

Lichtenstein et al. (1988) identified seven price perception-related constructs that affect price information processing, including five negative roles and two positive roles of price. The five negative roles of price were value consciousness (a concern for price paid relative to quality received), price consciousness (the extent to which consumers focus on paying low prices), coupon proneness (consumer's tendency to purchase due to a coupon), sales proneness (consumer's tendency to purchase due to a sale), and price mavenism (the extent to which a consumer is a price expert). The two positive roles of price were identified to be price sensitivity and price-quality schema.

Regarding price-quality schema, the majority of research on perceived price has focused on the relationship between price and quality (W. B. Dodds et al., 1991; Erickson & Johansson, 1985; K. B. Monroe & Krishnan, 1985; A. R. Rao & Monroe, 1989). Lichtenstein et al. (1988) defined the price-quality relationship as the extent to which consumers believe price is a positive indicator of product quality. It has been suggested consumers often use price as an indicator of quality (D. Grewal, Krishnan, Baker, & Borin, 1998; Scitovszky, 1945), especially when product information is limited. Scitovszky (1945) elucidated the rationality of using price as an indicator for quality by relating it to the interplay of supply and demand. Price, to some extent, is determined by the supply-demand relationship: a product of high quality will usually

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lead to a high level of demand, and when demand exceeds supply, it will result in a higher price to regulate demand. Thus, it is logical for consumers to use price to infer quality.

In general, the higher the price, the higher the quality a consumer will expect (W. B. Dodds et al., 1991; Erickson & Johansson, 1985; A. R. Rao & Monroe, 1989; Völckner & Hofmann, 2007). Rao and Monroe (1989) synthesized previous research findings by conducting a meta-analysis and concluded that evidence for the relationship between price and perceived quality was strong, especially for low-priced products. In a complex experiment, W. B. Dodds et al. (1991) manipulated price with five price levels (low, medium, high, too high and absent) and found that perceived quality increased when price increased.

Furthermore, Erickson and Johansson (1985) revealed that price perception not only *influenced*, but also *was influenced* by brand quality perception. However, despite the robust findings related to the positive relationship between price and quality, most research on this topic has focused on tangible goods and products, and few have examined this relationship in a service context. Völckner and Hofmann's (2007) meta-analysis on the price-quality relationship revealed that available studies related to services were considerably fewer than those of tangible goods, and the price-quality relationship was weaker for services. Thus, it is believed more research is needed to examine the role of price in a service purchase decision making process.

In terms of measurement, there are at least two ways to measure perceived price: calculation and direct measurement. Studies that have emphasized the role of quality and

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value in perceived price have typically calculated perceived price as a function of perceived value and quality (Kashyap & Bojanic, 2000) or a function of acquisition utility and transaction utility (Thaler, 1985). These studies examined the antecedents of perceived price.

On the other hand, research that has investigated the consequences of perceived price has tended to use direct measurement. In these studies, the concept was operationalized by asking consumers' overall evaluation of a price using a low-high or inexpensive-expensive scale (Oh & Jeong, 2004). For the present study, direct measurement of perceived price will be adopted as this dissertation explores how price perception resulting from manipulation of price presentations will influence perceived value and purchase intention.

To measure perceived price, H. Oh (1999) surveyed hotel guests and asked how the respondents perceived the overall price of the hotel using a 6-point scale (i.e., 1-very low/6-very high). Sun (2014) used a two-item, 5-point Likert scale with construct reliability of 0.6. The two items were: 1) Considering the price of the hotel service, would you say the price is very low or very high compared to a hotel service with similar features? and 2) Considering hotel service from another company with similar features available, how would you rate the hotel service you purchased? Oh and Jeong (2004) used a three-item, 7-point rating scale to measure perceived price. They asked experiment participants to indicate their overall perception of the price utilizing three semantic differential items: "very inexpensive-expensive", "very low-high", and "not pricey at all-very pricey". Oh (2000) used a similar scale as Oh and Jeong (2004) but

added two more semantic differential measurements: "a real bargain-a real rip-off" and "very reasonable-very unreasonable". Both Oh (2000) and Oh and Jeong (2004) resulted in the same construct reliability of α=0.96. Thus, to shorten the length of the experiment, this research will adopt Oh and Jeong's (2004) perceived price measurement scale.

Perceived Price Fairness

The practice of differential pricing, especially dual pricing practice, has been found to be perceived as unfair by consumers (Wirtz & Kimes, 2007). The topic of perceived price fairness has been suggested to be one of the main subareas of behavioral pricing in the field of marketing and consumer behavior (Somervuori, 2014) as it has been suggested that perceived price fairness plays a role in satisfaction (Herrmann, Xia, Monroe, & Huber, 2007; Kimes & Wirtz, 2003b; Szymanski & Henard, 2001) and the purchase decision process (Oh, 2000). Although being recognized as an important indicator influencing buying behavior and post-experience evaluations, perceived price fairness as an area of study is somewhat young (L. E. Bolton, Warlop, & Alba, 2003). Further, very few studies in the fields of tourism and leisure have examined price fairness from a consumer perspective (Chung & Petrick, 2013; G. T. Kyle, Kerstetter, & Guadagnolo, 1999). Given that leisure and tourism services are considered one of the least price-transparent (Siems, 2013), the concept of perceived price fairness is particularly relevant to, and likely imperative, for tourism and leisure service providers. However, it is believed this topic has not received sufficient attention among tourism scholars.

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Due to its complex nature, the concept of perceived price fairness is difficult to define (Haws & Bearden, 2006) and there are a number of definitions with different emphasis and from different perspectives. However, arguably the most often used definition of perceived price fairness comes from Xia, Monroe and Cox's (2004) comprehensive literature review. They defined perceived price fairness as "consumers' assessment and associated emotions of whether the difference (or lack of difference) between a seller's price and the price of a comparative other party is reasonable, acceptable, or justifiable" (p. 3).

Perceived price fairness is thus the result of price comparison (K. B. Monroe, 2003). Such comparison will likely lead consumers to one of the following three judgements: equality, advantaged equality or disadvantaged equality (Xia et al., 2004). Rutte and Messick (1995) integrative model of perceived unfairness suggested that consumers feel distressed when the outcome of price comparison is disadvantaged equality. However, they further argued that when the outcome is equality or advantaged equality, no thoughts of fairness or unfairness will be invoked. As a result, most research on price fairness has centered on disadvantaged equality.

Illuminated by Rutte and Messick's (1995) model, Maxwell and Comer (2010) argued that there are two components of a fair price: personal and social. Personal fairness reflects consumers' concerns about how price impacts their own economic welfare, whereas social fairness underscores how social norms of the society affect consumers' acceptability of a given price. The former usually involves a comparison to internal reference price and the latter is related to factors of perceived costs and motives

of the sellers (Maxwell & Comer, 2010). Maxwell and Comer (2010) conducted a scenario-based experiment and found that the impact of the personal component on perceived price fairness could be modified by the social component. That is, unfairness judgement due to personal concerns could be changed to being perceived as fair if it is socially justifiable. For instance, perceived unfairness caused by an increase in price can be reversed when explanation of an increase cost that is deemed justifiable is provided.

The evaluation of whether a price is fair or not is complex (Martín-Ruiz & Rondán-Cataluña, 2008). Hence, a number of theoretical frameworks have been employed to explain how consumers judge price fairness. The majority of research on this topic has been grounded in equity theory and/or dual entitlement principles. Equity theory suggests that perceptions of fairness are determined by comparing the ratios of what each party sacrifices to what each party gains (i.e., input/output ratios) (Adams, 1965; Oliver & Swan, 1989). Thus, a price will be perceived as fair or equitable if all parties' input/output ratios are the same. On the contrary, perceived unfairness or inequity occurs when ratios are disparate. By emphasizing the process of comparing the ratios of all parties, equity theory points out the important role of "reference other" in fairness perception. Darke and Dahl (2003) experiment confirmed equity theory as they found that customers who received a larger discount (larger output) had a negative impact on fairness, but knowing those who received the discounts were regular customers (additional input) helped relieve their unfairness perception.

The dual entitlement principle (Kahneman, Knetsch, & Thaler, 1986) postulates that consumers are entitled to a reasonable price, and at the same time, sellers are

entitled to a reasonable profit. Hence, an increased price with the purpose of increasing

profits is perceived as unfair, but an increased price will be perceived as more acceptable

if the higher price is caused by increased costs. Kahneman et al. (1986) provided

empirical evidence to support their theory. They asked 107 respondents to evaluate the

fairness of the seller's action in the following scenario (p. 729):

> *Question 1: A hardware store has been selling snow shovels for $15.*
> *The morning after a large snowstorm, the store raises the price to $20.*
> *Please rate this action as: completely fair, acceptable, unfair, or very*
> *unfair.*

Their results showed that 82% of the respondents rated either unfair or very unfair as

they inferred that the hardware seller tried to generate extra profits by taking advantage

of the increased demand due to the snowstorm. To further validate that consumers'

perceived unfairness stems from perceived motive of the sellers, Kahneman et al. (1986,

p. 733) carried out another experiment:

> *Question 10: A grocery store has several months supply of peanut*
> *butter in stock which it has on the shelves and in the storeroom. The*
> *owner hears that the wholesale price of peanut butter has increased*
> *and immediately raises the price on the current stock of peanut better.*

Not surprisingly, 79% of the respondents considered the action of the grocery owner as

unfair. This result suggests that as long as consumers infer that the motive behind a price

increase is to exploit, unfairness perception will occur.

As for measurement of price fairness, following Netemeyer, Bearden, and

Sharma (2003) recommended procedures, Chung and Petrick (2015) developed a multi-

dimensional scale to measure price fairness. Their scale consists of two dimensions of

price fairness: cognitive price fairness (six items, composite reliability=0.85) and affective price fairness (three items, composite reliability=0.97).

Although Chung and Petrick's (2015) scale is of high reliability, their scale is quite lengthy. Many experiment studies, including Campbell's (1999) highly-cited experiment, used a single item to measure price fairness (1=very fair and 7=very unfair). However, Churchill (1979) recommended to use multi-item measurement whenever possible as single-item measurement does not allow for the examination of reliability. In a very similar context to this study, Wirtz and Kimes (2007) measured price fairness with three semantic differential items (Cronbach alpha=0.92) anchored by *very fair/very unfair, very acceptable/very unacceptable, and very ethical/very unethical*, respectively. Given that this dissertation shares a similar research context and questions with Wirtz and Kimes (2007), their measurement is adopted in this study.

Perceived Value

The concept of perceived value has been considered as one of the most important constructs (A. Parasuraman, 1997) due to its important role in predicting repurchase intentions (H. Oh, 2000; A. Parasuraman & Grewal, 2000; J. F. Petrick, 1999; Woodruff, 1997). In the field of tourism, Petrick (1999) criticized that repurchase intention and loyalty were often associated with consumer satisfaction. Yet, satisfaction alone cannot ensure future revisit and loyalty because it has been found that 60% of customers switch to a different business classify themselves as satisfied customers (Jones & Sasser, 1995). Thus, it is argued that the concept of perceived value provides important insights to

guide managers to cultivate customer loyalty and repurchase intentions (Woodruff, 1997).

Perceived value has been defined as "the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given" (Zeithaml, 1988, p. 14). In this definition, the concept of perceived value consists of two components: perception of price and perception of quality (Zeithaml, 1988). Thus, the value perceived by consumers could be improved by either increasing perceived quality or decreasing price perception (Baker, 1990; H. Oh, 2000; Sweeney & Soutar, 2001; Ye, Li, Wang, & Law, 2014). Early perceived value literature in tourism and hospitality was argued to have focused on improving perceived quality (J. F. Petrick, 1999). However, a full understanding of how price perceptions influence perceived value is likely highly relevant, and has arguably been understudied.

Although Zeithaml's (1988) economic-based utilitarianism approach has been arguably the most popular conceptualization of value (Sánchez-Fernández & Iniesta-Bonillo, 2007), it has been criticized as being too simplistic (Sweeney & Soutar, 2001) and to fail to take proper account of irrational factors such as emotions and cognitive biases that could potentially play a significant role in forming value perceptions (Holbrook, 1986). Value definitions that are based on cognitive trade-offs have been described as "narrow" by Mathwick, Malhotra, and Rigdon (2001). Thus, it is believed this dissertation has the potential to contribute to the perceived value literature by incorporating the concept of price fairness from a price-oriented perspective of perceived value.

As a result of the above discussion, Sheth, Newman, and Gross (1991) proposed a theory of consumption value, and contended that perceived value was a complex construct and different forms of value might make differential contributions in different consumption decision making processes. They argued that consumers' consumption decisions, such as whether to buy or not and whether to choose one product/brand over another, were influenced by a number of different values. These values can be categorized as functional, social, emotional, epistemic and conditional values. Functional value concerns a product's ability to perform its functions. Social value pertains to the social image that a consumer wishes to project via the product. Emotional value refers to various positive or negative affective states associated with the product. Epistemic value is related to a desire for knowledge. Finally, conditional value emphasizes the situational or contextual factors in the consumption decision making process.

Rooted in cognitive psychology and microeconomic theory, Thaler (1985) conceptualized value based on the sum of two concepts of utility: acquisition utility and transaction utility. The former refers to a comparison between perceived gains and actual product price, whereas the latter refers to a comparison between internal reference price and actual product price. This perspective of perceived value has been suggested to be one of very few that were rooted in pricing theory and that emphasized the role of price in forming perceived value (Sánchez-Fernández & Iniesta-Bonillo, 2007).

As discussed above, previous research has shown a robust relationship between perceived value and purchase intention. Research has consistently shown that the higher a consumer's perception of value, the more likely he or she will purchase the product

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(W.B. Dodds & Monroe, 1985; Gallarza & Saura, 2006; J. F. Petrick, 2004). Because of this, A. Parasuraman and Grewal (2000) suggested that perceived value could be the most important construct in predicting repurchase intentions.

In terms of measurement of perceived value, Sweeney and Soutar (2001) developed a 19-item measurement which they termed PERVAL, to measure consumer's consumption value in a retailing setting. In their scale, four value dimensions emerged: emotional, social, quality and price, all of which were found to have significant predicting power in explaining attitudes and behaviors.

Following similar scale development procedures, but in a tourism and hospitality context, J. F. Petrick (2002) developed a 25-item, five-dimension scale termed SERV-PERVAL, to measure the perceived service value, which became one of the most employed service perceived value measures. The five dimensions were identified to be quality, emotional response, monetary price, behavioral price and reputation. The scale was found to be of high reliability and validity.

While Petirck's (2002) SERVE-PERVAL focuses on post-purchase evaluation of perceived value, Sanchez, Callarisa, Rodriguez, and Moliner (2006) argued that perceived value is a dynamic variable which varies before purchase, during purchase, at the time of use and after use. With this perspective of perceived value, they developed a 24-item measurement of overall perceived value of a purchase which consisted of six dimensions: functional value of the travel agency (installations), functional value of contact personnel of the travel agency (professionalism), functional value of the tourism package purchased (quality), functional value price, emotional value, and social value.

In their seminal paper, W. B. Dodds et al. (1991) measured perceived value based on monetary exchange. They used four items in their measurement which resulted in a Cronbach alpha of 0.94: *the product is a very good value for the money/very poor value for the money; at the price shown the product is very economical/very uneconomical; the product is considered to be a good buy; the price shown for the product is very acceptable/very unacceptable; the product appears to be a bargain*. Since this dissertation focuses on how price perception and fairness affect perceived value, perceived value will be operationalized in relation to monetary exchange instead of intrinsic worth, importance, emotional response, behavioral price or reputation. Thus, this study will adopt the measurement from W. B. Dodds et al. (1991).

CHAPTER III

CONCEPTUAL DEVELOPMENT

This dissertation intended to explore how the proposed price implementation would influence tourists' perceptions of price and price fairness. Building on prospect theory, this research examined the effects of valence framing on price perception and perceived fairness. Additionally, based on an extensive literature review, this study examined the effects of four moderators (i.e., price magnitude, composite price, familiarity and involvement).

Prospect Theory

Before the inception of prospect theory, the expected utility model had been a dominant framework to guide research in decision behavior under uncertainty (Schoemaker, 1982). Expected utility theory posits that individual's decisions are based on the computation of the expected utility of the outcomes associated with each decision alternative (von Neumann & Morgenstern, 1944). It further suggests that after the calculation, a rational individual would likely choose the alternative that maximizes their expected utility (Puto, 1987). However, the theory has been suggested to fail to account for context effects such as information presentation and social norms (Schoemaker, 1982) as well as the cognitive bias of the human mind (Thaler, 1980).

Evidence that human behavior systematically violates the rationality assumption is strong. In their seminal paper, Kahneman and Tversky (1979) conducted a series simple experiments and demonstrated that individual's preferences often contradict the

axioms of expected utility theory. For instance, participants were asked to choose one of the two following options:

A: 80% chance to win $4,000 and 20% chance to win nothing.

B: $3,000 for sure.

In this situation, expected utility theory predicts that people will prefer option A since the expected gains from option A are higher than option B (i.e., 0.8 * $4,000 = $3,200 > $3,000). However, Kahneman and Tversky found that significantly more people preferred option B (*N*=76, 80%) to option A (*N*=19, 20%).

In addition, Della Bitta, Monroe, and McGinnis (1981) compared consumers' reactions to sale information presented in absolute terms (e.g., sale price only) with the same sale information expressed in relative terms (e.g., regular price and dollars amount off). Both sale information presentations conveyed the same message, and thus, based on expected utility theory, it would be expected that consumers would not exhibit any preference to either presentation. However, Della Bitta et al. (1981) found that consumers perceived greater saving values when the regular price (i.e., reference price) was present than when it was absent.

Given the limitations of expected utility theory and its systematic failures in predicting behavior (Diamond, 1988; Loewenstein, 1988), scholars began to question the applicability and value of expected utility theory (Allais, 1953). While there are a few theories such as the regret theory (Loomes & Sugden, 1982), generalized expected utility theory (Machina, 1982) and disappointment theory (Gul, 1991) which have tried to

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explain the empirical impeachment of expected utility theory, prospect theory has been argued to appear to be the most promising one (Barberis, 2013).

Starting with the idea that people's intuitions are deficient, Kahneman and Tversky (1979) found systematic discrepancies between behavior and expected utility theory through a series of experiments. They further generalized their results into one of the most influential theories in the field of economics called prospect theory (Barberis, 2013). Rooted in cognitive psychology, prospect theory is a descriptive theory of decision making that takes context effects into consideration. Unlike expected utility theory, which predicts how people *ought* to behave, prospect theory emphasizes how people *actually* behave (Crompton, 2016).

Initially, the primary purpose of prospect theory was to explain decision making under uncertainty between two choices (Kahneman & Tversky, 1979). It was later theoretically developed into cumulative prospect theory (Tversky & Kahneman, 1992) to aid in understanding decision making under uncertainty among multiple choices, and prospect theory under certainty (Tversky & Kahneman, 1991). This dissertation will focus on prospect theory under certainty, as it is believed to be more applicable to the pricing contexts examined.

Since its induction, prospect theory has been applied productively in a variety of fields including: political science, finance, medical science and statistics (Kahneman, 2011). It also has been supported by laboratory research (e.g., Chang, Nichols, & Schultz, 1987; Elliott & Archibald, 1989; Fiegenbaum & Thomas, 1988; Gooding, Goel, & Wiseman, 1996; Salminen & Wallenius, 1993; Sebora & Cornwell, 1995) and field

research (e.g., R. N. Bolton & Lemon, 1999; List, 2004) utilizing various data including surveys (e.g., Donkers, Melenberg, & van Soest, 2001) and panel data (e.g., Mayhew & Winer, 1992).

Prospect theory has also been found to be applicable to the field of marketing, although marketing research in this area has been suggested to be scant compared to that in other areas (Liu, 1998). Most marketing studies which have applied prospect theory have focused on monetary decision such as discounts, coupon promotions and bundling prices (Jagpal, 1999; M. Johnson, Herrmann, & Bauer, 1999; Stremersch & Tellis, 2002). In general, it's been argued that prospect theory that concerns decision making has three tenets: reference dependent, diminishing sensitivity and loss aversion (Tversky & Kahneman, 1991). The following sections will discuss each tenet in detail.

Reference Dependence and Loss Aversion

According to Kahneman and Tversky (1979), prospect theory involves an editing process. In a price context, people evaluate a price by coding it as gains or losses relative to some reference point. A price that is above the reference point is coded as a loss whereas a price that is below the reference point is coded as a gain. This editing process can ease decision maker's cognitive burden and simplify evaluation tasks. Consumer preferences are likely reference dependent in that the utility of an alternative is affected by the reference standard against which it is evaluated (Tversky & Kahneman, 1991). In other words, it is the deviation from reference point, rather than actual price *per se*, that influences evaluation and final decision.

The notion that people will edit a price before evaluating it (Kahneman & Tversky, 1979) has been well incorporated in the literature of reference price in the field of marketing (Erdem, Mayhew, & Sun, 2001; Niedrich, Sharma, & Wedell, 2001). Reference price refers to the standard price that consumers use to compare against an actual price (K. B. Monroe, 1973). Literature on reference price has suggested that there are two types of factors influencing the formation of reference price: internal and external factors (Briesch, Krishnamurthi, Mazumdar, & Raj, 1997; Mayhew & Winer, 1992). Internal factors include, but are not limited to, consumers' prior purchase experiences, price sensitivity, brand loyalty and demographics (Mazumdar, Raj, & Sinha, 2005). External factors are context-specific, and thus, an exhaustive list of contextual factors is not possible. Although both internal and external factors influence the formation of reference price, managers in general have less control over internal factors and more control over external factors.

After the editing process, whether a price is coded as a gain or a loss, likely influences preference and subsequently purchase decision. From a cognitive perspective, Tversky and Kahneman (1991) found that a loss looms larger than an equivalent gain. In other words, the degree of pain associated with an outcome above a reference state is much greater than the degree of joy associated with the same level of outcome below the reference state. Some studies have suggested that losses are twice as powerful as gains (Abdellaoui, Bleichrodt, & Paraschiv, 2007; Tversky & Kahneman, 1992). Thus, people tend to prefer avoiding losses to acquiring the same amount of gains (Tversky & Kahneman, 1991). This tendency is termed loss aversion.

Before the emergence of prospect theory, scholars from a wide array of disciplines had reported findings in accordance with loss aversion. For instance, Galanter and Pliner (1974) were arguably the first to describe that the psychological displeasure caused by losing money appeared to be greater than the pleasure caused by gaining the same amount of money. Similarly, Hammack and Brown (1974) found that bird hunters were willing to pay an average of $247 for duck hunting rights, but demanded $1,044 to sell the hunting rights.

Research in psychology and marketing has documented a rich account of empirical support for reference dependence and loss aversion. In Kahneman, Knetsch, and Thaler (1990) seminal paper, participants in the seller condition were given a mug valued at $5 and were told that they owned the mug. They could either sell the mug at their desired price or keep the mug. Participants in the chooser condition were not given the mug and informed that they had the option of choosing to receive either the mug or a sum of money. Both groups essentially faced the same choice problem, but their choices were significantly different due to the difference in reference states. The mug was evaluated as a gain by the choosers (choosing between receiving a mug or a sum of cash) but as a loss for the sellers (choosing between keeping the mug which was the status quo or giving up the mug in exchange for money). As a result, the median value for the sellers to give up the mug was $7.12 but for the choosers was $3.12. This provided empirical support for reference dependence and loss aversion of prospect theory.

The principles of reference dependence and loss aversion have also been found to be highly relevant and applicable to pricing (McKechnie, Devlin, Ennew, & Smith,

2012). Using weekly retail egg sales data, Putler (1992) was likely the first scholar to look at the asymmetry price elasticities in consumer behavior and found that consumers' responses to price increases were stronger than for price decreases. Similarly, Kalwani, Yim, Rinne, and Sugita (1990) found a significant difference in the magnitude of changes of consumers' purchase probability between a price gain and a price loss.

Diminishing Sensitivity

A third tenet of prospect theory is diminishing sensitivity, which states that the marginal value of losses and gains decreases with their size. The diminishing sensitivity principle of prospect theory essentially echoes Weber's law of psychophysics. Weber's law states that the magnitude of responses to a change in a stimulus (e.g., difference between tourist price and local resident price) is inversely proportional to the initial stimulus (e.g., the price level). It can be illustrated in the following function:

$$\frac{\Delta S}{S} = k$$

Where S is the magnitude of the stimulus, ΔS is the change in S, and k is a constant. Diminishing sensitivity posits that with the same amount of discount, the higher the price level is, the smaller the psychological utility that a consumer will derive from the discount. That is, people's perception of the difference between $10 and $15 is larger than the difference between $80 and $85.

This pattern was observed by D. Grewal and Marmorstein (1994). They surveyed customers who recently bought a TV, VCR or microwave and found that consumers' intentions to do a price search were a function of the expected savings relative to the purchase price. Consumers were more willing to spend time comparing prices when the

expected savings accounted for a larger proportion of the purchase price. This finding

indirectly supports the notion that the psychological utility that a consumer derives from

a fixed amount of saving is inversely related to the price of the item.

All three tenets of prospect theory can be summarized in a value function, which

is graphically illustrated in **Figure 2**. Perceived utility is based on changes in wealth or

welfare instead of final states (Kahneman & Tversky, 1979). The vertical axis represents

the perceived utility (disutility) derived from gains (losses) in a choice problem. The

horizontal axis represents the editing process in which outcomes above reference states

fall into the domain of gains and outcomes below reference states fall into the domain of

losses. Because the degree of pain caused by a loss is likely greater than the degree of

pleasure derived from the same amount of a gain, the value function is steeper in the loss

domain than it is in the gain domain. Moreover, the marginal pleasure (pain) derived

from gains (losses) decreases with their size (Tversky & Kahneman, 1991), and thus, the

value function is convex in the domain of gains and concave in the domain of losses.
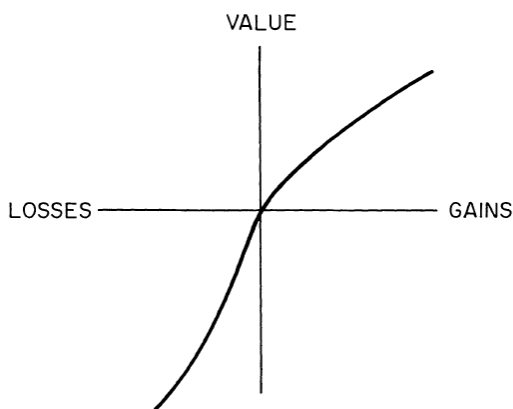
Figure 2 The Value Function of Prospect Theory. Reprinted from Tverksy & Kahneman (1979)

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Proposed Conceptual Model

Valence Framing

One application of the reference dependence and loss aversion principles is framing effect. Prospect theory (Kahneman & Tversky, 1979) explains that the framing of a price can affect consumer's cognitive judgement and subsequently, preferences and decision-making. Framing effect refers to the change of preferences caused by "inconsequential variation in the wording of a choice problem" (Kahneman, 2011, p. 272).

In a price context, keeping the price charged to consumers constant, there are several ways for service providers to communicate a price. A dual pricing structure can be framed either as a discount to local residents or a surcharge to a tourist. Even though both presentations are logically and economically the same, tourists' judgement of a price has been found to be strongly influenced by how is it framed (S. F. Chen, Monroe, & Lou, 1998). According to prospect theory, it would be easier for tourists to forego a discount than to accept a surcharge because the discount framing is perceived as gains and the surcharge frame is perceived as losses (Tversky & Kahneman, 1986). This implementation of differential pricing has been termed valence framing, in which a choice problem is presented in a positive or a negative light (Levin, Schneider, & Gaeth, 1998). Thus, accordingly, positive frames which emphasize gains are likely to be favorable and preferable compared to negative frames which emphasize losses (Kimes & Wirtz, 2003a).

The power of valence framing in influencing consumers' perceptions have been demonstrated in a wide array of disciplines (e.g., Beach, Puto, Heckler, Naylor, & Marble, 1996; Davis & Bobko, 1986; Duchon, Dunegan, & Barton, 1989; Dunegan, 1996; Gallagher & Updegraff, 2012; Levin & Gaeth, 1988). For example, Duchon et al. (1989) investigated the process of funding allocation and found that even experienced engineers, scientists and managers, people who would be expected to be rational decision-makers, tended to allocate more funding to a research and development team when performance was framed as a percentage of completed projects instead of a percentage of uncompleted projects.

Similarly, Gallagher and Updegraff (2012) conducted a meta-analysis of 94 empirical studies and found that gain-framed health messages were more likely to encourage prevention behavior than loss-framed health messages. Also, Levin and Gaeth (1988) found that consumers evaluated ground beef labeled "75% lean" more positively than beef labeled "25% fat". What appeared to be striking was that the difference in evaluations remained significant even when consumers tasted the beef before being given the label. Thus, it is hypothesized that:

> *Hypothesis 1a: if the prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, price perceptions of a higher price will be lower.*

Another manifestation of valence framing was found to be in the research on fairness perceptions (Kahneman et al., 1986; Tversky & Kahneman, 1986). Kahneman et

al. (1986) conducted a telephone interview and had participants to evaluate the fairness of the following actions (p.731) :

> *Question 4A: A company is making a small profit. It is located in a community experiencing a recession with substantial unemployment but no inflation. There are many workers anxious to work at the company. The company decides to decrease wages and salaries 7% this year.*
>
> Results: (N=125) Acceptable 38% Unfair 62%
>
> *Question 4B: A company is making a small profit. It is located in a community experiencing a recession with substantial unemployment and inflation of 12%. There are many workers anxious to work at the company. The company decides to increase salaries only 5% this year.*
>
> Results: (N=129) Acceptable 78% Unfair 22%

Note that both scenarios describe an identical percentage of loss in real income (i.e., 7%). However, the inconsequential difference in the descriptions (differences were underlined in the scenarios) influenced the judgement of fairness substantially. A salary reduction was coded as a loss, and thus considered unfair, whereas a nominal salary raise, which resulted in the same economic outcome if taking inflation into account, was coded as a gain and thus sounded more acceptable (Kahneman et al., 1990).

In the pricing literature, it is suggested that manipulating price presentations (i.e., framing prices) is effective in changing consumers' price fairness (Kimes & Wirtz, 2003a; Kimes & Wirtz, 2003b; Weisstein, Monroe, & Kukar-Kinney, 2013) and consumption decisions (Krishna, Briesch, Lehmann, & Yuan, 2002). For instance, (Kimes & Wirtz, 2003a) explored the impact of a discount (e.g., a 20% lower fee for playing between 10am to noon) and surcharge (e.g., a 20% higher fee for playing before 10am) framing on golfers' perceived price fairness and found that discount frames were

evaluated as fairer than surcharge frames. Additionally, in a restaurant setting, Kimes and Wirtz (2003b) found that valence framing (discount vs. surcharge) significantly influenced consumers' perceived price fairness towards weekday/weekend pricing, differential time-of-day pricing, and differential table location pricing. Thus, given the above evidence, it is hypothesized that:

> *Hypothesis 2a: if the prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, perceived price fairness will be higher.*

Perceived value has been conceptualized as the trade-off between quality or benefits a consumer receives and the sacrifice he/she perceives by paying the price of the product (K. B. Monroe, 2003):

Perceived Value = Perceived Quality (Benefits) / Perceived Price.

Figure 3 illustrates this relationships between perceived value, price and quality proposed by Monroe and Dodds (1985). K. Monroe and Dodds (1985) argued that the consumers derive perception of quality from the actual price of a product. Although different consumers would evaluate the same price in different ways (Zeithaml, 1988), in general, actual price is positively related to perceived price. Perceived price and quality jointly determine perceived value. Perceived value is positive when perceptions of quality are greater than perception of price. This model has been confirmed by an empirical study conducted by A. Rao (1986).
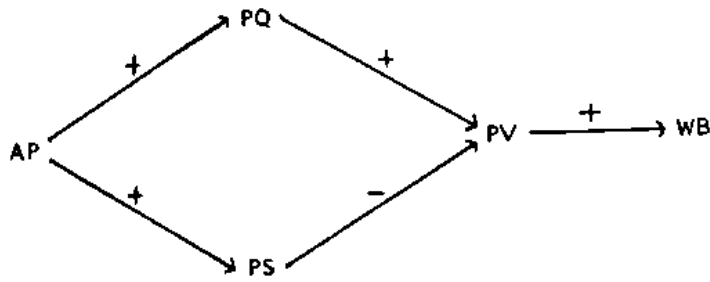
Where

AP is Actual Price
PQ is Perceived Quality
PS is Perceived Sacrifice
PV is Perceived Value
WB is Willingness to Buy

Figure 3 Price-Perceived Quality Conceptualization. Reprinted from Maonroe & Dodds (1985)

Based on the above discussion, holding perceived quality constant, a higher level of perceived price would result in a low level of perceived value. If, a positive framing could decrease perceived price versus a negative framing, it is logical to presume that, compared to a negative framing, a positive framing of a price difference would increase perceived value:

> *Hypothesis 3a: if the prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, perceived value will be higher.*

Moderator 1: Price Magnitude

The principle of diminishing sensitivity in prospect theory implies that the magnitude of price could be a potential moderator of the valence framing effect on consumers' perceived price and fairness towards a dual-pricing practice. Diminishing sensitivity posits that the impact of a difference would be attenuated as the distance from

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the reference point increases (Tversky & Kahneman, 1991). Tversky and Kahneman

(1985, p. 121) examined the diminishing sensitivity principle by conducting the

following experiment:

> *Scenario 1: Imagine that you are about to purchase a calculator for $15. The calculator salesman informs you that the calculator you wish to buy is on sale for $10 at the other brand of the store, located twenty minutes' drive away. Would you make the trip to the other store?*
>
> *Scenario 2: Imagine that you are about to purchase a calculator for $125. The calculator salesman informs you that the calculator you wish to buy is on sale for $120 at the other brand of the store, located twenty minutes' drive away. Would you make the trip to the other store?*

The two scenarios were basically identical except for the price of the calculator. In

scenario 1, the price of the calculator was $15 and the sale price of the other brand at the

store was $10. Similarly, in scenario 2, the price of the calculator was $125 and the sale

price of the other brand at the store was $120. It is noted that the absolute amount of the

discounts in both scenarios were identical (i.e., $5). However, the responses to the two

scenarios were remarkably different: 68% of the respondents were willing to make an

extra trip to save $5 in scenario 1, whereas only 29% were willing to make the trip in

scenario 2.

Past research has found that consumers' responses to the same discount

decreased as the price level increases (D. Grewal & Marmorstein, 1994; Tversky &

Kahneman, 1985). Thus, it is plausible that consumers' responses to the same surcharge

will also decrease as the price level increases. According to the principle of diminishing

sensitivity of prospect theory, the effect of valence framing on tourists' perceived price

fairness and perception will be discounted as the price level increases. Thus, as illustrated in **Figure 4**, it is hypothesized that:

> *Hypothesis 1b: The effect of the valence framing on price perception will depend on price magnitude.*
>
> *Hypothesis 2b: The effect of the valence framing on perceived fairness will depend on price magnitude.*
>
> *Hypothesis 3b: The effect of the valence framing on perceived value will depend on price magnitude.*

```
                    ┌──────────────┐
                    │    Price     │
                    │  magnitude   │
                    └──────────────┘
                            │
   H1b, H2b, H3b            ▼
                                    ┌──────────────────┐
                                    │ Price Perception │
                                    ├──────────────────┤
 ┌────────────────┐                 │    Perceived     │
 │ Valence Framing │ ───────────▶   │    Fairness      │
 └────────────────┘                 ├──────────────────┤
                                    │ Perceived Value  │
                                    └──────────────────┘
```
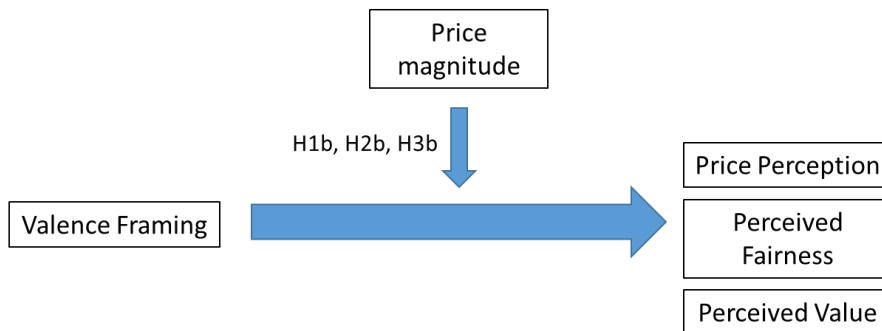
Figure 4 The Moderating Effects of Price Magnitude

Moderator 2: Composite Price

Composite price refers to the total sacrifice a consumer makes for a product/service (Zeithaml, 1988). Crompton (2016) contended that from a consumer's perspective, a price consists of multiple components besides the monetary payment of the product or service. For instance, a one-day admission ticket for Disneyland is priced at $109, but in order to go to the Disneyland, tourists also need to pay for transportation (e.g., flight ticket, rental car, and gas), accommodations, food and drinks. Moreover, monetary costs are just one component of the composite price. Non-monetary costs

associated with this Disneyland trip include, but not limited to, time (planning time, travel time, waiting time on site and cleaning time after the trip) and efforts (e.g., planning, searching and booking) (Crompton, 2016).

The proportion of an admission price in the composite price is likely to influence the decision of purchasing the admission (Crompton, 2016; Stevens, Moer, & Markowski-Lindsay, 2014). Stevens et al. (2014) conducted an economic analysis to estimate the impact of incomes, travel costs and national park entry fees on national park attendance during the period of 1993 to 2010. They found that increasing gas prices (i.e., increasing travel costs) relative to income significantly influenced per capita attendance. However, national park entry fees had a small impact because the entrance price comprised only a small portion of the total cost.

The effects of composite price on travel consumption behavior can be explained by sunk costs effect. Sunk costs refer to the costs that have already been incurred and cannot be recovered. Previous research in psychology and marketing have suggested that consumers' decision making is influenced by sunk costs. This phenomenon is called sunk cost effect, which refers to human's tendency to continue an endeavor, regardless of its merits, once an investment in money, effort, or time has been made (Arkes & Blumer, 1985).

Classical economic theory argues that rational individuals should not take historical costs, but only incremental costs into consideration when making decisions because historical costs are irrelevant to the incremental payoffs of future decisions. However, a rich account of evidence demonstrates that consumer decision making is

affected by sunk costs (e.g., Aronson & Mills, 1959; Navarro & Fantino, 2009; Park & Jang, 2014).

A classical experiment testing sunk cost effect was conducted by psychologists Aronson and Mills (1959) who investigated whether people would like something better if they had undertaken considerable efforts to obtain it. They advertised to students to participate in a discussion group. Participants were randomly assigned to one of the following three groups: severe initiation, mild initiation and control group. Those in the severe initiation group were asked to read aloud an embarrassing portion of material, and those in the mild intonation group were asked to read aloud material that was timider. No initiation was required to those in the control group. Results showed that participants in the severe initiation group reported the highest level of enjoyment in the subsequent dull group discussion, followed by the mild initiation and control group.

Prospect theory has been a relevant theory for explaining sunk cost effects (Arkes & Blumer, 1985; Thaler, 1980; Zeelenberg & van Dijk, 1997). According to prospect theory, choices are not evaluated in terms of final payoffs but in relation to a reference point, which is consistent with sunk cost effect research that has shown decision makers take historical investments into account. These findings reveal that sunk costs made in the past are considered as a loss for decision makers (Arkes & Blumer, 1985). Further, due to loss aversion, individuals may intend to take irrational actions, by either sticking to the previous endeavor or getting involved in risk-seeking behavior, to avoid losses or decrease the psychological pain of losses.

In the context of tourism, the money that a tourist has spent on a trip, such as flight tickets and hotel reservations, is part of the total costs or composite price, and it will become sunk costs once he or she is at the destination (Dharmaratne & Brathwaite, 1998). While traveling around the destination, it is highly possible that tourists who spend more on flight tickets and hotel reservations will be less sensitive to prices of other services such as attraction admission (Crompton, 2016; Stevens et al., 2014). Thus, the effect of valence framing on the perceptions of price, fairness and value may be moderated by the investment size that a tourist has made. Thus, as illustrated in **Figure 5**, it is hypothesized that:

> *Hypothesis 1c: The effect of valence framing on price perception will depend on the level of composite price.*
>
> *Hypothesis 2c: The effect of valence framing on price fairness will depend on the level of composite price.*
>
> *Hypothesis 3c: The effect of valence framing on perceived value will depend on the level of composite price.*
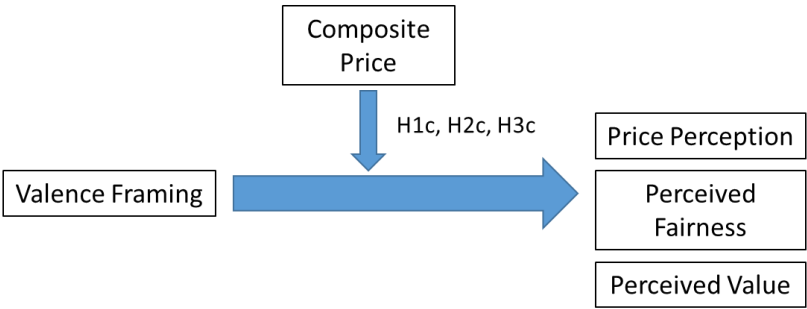
Figure 5 The Moderating Effects of Composite Price

Moderator 3: Familiarity

In addition to price magnitude and composite price, this dissertation will also look at the moderating impact of tourists' familiarity with dual pricing practices. Consumers can obtain product-related knowledge from a variety of sources such as previous purchase experiences, advertisements and/or word-of-mouth (Vogt & Fesenmaier, 1998) as well as a plethora of information from the internet. Alba and Hutchinson (1987) conceptualized the concept of consumer knowledge as a multidimensional construct that has two components: familiarity and expertise. Familiarity refers to the number of product-related experiences that a consumer accumulates over time. Expertise is defined as the ability to perform product-related tasks successfully. In general, increased product familiarity leads to increased expertise (Alba & Hutchinson, 1987), thus familiarity is arguably a more important determinant factor of consumer knowledge.

The marketing literature has suggested that consumers' familiarity with a product or price is likely to influence consumers' perception and decision making. In a field experiment, List (2003) examined the trading rates of two equally-valued sport memorabilia items and found that experienced traders were significantly more likely to trade than naïve traders. This suggested that the effects of loss aversion might be greater for inexperienced consumers than for experienced consumers. List (2004) replicated the study and confirmed that consumers with extensive market experience tended to behave in accordance with expected utility theory whereas consumers with limited market experience tended to organize their market behavior in line with prospect theory.

It has further been found that consumers who are familiar with a price practice may get used to the price structure over time, and gradually accept it as a norm, without much cognitive effort to process the information (Alba & Hutchinson, 1987). Thus, when encountering the same price practice, it is more likely for them to accept the price as it is. In light of the preceding discussion, it is suspected that the effects of valence framing on perception of price and value are likely to be moderated by tourists' familiarity with a pricing practice (e.g., dual pricing). Thus, it is hypothesized that:

Hypothesis 1d: The effect of valence framing on price perception will depend on the level of familiarity with the price practice.

Hypothesis 3d: The effect of valence framing on perceived value will depend on the level of familiarity with the price practice.

In a pricing context, it has also been found that consumers who are familiar with a price practice are more likely to be motivated to look for causal explanations (Wirtz & Kimes, 2007). Research in this area has found that justifications and explanations resulting from the search influence consumers' price fairness perceptions (Bies & Shapiro, 1987). Wirtz and Kimes (2007) conducted two experiments (one in restaurant setting and the other in hotel setting) and found that consumer's familiarity with revenue management practices moderated the effect of valence framing on fairness perceptions. Specifically, the effect of valence framing was greater when consumers were less familiar with differential pricing practices. Similarly, Rohlfs and Kimes (2007) found that consumers who were unfamiliar with a hotel's best available rate (BAR) pricing felt

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various BAR practices differently in terms of price fairness from those who were

familiar with the practice. Thus, it is hypothesized that:

> *Hypothesis 2d: The effect of valence framing on price fairness will*
> *depend on the level of familiarity with the price practice.*

All three hypotheses related to familiarity are illustrated in **Figure 6**.
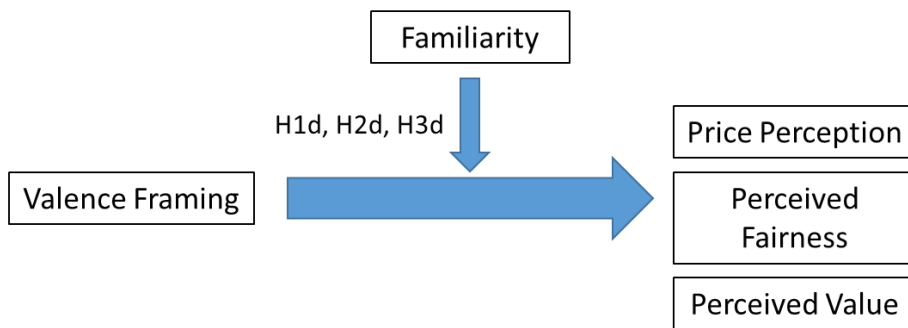
Figure 6 The Moderating Effects of Familiarity

Moderator 4: Involvement

The last moderator that this research examines is involvement. Product

involvement has been defined as consumer's perceived relevance of an object based on

inherent needs, values, and interest (Bloch & Richins, 1983; Zaichkowsky, 1985).

Unlike most academic definitions of constructs, defining involvement as perceived

importance or personal relevance has reached consensus among scholars in various

disciplines including psychology, marketing, leisure and tourism studies (Greenwald &

Leavitt, 1984).

Although involvement scholars have been mostly unanimous in the definition of

involvement (Greenwald & Leavitt, 1984; Mittal, 1995), they have different views

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regarding different types of involvement (Laurent & Kapferer, 1985). Rothschild and Houston (1980) distinguished situational involvement from enduring involvement. They suggested that the former refers to consumers' concerns with a purchase situation such as a business purchase that needs to be reported directly to a CEO. They argued this high level of involvement is often induced by a high level of perceived risk. The latter involvement refers to a consumer's general concern with a product class. A high level of enduring involvement generally stems from product's high relevance to consumer's central held values. Thus, compared to situational involvement, enduring involvement is relatively stable and intrinsic (G. Kyle, Absher, Norman, Hammitt, & Jodice, 2007). The current study will focus on enduring involvement, specifically how tourists' general interest or personal relevance to a certain product class (i.e., state park, iconic restaurant, and chain-brand hotel) moderates the framing effects of price.

Involvement has been a widely-recognized concept in the field of consumer behavior (Warrington & Shim, 2000) because of its relevance to a number of consumer behavior outcomes such as search behavior (Bloch, Sherrell, & Ridgway, 1986), product information search (Nijssen, Bucklin, & Uiji, 1995), information processing (Celsi & Olson, 1988; Mantel & Kardes, 1999), and brand loyalty (Suh & Yi, 2006; Warrington & Shim, 2000).

Research in consumer behavior has consistently found that consumers with high product involvement process information differently from those with low product involvement (Celsi & Olson, 1988). The Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1981) and the Fast, Slow Thinking Model (FST) (Kahneman, 2011) postulate

two distinct routes or systems of cognitive information processing: a central route (or System 2 in FST) which involves effortful cognitive activities to evaluate relevant issues presented, and a peripheral route (or System 1 in FST) in which consumers evaluate products based on superficial analysis of readily available cues.

Past research has demonstrated that compared to low-involved consumers, high-involved consumers tend to evaluate highly diagnostic cues such as product attributes and performance via the central route (System 2), and care less about simple product cues such as price which are processed through a peripheral route (System 1) (Lichtenstein et al., 1988; Nkwocha, Bao, Johnson, & Brotspies, 2005). For instance, a tourist who considers Grand Canyon National Park as a "must see" attraction will be less sensitive to the price information.

Empirical evidence supports this notion that product involvement is inversely related to price perception (J. Campbell, DiPietro, & Remar, 2014; G. T. Kyle et al., 1999; Lichtenstein et al., 1988; Zaichkowsky, 1988). Lichtenstein et al. (1988) found a significant negative correlation between product involvement and price consciousness.

Further, Zaichkowsky (1988) empirically investigated the relationship between product involvement and consumers' price perceptions. He found that consumers who were highly involved with a product paid less attention to price than those who had low involvement. In addition, J. Campbell et al. (2014) found that higher levels of product involvement resulted in higher willingness-to-pay and higher levels of price/quality inference (i.e., the extent to which price is a good indicator of quality). Similarly, in the field of leisure and recreation, G. T. Kyle et al. (1999) found that in the context of

publicly-funded leisure services, participants who had higher levels of involvement with an attraction led to higher perceptions of reference price. Thus, as illustrated in **Figure 7**, it is hypothesized that:

>*Hypothesis 1e: The effect of valence framing on price perception will depend on tourists' involvement with a product/service.*
>
>*Hypothesis 2e: The effect of valence framing on price fairness will depend on tourists' involvement with a product/service.*
>
>*Hypothesis 3e: The effect of valence framing on perceived value will depend on tourists' involvement with a product/service.*
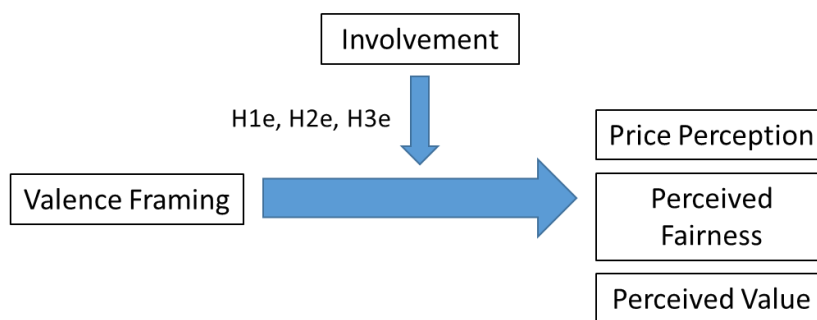
Figure 7 The Moderating Effects of Involvement

The Conceptual Model

Based on the above discussion, informed by prospect theory (Tversky & Kahneman, 1991), the conceptual model was developed (**Figure 8**). It is suggested that price presentation of a dual-pricing practice utilizing valence framing will affect tourists' perceptions of price, fairness and value. In addition, this dissertation proposes that price magnitude, composite price, involvement and familiarity will exert moderating influences on the effects of valence framing.

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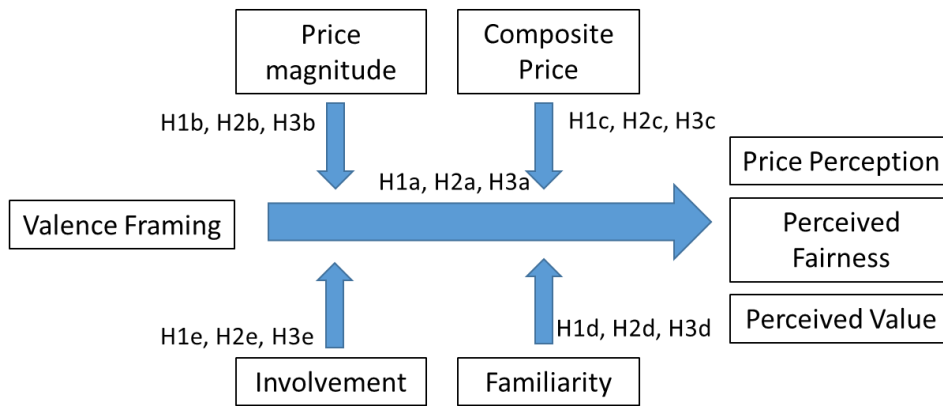
Figure 8 The Proposed Conceptual Model

CHAPTER IV

METHODOLOGY

This chapter describes the methods used to conduct a scenario-based experiment to examine the proposed hypotheses. The first section outlines the research design of the experiment. This is followed by an-depth overview of the instrument development as well as data collection procedures. The statistical techniques used for data analysis are discussed at the end of the chapter.

Research Design

This dissertation adopted a hypothetical scenario-based experiment approach to test the proposed hypotheses. This approach has been widely used in price perception studies (L. E. Bolton & Alba, 2006; Darke & Dahl, 2003; Kimes & Wirtz, 2003a; Kimes & Wirtz, 2003b; H. Oh, 2000; H. Oh & Jeong, 2004; Wirtz & Kimes, 2007; Xia, Kukar-Kinney, & Monroe, 2010) for a number of reasons. To begin with, experimental design allows researchers to have relatively good control to better examine causal relationships (Oh, 2000). Additionally, compared to field studies, the use of scenarios has the advantages of: reducing recall biases (Smith & Bolton, 2002), controlling the impact of irrelevant variables (Blodgett, Hill, & Tax, 1997) and ensuring higher internal reliability (Wen & Chi, 2013). Furthermore, given the purpose of this dissertation, it is believed experimental manipulations within scenarios will provide a desirable degree of precision and specificity to operationalize the variables (i.e., different frames, sunk cost and price magnitude). Finally, it is believed these methods will eliminate the difficulties associated

with observing tourists' reactions towards price information in the field, such as the amount of time and cost involved.

In order to test the proposed research hypotheses, an experiment was conducted by having respondents evaluate assigned scenarios manipulated based on valence faming effects and two independent variables: sunk costs and price magnitude. Familiarity and involvement was examined as covariates. The experiment was a 2×2×2 between-subject design, and thus, a total of eight scenarios were developed. **Table 1** shows the manipulation plan for the study.

Table 1 The Experiment Design

Design	Operationalization
2 (valence framing: positive vs. negative) * 2 (composite price: high vs. low) * 2 (price magnitude: high vs. low)	**State park local general admission** Positive frame: Adult: $5 California resident gets $3 discount vs. Negative frame: Adult: $2 Additional $3 charge to non-California resident *Money already spent on the trip* High composite price: $1,000 vs. Low composite price: $50 *State park general admission price magnitude* High price magnitude: Tourist: $15; local resident: $12 vs. Low price magnitude Tourist: $5; local resident: $2

The study was based on a state park admission context. The majority of the state parks in the United States are funded by state government's tax income. Given that, it is argued that local residents already indirectly pay for the state park admission through taxation, and thus, they are entitled to a lower price since tourists do not pay local taxes. Despite this social equity justification for a tourist-local resident dual pricing policy, previous research has demonstrated negative impacts related to dual pricing for tourists (Apollo, 2013). Even though dual pricing is a controversial, yet frequently adopted pricing practice in public-funded tourism attractions, little research has provided empirical support for the influence of the practice (Sharifi-Tehrani, Verbič, & Chung, 2013).

This study employed a $2 \times 2 \times 2$ between-subject factorial design. Three independent variables were valences of the framing (positive vs. negative), composite price (high vs. low), and price magnitude (high vs. low). Thus, a total of eight scenarios were developed (see a sample scenario in **Table 2**).

Participants was randomly assigned to one of the eight scenarios at the beginning of the survey. The scenario scripts instructed the participants to imagine that they were on a five-day or one-day trip, and that they went to a state park for one day visit. Participants then were told they were non-state residents and were presented the general admission price information. After reading the scenario, participants were asked to answer two manipulation check questions and a series of questions related to price perception, fairness perception, perceived value, purchase intentions, familiarity with the price structure, involvement of visiting a U.S. state park, and demographic questions.

Table 2 Sample Scenario

*Scenario: You are on a five-day trip by plane and have spent **$1,000 on flight and accommodations for this trip**. On the first day of the trip, you go to a state park for one day. You are a non-state resident and you see the following admission information.*

General Admission
Child (under 3)   Free
Adult $5
State residents get a $3 discount

Valence framing was manipulated at two levels (positive or negative). For the positive condition, the tourist price was presented as "Adult: $5", and the local resident price were presented with a note of "State residents get a $2 discount". This framing anchored the reference price at the tourist price (higher price) and local resident price was framed as a discount. In the negative condition, the local resident price was presented as "Adult: $3", and the tourist price was presented with a note of "An additional $3 charge to non-state residents". This framing anchored the reference or regular price at the local resident price (lower price) and the tourist price as a surcharge. To check this manipulation, participants were asked what price they needed to pay for the state park admission.

Price magnitude was manipulated at two levels. For the high-price condition, tourist price was set at $15 and local resident price was set at $12. For the low-price condition, tourist price was set at $5 and local price was $2.

Composite price was manipulated at two levels. For the high composite price condition, participants were instructed to imagine that they had spent $1,000 on flight

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and accommodations for the trip, while for the low composite price condition, the spending was described to be $50 on gas. One manipulation check question was included to verify that participants were clear about their assigned sunk cost in the scenario (i.e., "*In the above scenario, how much did you spend on flight and accommodations /gas? A. $1,000   B. $50*").

Instrument Development and Measurements

This study measured a number of constructs including involvement, familiarity, price perception, fairness perception, perceived value, and purchase intentions. The survey questionnaire for the study was composed of three sections. In the first section, participants were randomly assigned to one of the eight scenarios and instructed to read the scenario. The scenario was followed by two manipulation check questions, one related to sunk costs and the other was to ensure that participants understood the price information given in the scenario. Only the responses that passed both manipulation check questions were included in data analysis.

The second section of the questionnaires assessed participants' involvement with visiting a state park while traveling and familiarity with state park's tourist and local pricing practice. In addition, participants were asked to evaluate the price in the given scenario by rating the scales of perceived price and price fairness. The last section of the questionnaire included demographic questions such as age, education and household income level.

Pilot Test

After an initial version of the questionnaires was developed, a total of four experts were invited to review and pretest the instrument. These experts were faculty members specializing in social psychology or tourism marketing, all with extensive experience in experimental design. A variety of comments and suggestions were collected regarding scenario design, choice of scale, length and organization of the questionnaire and working of questions. Many of the comments were related to the scenario design and the wording of the scale statements.

After the expert panel review, the revised questionnaire was pilot tested with a convenience sample. The goal of the pilot study was to facilitate the comprehension of the participants by examining the clarity of questions and improving wording of the items. A Qualtrics link was sent out to students (including undergraduate and graduate students) and faculty members of the Department of Recreation, Park and Tourism Sciences at Texas A&M University. The survey of the pilot study was the exact replica of what was intended to be distributed to the participants in the main data collection. Each respondent was randomly assigned to one of the eight conditions of the assigned study. Suggestions and comments regarding the design of the questionnaire were collected from the pilot study.

Many of the comments and suggestions were pertaining to the organization of the questionnaire and the wording of the questions. Comments and suggestions that led to modifications are listed in **Table 3**. Two major modifications were made in the original questionnaire. First, a few questions were reworded to make them clearer and more

concise. For instance, one of the two items measured purchase intentions was initially worded as "the probability of me purchasing the state park admission ticket at the price that I pay is very high", and it was later revised to "the probability of me purchasing the state park admission ticket is very high".

Table 3 Suggestions from Pilot Study and Corresponding Actions

Comments	Actions
"The context for the questions on the second page is not fully clear. Am I correct that respondents are to keep the scenario presented at the beginning of the study in mind?"	Questions related to the scenarios were grouped into one page and the assigned scenario was set to keep displaying.
"Think through the extent to which the scenarios are realistic. In mine, I paid $20 for gasoline to visit an out of state park. I imagine very few people could pay so little and travel out of state unless, I suppose, they lived in a city on the state line."	$20 was changed to $50 to make the scenario more realistic.
"The question 'The probability of me purchasing the state park admission ticket at the price that I pay is very high' is kind of confusing."	The question was modified to be "The probability of me purchasing the state park admission ticket is very high".
"Some of the questions need to be reworded as they are slightly confusing and need to be read multiple times. Particularly the questions on the previous page."	The perceived value and purchase intent questions were regrouped and reworded. For the perceived value scale, questions were emphasized the fact of "knowing that local residents pay a lower price than you do".
'I would add at least one more label to your Likert scales for the center option. Example: Very Inexpensive, about what I'd expect to pay, Very Expensive."	Numbers (number 1 to 7) were added to label all Likert scales.

Second, the questions were reorganized to make it easier for participants to follow the survey flow. Questions related to the scenario such as price perception,

fairness perception, perceived value and purchase intention were grouped together with the scenario on the same page. Questions unrelated to the scenario including familiarity, involvement and demographics were grouped together on the same page. Additional instructions about these two types of questions were provided in the beginning of the page to clarify the relationships of the questions and the scenario.

Measurements

A total of six variables were included in the final questionnaire (**Table 4**). All have been extensively used in social science research, especially marketing, psychology and tourism studies. Adopting from Oh and Jeong (2004), perceived price was measured with three bipolar measurements: *very inexpensive/expensive*, *very low/high* and *not pricey at all/very pricey*. Following Wirtz and Kimes (2007), perceived price fairness was measured with a 7-point semantic differential measurement which was comprised of three items: *fair/unfair*, *ethical/unethical*, and *acceptable/unacceptable*.

This study measured familiarity with a pricing practice via two statements: *how familiar are you with XXX (pricing practices)?*; *and how often have you seen, heard, or experienced XXX (pricing practices)?* These measures have been used by a number of previous pricing studies (Noone & Mattila, 2009; Rohlfs & Kimes, 2007; Wirtz & Kimes, 2007).

Involvement was measured with a modified version of Zaichkowsky's (1985) 20-item Personal Involvement Inventory Scale. Mittal (1995) modified and reduced the scale to five items to make the measurement concentrate on importance and significance. Thus, this study adopted the measurement and five semantic differential items (i.e.,

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important/unimportant, of no concern/of concern to me, means a lot to me/means

nothing to me, matters to me/does not matter, and *significant/insignificant*) were used to

measure involvement.

Table 4 Variables Measured in this Study

Construct	Measurement	Literature
Price perception	3 items: Do you consider the pricing you pay as: (1) very inexpensive-expensive (2) very low-high (3) not pricey at all-very pricey	Oh & Jeong (2004)
Price fairness	3 items: Do you consider the state park's pricing policy as: (1) Unfair-fair (2) Unethical-ethical (3) Unacceptable-acceptable	Wirtz & Kimes (2007) Bujisic, Bilgihan & Hutchinson (2013)
Familiarity	2 items: (1) How familiar are you with the above state park pricing (i.e., different prices for tourists and local residents); (2) How often have you seen, heard, or experienced such a way of pricing?	Oliver & Bearden (1985) Wirtz & Kimes (2007) Rohlfs & Kimes (2007) Noone & Mattila (2009)
Involvement	5 items: To me, visiting a U.S. state park is: (1) Important-unimportant (2) Of no concern-of concern to me (3) Means a lot to me-means nothing to me (4) Matters to me-does not matter (5) Significant-insignificant	Zaichkowsky (1985) Mittal (1995)

Participants and Data Collection Procedures

Participants were recruited through the Internet using Amazon's Mechanical

Turk (MTurk). Launched in 2005, MTurk is an Internet-based human intelligence

marketplace with about 500,000 individuals, referred to as "*workers*" (Amazon's

Mechanical Turk, 2014). On MTurk, *workers* are recruited by *requesters* for the

completion of tasks, which are called Human Intelligence Tasks (HITs) in exchange for

a monetary payment (called a *reward*). Requesters can post HITs on MTurk and make

their HITs only available to workers who meet predefined criteria such as country of

residence or accuracy in previously completed tasks. Workers can search and choose

preferred HITs based on various criteria such size of the reward and maximum time

allotted for the completion.

There are a number of advantages of using MTurk for experiment sampling. It

has been found that U.S. MTurk workers are closer to U.S. population than participants

recruited from traditional university student pools (Paolacci, Chandler, & Ipeirotis,

2010). Furthermore, the demographic background of participants is more diverse than

college and online samples (Paolacci et al., 2010). Since MTurk allows requesters to

restrict HITs to workers from a specific country, it has also been deemed a good way to

recruit samples for cross-cultural studies (Eriksson & Simpson, 2010). This feature also

provides experimenters flexibility to control the homogeneity or heterogeneity of the

sample depending upon the needs of the studies (Paolacci et al., 2010).

Lastly and likely most importantly, previous studies using MTurk have found

that the quality of the data obtained from MTurk had the same, if not better, reliability

than that from conventional sampling methods (Buhrmester, Kwang, & Gosling, 2011;

Byun & Jang, 2015; Mason & Suri, 2012). For instance, Paolacci et al. (2010) conducted

a comparative study in which they replicated the same study with three different

sampling sources: MTurk, a large university student pool, and online discussion boards. They found that the results obtained from MTurk were no different from results obtained from the other two sources. Moreover, the response error was significantly lower and the survey completion rate was higher in MTurk (Paolacci et al., 2010).

Oppenheimer, Meyvis, and Davidenko (2009) pointed out one potential drawback of MTurk experiments that unsupervised participants may be less attentive than participants in a lab under close instruction of an experimenter. However, this concern can be solved by manipulation checks to identify inattentive subjects and exclude them from data analysis (Oppenheimer et al., 2009).

To further ensure the quality of the data, workers who were recruited to participate in this survey were required to have a "master" qualification granted by MTurk. "Masters" are elite groups of "Workers" who have demonstrated accuracy on specific types of human intelligence tasks (HITs) on MTurk. "Workers" achieve a "Masters" distinction by consistently completing HITs of a certain type with a high degree of accuracy across a variety of requesters, and "Masters" must continue to pass MTurk's statistical monitoring to remain qualified (Amazon's Mechanical Turk, 2014).

As aforementioned, data collection of this study took place on the Internet, specifically on MTurk. Qualified workers must be 18 years or older U.S. residents, and must have a master qualification. The reward that was paid to workers was set at $0.10 given the limited financial resource, and the task completion time was set to 4 minutes based on the average completion time of pilot study. The provision of this information allowed workers to obtain a rough estimate of the reward/effort ratio. The ratio for the

HIT of this study was conservatively estimated to be $1.20 an hour, which was close to the hourly wage that a typical MTurk worker is willing to work for (Horton & Chilton, 2010).

A HIT titled "A 4-minute consumer behavior survey" was posted on MTurk. Before accepting to work on the HIT, workers read a short description about the study which included a Qualtrics link. Workers who accepted to work on the HIT clicked on the Qualtrics link which redirected them to the Qualtrics website. Qualtrics randomly and evenly assigned workers to one of the eight scenarios. Once workers completed the survey, a survey code was shown at the end of the survey and workers used the code to redeem their reward.

A priori power analysis was used to determine sample size (Cohen, 1988). Power refers to the probability that the null hypothesis is rejected given that the null hypothesis is false, and power is affected by various factors including effect size and sample size (Myers & Well, 2003). It has been recommended that researchers should take power into consideration when designing experiments (Myers & Well, 2003). To determine what sample size is required to have a specified level of power to reject the null hypothesis, researchers need to know the effect size and determine the α level. Since an estimate of effect size based on previous studies was not readily available, effect size was conservatively set at 0.2 (Cohen, 1988). Thus, a total of 384 participants for each study (about 48 participants in each condition) were required to analyze the data at a 5% of α level and 80% power level with a three-way, eight groups ANOVA using an effect size 0.2 (Myers & Well, 2003). However, considering the possibility of losing participants

who might fail manipulation checks or do not complete the survey, a larger sample size was preferred. Thus, this study determined the sample size to be 450 participants.

Data Analysis

Data was extracted from the Qualtrics website and transposed to SPSS software. Incomplete responses were detected and excluded. Then manipulation checks were run to examine if the participants clearly understood the scenarios. To ensure that the three factors in the study were successfully manipulated as intended, participants with at least one wrong answer to either of the two manipulation questions will be deleted. Furthermore, responses with less than 1 minute completion time was also excluded.

Once the data was cleaned, descriptive statistics were run to gain a good understand of the participants' background and the properties of interested variables. Then Cronbach's alpha coefficient was used to measure the reliability of the measurements. To test the proposed hypotheses, a series of three-way ANOVAs and two-way ANOVAs were run to check for interactions and main effects.

CHAPTER V

DESCRIPTIVE FINDINGS

This chapter consists of two major sections. First, data screening and cleaning

processes are outlined, and efforts are made in identifying manipulation failures and

inattentive responses. A profile of the respondents is presented at the end of the first

section. Next, reliability of the scales used as well as descriptive statistics of variables

are summarized.

Data Cleaning and Manipulation Checks

A total of 412 participants opened the Qualtrics link and were randomly assigned

to one of the eight experimental conditions between May 11th and May 17th, 2017, in

exchange for a small payment. Among them, 21 did not complete the survey and were

excluded from data analysis, leaving 391 complete responses. Among the 391 complete

responses, 18 completed the survey in less than 1 minute and thus, were screened out

from data analysis. As a result, a total of 373 usable responses were retained.

To ensure the effectiveness of the manipulation of the three independent

variables, participants were asked two questions regarding the amount of pre-paid costs

described in the scenario and the price they should pay according to the scenario. With

respect to composite price, participants were asked a multiple-choice question: "in the

above scenario, how much did you spend on the flight and accommodations/gas?" Two

options were offered: (1) $1,500; and (2) 50. Participants in the high composite price

condition should have chosen "$1,500" to pass the manipulation check, and participants

in the low composite price condition should have chosen "$50".

The second manipulation check also asked a multiple-choice question: "As a

non-state resident, how much do you pay for the general admission for one day at the

state park?" Two options were offered for participants in the high price magnitude

condition: (1) $15; and (2) $12. Similarly, two options were also offered for participants

in the low price magnitude condition: (1) $5; and (2) $2. Participants should have chosen

$15 or $5 to pass the manipulation check.

Table 5 Manipulation Checks

	Pass		Fail	
	N	Percentage	N	Percentage
Composite Price	373	100%	0	0%
Price Paid	353	94.6%	20	5.4%
Both	372	99.8%	1	0.2%

Participants with at least one wrong answer to any of the two manipulation

questions were deleted. As a result (see **Table 5**), a total of 21 responses were deleted.

Among them, 20 participants failed the price question and 1 failed both questions. Thus,

a total of 351 responses were included in the final data analysis. **Table 6** displays the

final numbers of valid responses for each condition.

Table 6 The Number of Valid Responses by Conditions after Manipulation Check

		Positive Frame	Negative Frame	Total
High Price Magnitude	High composite price	44	42	86
	Low composite price	43	47	90
	Total	87	89	176
Low Price Magnitude	High composite price	45	42	87
	Low composite price	42	46	88
	Total	87	88	175
TOTAL		174	177	351

Participant Profiles

After data cleaning and manipulation checks, a total of 351 valid responses were included in the final data analysis. Three demographic questions were asked at the end of the experiment: age, education and annual income level. The mean age of the respondents was 34.5 years old (SD=11.4), ranging from 19 to 75. The sample were highly educated as more than half of the participants had a 2-year or 4-year college degree. Additionally, the annual income of respondents was relatively evenly distributed, with the median income range being $40,000 to $49,999. **Table 7** displays the demographic information about the sample.

Table 7 Demographic Characteristics of the Participants

Variables	Categories	Frequency	Percentage
Age	Under 20	5	1.4%
Mean=34.4	20-29	137	39%
Median=32	30-39	121	34.5%
SD=11.2	40-49	47	13.4%
	50-59	29	8.3%
	60-69	9	2.6%
	70+	3	0.8%
Education	Less than high school degree	4	1.1%
	High school graduate	19	5.4%
	Some college but no degree	81	23.1%
	Associate degree in college (2-year)	36	10.3%
	Bachelor's degree in college (4-year)	149	42.5%
	Master's degree	49	14%
	Doctoral degree	7	2%
	Professional degree (JD, MD)	6	1.7%
Annual Income	Less than $10,000	19	5.4%
	$10,000 to $19,999	31	8.8%
	$20,000 to $29,999	36	10.3%
	$30,000 to $39,999	42	12%
	$40,000 to $49,999	34	9.7%
	$50,000 to $59,999	25	7.1%
	$60,000 to $69,999	26	7.1%
	$70,000 to $79,999	38	10.8%
	$80,000 to $89,999	24	6.8%
	$90,000 to $99,999	15	4.3%
	$100,000 to $149,999	42	12%
	$150,000 or more	19	5.4%

Participant Profiles by Groups

Table 8 displays the participant profile by valence framing groups. A chi-square test of independence was conducted between age groups and valence framing. All expected cell frequencies were greater than five. There was no statistically association

between age and valence framing ($\chi^2(4) = 3.838$, $p = .428$), indicating that the age

distributions of the two valence framing groups did not differ.

Table 8 Participant Profile by Valence Framing Groups

Categories	Positive Framing		Negative Framing	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Age				
18-29	70	42.2%	66	37.9%
30-39	51	57.6%	67	38.5%
40-49	26	15.7%	19	10.9%
50-59	12	7.2%	16	9.2%
60+	7	4.2%	6	3.4%
Education				
High school graduate or less	16	10.3%	6	3.4%
Some college but no degree	39	23.5%	40	23%
2-year degree in college	14	8.4%	22	12.6%
4-year degree in college	74	69.3%	68	39.1%
Master's degree	20	12%	30	17.2%
Doctoral/professional degree	4	2.4%	8	4.6%
Income				
Less than $10,000	8	4.8%	11	6.3%
$10,000 to $19,999	12	7.2%	17	9.8%
$20,000 to $29,999	24	14.5%	13	7.5%
$30,000 to $39,999	22	13.3%	19	10.9%
$40,000 to $49,999	19	11.4%	13	7.5%
$50,000 to $59,999	7	4.2%	17	9.8%
$60,000 to $69,999	13	7.8%	13	7.5%
$70,000 to $79,999	16	9.6%	21	12.1%
$80,000 to $89,999	10	6%	13	7.5%
$90,000 to $99,999	6	3.6%	8	4.6%
$100,000 to $149,999	18	10.8%	21	12.1%
$150,000 or more	11	6.6%	8	4.6%

A chi-square test was also conducted between education and valence framing. In

order to meet the assumption that all expected cell frequencies are greater than five,

some categories were combined. The categories of "less than high school" and "high

school graduate" were collapsed into a new category, "high school graduate or less". In a similar vein, the groups of "doctoral degree" and "professional degree" were collapsed to a new category named "doctoral/professional degree". The results revealed that there was no statistically significant association between education and valence framing ($\chi^2(5)$ = 9.051, p = .107), which suggests that the frequency distribution of education did not differ between participants in the positive framing condition and those in the negative framing condition.

Another chi-square test was conducted between income levels and valence framing. All expected cell frequencies were greater than five. There was no statistically association between income levels and valence framing ($\chi^2(11)$ = 11.993, p = .364), which means the distribution of income was not associated with the valence framing conditions.

Table 9 displays the participant profile by price magnitude groups. A chi-square test was conducted between age groups and price magnitude. No statistically significant association was found ($\chi^2(4)$ = 3.387, p = .495), indicating that the age distributions in the two price magnitude groups were not different.

A chi-square test was also conducted between education and price magnitude. To meet the assumption that all expected cell frequencies are greater than five, the new education variable created in previous test was used. Results revealed that there was no statistically significant association between education and price magnitude ($\chi^2(5)$ = 8.309, p = .14), which suggests that the frequency distribution of education did not differ

between participants in the high price magnitude condition and those in the low price

magnitude condition.

A chi-square test was conducted between income levels and price magnitude. No

statistically association was found ($\chi^2(11) = 5.279$, $p = .917$), which means the

distribution of education levels did not differ between the two price magnitude groups.

Table 9 Participant Profile by Price Magnitude Groups

Categories	High Magnitude		Low Magnitude	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Age				
18-29	68	38.6%	68	41.5%
30-39	61	34.7%	57	34.8%
40-49	22	12.5%	23	14%
50-59	19	10.8%	9	5.5%
60+	6	3.4%	7	4.3%
Education				
High school graduate or less	9	5.1%	12	7.3%
Some college but no degree	33	18.8%	46	28%
2-year degree in college	20	11.4%	16	9.8%
4-year degree in college	83	47.2%	59	36%
Master's degree	27	15.9%	23	14%
Doctoral/professional degree	4	2.3%	8	4.9%
Income				
Less than $10,000	9	5.1%	10	6.1%
$10,000 to $19,999	19	10.8%	10	6.1%
$20,000 to $29,999	17	9.7%	20	12.2%
$30,000 to $39,999	19	10.8%	22	13.4%
$40,000 to $49,999	17	9.7%	15	9.1%
$50,000 to $59,999	14	8%	10	6.1%
$60,000 to $69,999	15	8.5%	11	6.7%
$70,000 to $79,999	17	9.7%	20	12.2%
$80,000 to $89,999	11	6.2%	12	7.3%
$90,000 to $99,999	7	4%	7	4.3%
$100,000 to $149,999	22	12.5%	17	10.4%
$150,000 or more	9	5.1%	10	6.1%

Lastly, participant profiles were compared between the two composite price groups, and **Table 10** displays the distribution of demographics by composite price groups.

Table 10 Participant Profile by Composite Price Groups

Categories	High Magnitude		Low Magnitude	
	Frequency	Percentage	Frequency	Percentage
Age				
18-29	59	34.5%	77	45.6%
30-39	71	41.5%	47	27.8%
40-49	18	10.5%	27	16%
50-59	16	9.4%	12	7.1%
60+	7	4.1%	6	3.6%
Education				
High school graduate or less	8	4.7%	13	7.7%
Some college but no degree	39	22.8%	40	23.7%
2-year degree in college	22	12.9%	14	8.3%
4-year degree in college	69	40.4%	73	43.2%
Master's degree	25	14.6%	25	14.8%
Doctoral/professional degree	8	4.7%	4	2.4%
Income				
Less than $10,000	11	6.4%	8	4.7%
$10,000 to $19,999	16	9.4%	13	7.7%
$20,000 to $29,999	16	9.4%	21	12.4%
$30,000 to $39,999	17	9.9%	24	14.2%
$40,000 to $49,999	20	11.7%	12	7.1%
$50,000 to $59,999	14	8.2%	10	5.9%
$60,000 to $69,999	13	7.6%	13	7.7%
$70,000 to $79,999	18	10.5%	19	11.2%
$80,000 to $89,999	12	7%	11	6.5%
$90,000 to $99,999	8	4.7%	6	3.6%
$100,000 to $149,999	22	12.9%	17	10.1%
$150,000 or more	4	2.3%	15	8.9%

A chi-square test was conducted between age groups and composite price. There was a statistically association between age and composite price ($\chi^2(4) = 9.701$, $p = .046$),

indicating that the age distributions of the two composite price groups were different. However, the association was small (Cohen, 1988) since the Cramer's V was .169. Specifically, compared to the high composite price condition, the low composite price condition had more participants who were between the age of 18 and 29 years old but had fewer between the age of 30 and 39.

A chi-square test was also conducted between education and composite price. Results revealed that there was no statistically ($\chi^2(5) = 4.415$, $p = .491$), which suggests that the frequency distribution of education did not differ between participants in the high composite price condition and those in the low composite price condition.

A similar chi-square test was conducted between income levels and composite price. No statistically association was found ($\chi^2(11) = 12.676$, $p = .315$), which means the distribution of income levels were not associated with the composite price conditions.

Preliminary Data Analysis

A total of five constructs were measured in this study (i.e., perceived price, perceived fairness, perceived value, familiarity and involvement). After reversing six items (one in the perceived price scale, one in the perceived fairness scale and four in the involvement scale), a series of preliminary analyses were performed to examine the central tendency, spread and normality of each observed variables as well as the internal consistency of each measurement scale. Then, summary statistics analysis was performed separately for each group (i.e., positive frame and negative frame groups, high and low composite price groups, and high and low price magnitude groups).

Descriptive statistics of overall perceived price, perceived fairness, perceived

value, familiarity and involvement were summarized in **Table 5.7**. Items of each scale

for the interested constructs were summed and averaged.

Table 11 Overall Descriptive Statistics

	Mean	SE	SD	Skewness	Kurtosis	Shapiro-Wilk	Cronbach's α
Perceived Price							.956
Expensive	3.27	.098	1.83	.322	-1.03	.908***	
High priced	3.3	.098	1.84	.325	-1.07	.909***	
Pricey	3.2	.098	1.84	.369	-1.06	.9***	
avepp	3.26	.094	1.76	.304	-.97	.928***	
Perceived Fairness							.926
Fair	5.12	.11	1.98	-.809	-.598	.839***	
Ethical	5.32	.091	1.71	-.973	.193	.852***	
Acceptable	5.42	.094	1.76	-1.1	.333	.82***	
avefair	5.29	.091	1.71	-.941	.069	.872***	
Perceived Value							.968
Economical	4.91	.091	1.68	-.591	-.623	.905***	
Good buy	5.01	.088	1.63	-.676	-.339	.904***	
Good value for money	4.98	.088	1.62	-.69	-.281	.906***	
Bargain	4.44	.098	1.8	-.259	-.949	.93***	
avepv	4.83	.087	1.61	-.542	-.511	.944***	
Familiarity							.879
Unfamiliar-familiar	4.24	.115	2.12	-.214	-1.25	.894***	
Often see and hear	3.93	.116	2.14	-.033	-1.35	.895***	
avefam	4.08	.109	2.01	-.13	-1.24	.923***	
Involvement							.96
Important	5.13	.079	1.46	-.635	-.292	.938***	
Of concern to me	5.3	.085	1.57	-.861	-.061	.875***	
Means a lot to me	5.04	.085	1.56	-.67	-.202	.909***	
Matters to me	5.03	.088	1.61	-.57	-.551	.908***	
significant	5.16	.085	1.56	-.718	-.233	.898***	
aveinvolve	5.1	.085	1.57	-.702	-.238	.902***	

Note: *** p<.001

A normality test was performed to check if the data was normal and if skewness or kurtosis occurred. A Shapiro-Wilk test in SPSS revealed that the data was significantly ($<.001$) not normal. Further examination showed the observed dependent variables had only mild ($< \pm 2$) skewness and kurtosis. Given that the assumption of normality is violated in most cases in social sciences, the absolute values of kurtosis and skewness indices being less than 2 were deemed acceptable (Gravetter & Wallnau, 2014; Trochim & Donnelly, 2006).

Cronbach's alpha coefficient was used to examine the reliability of each measurement scale. The Cronbach's alpha coefficients for all interested constructs were greater than 0.7 (ranging from .879 to .968). Thus, all scales were deemed acceptable in terms of internal consistency (Hair, Anderson, Tatham, & Black, 1998).

Summary Statistics by Groups

Means, standard deviations, and standard errors were broken down into groups based on valence framing conditions, composite price, and price magnitude. Summary statistics are presented in **Table 12**. The largest difference in perceived price was found between the high and low price magnitude conditions. The perceived price was higher in the high price magnitude condition ($M_{avepp}=4.27$, SD=1.56) than in the low price magnitude condition ($M_{avepp}=2.22$, SD=1.28).

As for perceived fairness, relatively large differences were found between the two valence framing conditions and between the two price magnitude conditions. The perceived fairness variables were higher in the positive framing condition ($M_{avefair}=5.61$, SD=1.55) than in the negative framing condition ($M_{avefair}=4.94$, SD=1.75). Similarly,

perceived fairness was higher in the low price magnitude condition ($M_{avefair}$=5.59,

SD=1.66) than in the high price magnitude condition (M_{avepp}=4.98, SD=1.66).

Similar to perceived price, the largest difference in the perceived value variables

was between the high and low price magnitude conditions. The perceptions of value

were lower in the high price magnitude condition (M_{avepv}=4.08, SD=1.52) than in the

low price magnitude condition (M_{avepv}= 5.65, SD=1.28).

Table 12 Summary Statistics by Conditions

	Positive Framing			Negative Framing		
	N	Mean (SD)	SE	N	Mean (SD)	SE
Perceived Price						
Expensive	166	3.34 (1.92)	.15	174	3.25 (1.74)	.13
High priced	166	3.25 (1.89)	.15	174	3.36 (1.8)	.14
Pricey	166	3.24 (1.91)	.15	174	3.2 (1.79)	.14
avepp	166	3.3 (1.82)	.14	174	3.26 (1.7)	.13
Perceived Fairness						
Fair	166	5.46 (1.81)	.14	174	4.75 (2.04)	.15
Ethical	166	5.63 (1.54)	.12	174	4.97 (1.79)	.14
Acceptable	166	5.73 (1.55)	.12	174	5.11 (1.86)	.14
avefair	166	5.61 (1.55)	.12	174	4.94 (1.75)	.13
Perceived Value						
Economical	166	5.03 (1.67)	.13	174	4.8 (1.7)	.13
Good buy	166	5.06 (1.7)	.13	174	4.96 (1.56)	.12
Good value for money	166	5.08 (1.63)	.13	174	4.89 (1.62)	.12
Bargain	166	4.52 (1.82)	.14	174	4.36 (1.78)	.13
avepv	166	4.92 (1.63)	.13	174	4.75 (1.59)	.12

Table 12 Continued

	Low Composite Price			High Composite Price		
	N	Mean (SD)	SE	N	Mean (SD)	SE
Perceived Price						
Expensive	169	3.26 (1.81)	.14	171	3.33 (1.85)	.14
High priced	169	3.32 (1.85)	.14	171	3.35 (1.84)	.14
Pricey	169	3.16 (1.83)	.14	171	3.27 (1.87)	.14
avepp	169	3.25 (1.73)	.13	171	3.32 (1.79)	.14
Perceived Fairness						
Fair	169	5.02 (2.01)	.15	171	5.17 (1.91)	.15
Ethical	169	5.27 (2.75)	.13	171	5.32 (1.66)	.13
Acceptable	169	5.31 (1.82)	.14	171	5.52 (1.65)	.13
avefair	169	5.2 (1.74)	.13	171	5.34 (1.63)	.12
Perceived Value						
Economical	169	4.98 (1.61)	.12	171	4.85 (1.76)	.13
Good buy	169	5.11 (1.59)	.12	171	4.91 (1.67)	.13
Good value for money	169	5.09 (1.59)	.12	171	4.87 (1.65)	.13
Bargain	169	4.57 (1.81)	.14	171	4.3 (1.78)	.14
avepv	169	4.94 (1.58)	.12	171	4.73 (1.64)	.13

	Low Price Magnitude			High Price Magnitude		
	N	Mean (SD)	SE	N	Mean (SD)	SE
Perceived Price						
Expensive	164	2.22 (1.36)	.11	176	4.3 (1.63)	.12
High priced	164	2.32 (1.46)	.11	176	4.28 (1.65)	.12
Pricey	164	2.13 (1.32)	.1	176	4.23 (1.69)	.13
avepp	164	2.22 (1.28)	.1	176	4.27 (1.56)	.12
Perceived Fairness						
Fair	164	5.49 (1.89)	.15	176	4.73 (1.96)	.15
Ethical	164	5.56 (1.7)	.13	176	5.05 (1.68)	.13
Acceptable	164	5.71 (1.72)	.13	176	5.15 (1.72)	.13
avefair	164	5.59 (1.66)	.13	176	4.98 (1.66)	.12
Perceived Value						
Economical	164	5.72 (1.27)	.1	176	4.16 (1.68)	.13
Good buy	164	5.79 (1.27)	.1	176	4.28 (1.59)	.12
Good value for money	164	5.74 (1.29)	.1	176	4.27 (1.58)	.12
Bargain	164	5.34 (1.52)	.12	176	3.6 (1.63)	.12
avepv	164	5.65 (1.28)	.1	176	4.08 (1.52)	.11

CHAPTER VI

HYPOTHESIS TESTING

This chapter reports the procedures and results of the testing of the proposed hypotheses. Two statistical techniques were used to test hypotheses: three-way ANOVAs and two-way ANOVAs. Hypotheses regarding valence framing, composite price, and price magnitude were explored via three-way ANOVAs, and hypotheses regarding familiarity and involvement were examined utilized two-way ANOVAs. Assumptions of the two-way and three-way ANOVAs were examined before running the analysis.

Hypotheses Related to Perceived Price

Valence Framing, Composite Price, and Price Magnitude

Before conducting the three-way ANOVA, the three items of perceived price were summed and averaged. A few tests of assumptions were performed to determine whether the three-way ANOVAs would be appropriate for hypothesis testing. There are three assumptions of ANOVA: (1) independence of observations; (2) no outliers; and (3) homogeneity of variances (Myers & Well, 2003). Since MTurk does not allow a worker to do the same HIT multiple times, the assumption of independence was met. Z scores were computed to check for outliers. The maximum and minimum standardized scores (z-scores) were 2.12 and -1.3. Since all z scores were between the range of 3 and -3, the assumption of no outliers was also met.

Hypothesis 1a, 1b, and 1c were tested using a three-way, between-subject ANOVA to detect the effects of valence framing, sunk costs and price magnitude on perceived price. Levine's test was performed to test for the assumption of homogeneity of variance. The results showed that the *F* value was 1.552 with a p-value of 0.149, which indicates the assumption of homogeneity was not violated. Thus, the data was deemed appropriate for ANOVA.

Table 13 displays the results of the three-way ANOVA. The ANOVA table indicates that the model had an R^2 of 0.353, which means the model explained 35.3% of variance in perceived price. The results also revealed that the three-way interaction was not significant ($F = .761$, $p = .384$), suggesting that the interaction between valence framing and composite price (price magnitude) did not depend on the levels of price magnitude (composite price).

Table 13 Three-way Analysis of Variance for Perceived Price

Source of Variance	SS	df	MS	F	p	η^2
valence	.109	1	.109	.053	.817	.000
composite price	.1	1	.1	.005	.944	.000
magnitude	356.75	1	356.75	174.8	**<.001*****	.345
valence × composite price	.129	1	.129	.063	.801	.000
valence × magnitude	12.87	1	12.87	6.31	**.013***	.019
composite price × magnitude	.632	1	.632	.31	.578	.001
valence × composite price × magnitude	1.55	1	1.55	.761	.384	.002
Error	677.56	332	2.041			
Total	4708.6	340				

Note: Dependent variable: avepp
  *p<.05, **p<.01, ***p<.001
  R^2=.353 (adjusted R^2=.34)

Moreover, the two-way interaction between composite price and price magnitude was also insignificant ($F = .31$, $p = .578$). This reveals the effect of composite price on perceived price did not depend on the levels of price magnitude. However, the results suggested a main effect of price magnitude on perceived price ($F = 174.8$, $p < .001$, $\eta^2 = 0.345$), which is not surprising because previous research has suggested that higher price levels lead to high perceptions of price (Zeithaml, 1988).

Hypothesis 1a predicted that compared to negative framing, positive framing would lower disadvantaged tourists' perception of price. As shown in **Table 13**, the main effect for valence framing was not significant ($F = .053$, $p = .817$). Thus, Hypothesis 1a was not supported by the data which reveals whether a state park admission price is framed as a discount to locals or a surcharge to tourists does not affect tourists' price perception.
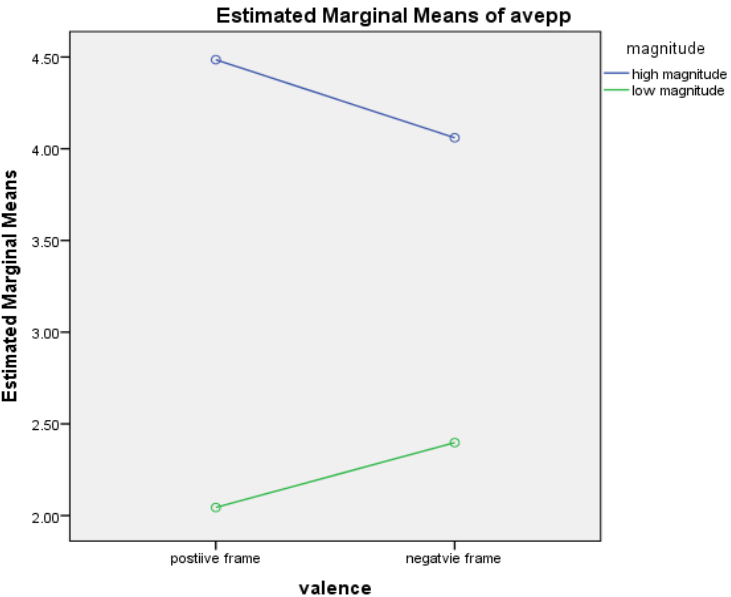

Figure 9 The Interaction Effect between Price Magnitude and Valence Framing

Hypothesis 1b proposed that the effect of valence framing will depend on the level of price magnitude. **Figure 9** shows the interaction effect. The interaction between magnitude and valence framing was statistically significant ($F = 6.31$, $p = .013$, $\eta^2 = .019$). As shown in **Table 14**, the simple main effect of valence framing on perceived price for the high price magnitude condition was significant ($F = 3.895$, $p = .049$), but not for the low price magnitude condition ($F = 2.512$, $p = .114$). For participants in the high price magnitude condition, the mean perceived price was higher ($M_{avepp} = 4.49$, SE=.16) in the positive framing than in the negative framing ($M_{avepp} = 4.06$, SE=.15), with a statistically significant difference of .43 (p = .049). Thus, Hypothesis 1b was supported and suggests that the valence framing has an effect on tourists' perceived price when the state park admission price level is as high as $15 per adult.

Table 14 Simple Main Effects of Valence Framing by Price Magnitude

Magnitude		Sum of Squares	Df	Mean Square	F	P
High price magnitude	Contrast	7.948	1	7.948	3.895	**.049***
	Error	677.558	332	2.041		
Low price magnitude	Contrast	5.126	1	5.126	2.512	.114
	Error	677.558	332	2.041		

Note: Dependent variable: avepp
    *p<.05, **p<.01, ***p<.001

Hypothesis 1c proposed that the effect of valence framing depends on the level of composite price. The interaction effect between composite price and valence framing was not significant ($F = .063$, $p = .801$). Thus, Hypothesis 1c was not supported. This

suggests the amount of money that tourists already pay for the trip does not impact the effect of valence framing on perceived price.

Familiarity

The two items measuring familiarity with the dual-pricing practice were summed and averaged. **Table 15** displays the descriptive statistics of the averaged familiarity item. The percentile statistics indicate that the sample could be equally split into three groups based on the level of familiarity. The 33.3% percentile was 3.0, which means that 33.3%, approximately one third of the familiarity scores were equal or less than 3.0. In a similar vein, the 66.6% percentile was 5.0, which indicates that two thirds of the scores were equal or less than 5.0.

Table 15 Descriptive Statistics of Familiarity

	N	Mean	SE	SD	Percentiles				
					25%	33.3%	50%	66.6%	75%
avefam	340	4.08	.109	2.01	2.0	3.0	4.5	5.0	6.0

Thus, the familiarity scores were split into three groups: low familiarity, medium familiarity and high familiarity. Scores between 1 and 3 were grouped into low familiarity, scores between 4 and 5 were grouped and labeled medium familiarity, and scores between 6 and 7 formed the high familiarity group. **Table 16** shows the descriptive statistics of perceived price, fairness and value by the three familiarity groups.

Table 16 Summary Statistics of Perceived Price and Fairness by Familiarity Groups

	Low Familiarity			Medium Familiarity			High Familiarity		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
avepp	124	3.69	1.79	92	3.18	1.65	87	2.94	1.77
avefair	124	4.56	1.87	92	5.41	1.43	87	6.1	1.3
avepv	124	4.31	1.68	92	5.01	1.5	87	5.24	1.56

Since this study was only interested in the differences between participants with high and low familiarity, the medium familiarity group was excluded from the following analyses, and only the high and low familiarity groups were used for ANOVA.

A two-way ANOVA was performed to test the effect of valence framing and familiarity on perceived price. Levine's test was performed to test for the assumption of homogeneity of variance. The results showed that the F value was .217 with a p-value of 0.885, which indicates the assumption of homogeneity was not violated. Thus, the data was deemed appropriate for ANOVA.

Table 17 displays the two-way ANOVA results. The model had an R^2 of 0.043, which means the model only explained 4.3% of variance in perceived price. Hypothesis 1d proposed that the effect of valence framing will depend on the level of tourists' familiarity with a dual-pricing practice. The ANOVA results revealed that the two-way interaction between valence framing and familiarity was not significant ($F = .004$, $p = .953$). Thus, Hypothesis 1d was not supported and suggest that the effects of valence framing on perceived price do not differ based on tourists' familiarity with the dual-pricing practice.

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Table 17 Two-way Analysis of Variance for Perceived Price

Source of Variance	SS	df	MS	*F*	p	η²
familiarity	29.08	1	29.08	9.06	**.003****	.042
Valence framing	.366	1	.366	.114	.736	.001
Valence framing × familiarity	.011	1	.011	.004	.953	.000
Error	664.5	207	3.21			
Total	3107.9	211				

Note: Dependent variable: avepp
  *p<.05, **p<.01, ***p<.001
  R²=.043 (adjusted R²=.029)

A main effect of familiarity was found ($F = 9.058$, $p = .003$, $\eta^2 = .042$).

Specifically, participants who were familiar with the dual-pricing practice had a lower

perceived price ($M_{avepp} = 3.7$, SE = .16) than those who were less familiar ($M_{avepp} = 2.94$,

SE = .19). This reveals that levels of familiarity with state park's dual-pricing practice

influence tourists' price perception.

Involvement

Unlike familiarity, the average scores of the involvement scale were strongly and

negatively skewed (see **Figure 10**). As shown in **Table 18**, the 25% percentile was 4.2,

meaning that one quarter of the averaged involvement scores were equal or less than 4.2.

The 75% percentile was 6.2, which indicates that three quarters of the scores were equal

or less than 6.2. A large number of the scores were 7, which were one of the major

reasons for the negative skewness of the distribution.

Table 18 Summary Statistics of Involvement

	N	Mean	SE	SD	Percentiles				
					25%	33.3%	50%	66.6%	75%
aveinvolve	340	5.13	.079	1.46	4.2	4.6	5.4	6.0	6.2
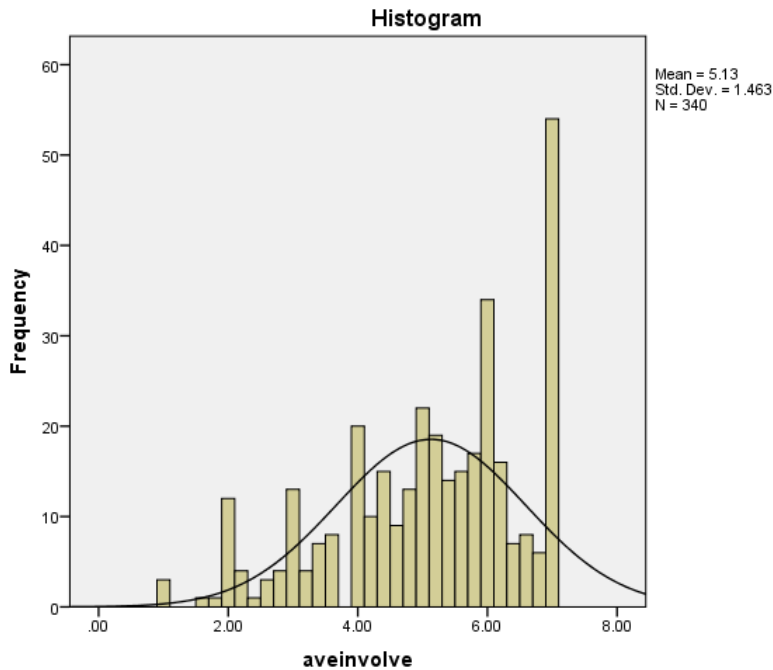
Figure 10 Histogram of Averaged Involvement

To ensure that the numbers of scores in the high and low involvement groups were approximately equal, scores ranged between 1 and 4.2 were grouped into the low involvement category, those ranged between 4.4 and 6 were grouped and labeled medium involvement, and scores ranged between 6.2 and 7 were formed the high involvement group. **Table 19** shows the descriptive statistics of perceived price and fairness by the three familiarity groups.

Similar to the procedures of analysis related to familiarity, the medium involvement group was excluded from the following analyses, and only the high and low involvement groups were used for the two-way ANOVA.

Table 19 Summary Statistics of Perceived Price and Fairness by Involvement Groups

	Low Involvement			Medium Involvement			High Involvement		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Avepp	91	3.55	1.75	158	3.27	1.68	91	3.02	1.88
avefair	91	4.83	1.64	158	5.28	1.59	91	5.69	1.79
avepv	91	4.45	1.53	158	4.84	1.52	91	5.21	1.77

A two-way ANOVA was performed to test the effect of valence framing and involvement on perceived price. Levine's test was performed to test for the assumption of homogeneity of variance. The results showed that the *F* value was 1.318 with a p-value of 0.27, which indicates the assumption of homogeneity was not violated. Thus, the data was deemed appropriate for ANOVA.

Table 20 Two-way Analysis of Variance for Perceived Price

Source of Variance	SS	df	MS	*F*	p	η^2
involvement	12.98	1	12.98	3.93	**.049***	.022
valence framing	6.004	1	6.004	1.82	.179	.01
valence framing × involvement	.081	1	.081	.024	.876	.000
Error	587.48	178	3.3			
Total	2573.4	182				

Note: Dependent variable: avepp
*p<.05, **p<.01, ***p<.001
R^2=.031 (adjusted R^2=.015)

Table 20 displays the two-way ANOVA results. The ANOVA table indicates that the model had an R^2 of 0.031, which means that the model only explained 3.1% of variance in perceived price. Hypothesis 1e proposed that the effect of valence framing on perceived price depends on tourists' involvement with state park visiting. The ANOVA results revealed that the two-way interaction between valence framing and

involvement was not significant (F = .024, p = .876). Thus, Hypothesis 1e was not supported.

A main effect of involvement was found (F = 3.932, p = .049, η^2 =.022). Participants who were highly involved with visiting the state park had lower perceptions of price (M_{avepp} = 3.01, SE = .19) than those who were less involved (M_{avepp} = 3.55, SE = .19).

<div align="center">

Hypotheses Related to Perceived Fairness

Valence Framing, Composite Price, and Price Magnitude

</div>

Before conducting the three-way ANOVA, the three items of perceived fairness were summed and averaged. A few tests of assumptions were performed to determine whether the three-way ANOVAs would be appropriate for hypothesis testing. As stated above, the three assumptions of ANOVA are: (1) independence of observations; (2) no outliers; and (3) homogeneity of variances (Myers & Well, 2003). As aforementioned, since MTurk does not allow a worker to do the same HIT multiple times, the assumption of independence was met. Z scores were computed to check for outliers. The highest z score was 1.03 and the lowest was -2.53. Since all z scores were between 3 and -3, the assumption of no outliers was also met.

Hypothesis 2a, 2b, and 2c were tested using a three-way, between-subject ANOVA to detect the effects of valence framing, sunk costs and price magnitude on perceived fairness. Levine's test was performed to test for the assumption of homogeneity of variance. The test results showed that the F value was 2.856 with a p-value of .007, and thus, the assumption of homogeneity was violated. However, since the

group sample sizes in this study were approximately equal, three-way ANOVA has been

suggested to be robust to heterogeneity of variance (Myers & Well, 2003). Thus, the data

was deemed appropriate for ANOVA.

Table 21 displays the results of ANOVA. The ANOVA table indicates that the

model had an R^2 of 0.079, which means the model only explained 7.9% of variance in

perceived fairness. The ANOVA results revealed that the three-way interaction was not

significant ($F = .545$, $p = .461$), indicating that the interaction between valence framing

and composite price (price magnitude) does not depend on the levels of price magnitude

(composite price). Moreover, the two-way interaction between composite price and price

magnitude was also insignificant ($F = .029$, $p = .864$), meaning that the impact of the

amount of money already invested in the trip on perceived price does not depend on the

levels of price magnitude. The results further suggested a main effect of price magnitude

on perceived fairness ($F = 11.81$, $p = .001$, $\eta^2 = 0.034$). This is consistent with previous

studies that have found that higher price levels lower fairness perceptions (Oh, 1999).

Table 21 Three-way Analysis of Variance for Perceived Fairness

Source of Variance	SS	df	MS	F	p	η^2
valence	37.78	1	37.78	14.15	**<.001***	.041
composite price	1.63	1	1.63	.61	.436	.002
magnitude	31.52	1	31.52	11.81	**.001**	.034
valence × composite price	2.56	1	2.56	.958	.328	.003
valence × magnitude	1.16	1	1.16	.433	.511	.001
composite price × magnitude	.078	1	.078	.029	.864	.000
valence × composite price × magnitude	1.45	1	1.45	.545	.461	.002
Error	886.21	332	2.669			
Total	10403.4	340				

Note: *p<.05, **p<.01, ***p<.001
    R^2=.079 (adjusted R^2=.059)

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Hypothesis 2a predicted that compared to negative framing, positive framing would lower disadvantaged tourists' perception of price fairness. As shown in **Table 21**, the main effect for valence framing was significant ($F = 14.15$, $p < .001$). Participants in the positive framing condition had a lower fairness rating ($M_{avefair} = 5.62$, SD = 1.55) than those in the negative framing condition ($M_{avefair} = 4.94$, SD = 1.75). Thus, Hypothesis 2a was supported which suggests that compared to framing the differential price as a surcharge to tourists, framing the state park admission as a discount to locals would improve tourists' perceived fairness of the price they pay for the state park admission.

Hypothesis 2b proposed that the effect of valence framing on fairness perceptions would depend on the level of price magnitude. The interaction effect between price magnitude and valence framing was not significant ($F = .433$, $p = .511$). Thus, Hypothesis 2b was not supported which reveals price levels do not impact the valence framing effect on perceived fairness.

Similarly, Hypothesis 2c proposed that the effect of valence framing on fairness perceptions would depend on the level of composite price. The interaction effect between composite price and valence framing was not significant ($F = .958$, $p = .328$). Thus, Hypothesis 2c was not supported and suggests that the effects of valence framing on perceived fairness do not differ with the total costs of the trip.

Familiarity

The same high and low familiarity groups were used to examine the moderating role of familiarity in the valence effect on perceived fairness. A two-way ANOVA was

performed. Levine's test results showed that the *F* value was 12.367 with a p-value less than .001, which indicates the assumption of homogeneity was violated. However, since the group sample sizes in this study were approximately large, two-way ANOVA has been suggested to be robust to heterogeneity of variance under this circumstance (Myers & Well, 2003). and was deemed appropriate for performing an ANOVA.

Table 22 displays the two-way ANOVA results. The model had an R^2 of 0.221, which means the model explained 22.1% of the variance in perceived fairness. Hypothesis 2d proposed that the effect of valence framing on fairness perceptions would depend on the level of tourists' familiarity with state parks' dual-pricing practice. The ANOVA results revealed that the two-way interaction between valence framing and familiarity was not significant (*F* = .401, *p* = .527). Thus, Hypothesis 2d was not supported and suggests the effects of valence framing on tourists' perceived fairness does not differ with their familiarity with state parks' dual-pricing practice.

Table 22 Two-way Analysis of Variance for Perceived Fairness

Source of Variance	SS	df	MS	*F*	p	η^2
familiarity	117.78	1	117.78	13.12	**<.001*****	.178
Valence framing	34.43	1	34.43	.114	**<.001*****	.06
Valence framing × familiarity	1.05	1	1.05	.004	.527	.002
Error	534.15	207	2.62			
Total	6393.9	211				

Note: *p<.05, **p<.01, ***p<.001
R²=.221 (adjusted R²=.21)

A main effect of familiarity was found (*F* = 44.89, *p* < .001, η^2 =.178). Specifically, participants who were familiar with the dual-pricing practice perceived the

price they paid to be fairer ($M_{avefair} = 6.07$, SE = .17) than those who were less familiar ($M_{avefair} = 4.55$, SE = .15).

Involvement

A two-way ANOVA was performed to test the effect of valence framing and involvement on perceived fairness. Levine's test was performed to test for the assumption of homogeneity of variance. The results showed that the *F* value was 1.662 with a *p*-value of 0.177, which indicates the assumption of homogeneity was not violated. Thus, the data was deemed appropriate for ANOVA.

Table 23 displays the two-way ANOVA results. The ANOVA table indicates that the model had an R^2 of 0.156, which means the model explained 15.6% of variance in perceived fairness. Hypothesis 2e proposed that the effect of valence framing on fairness perceptions would depend on the level of involvement. The ANOVA results revealed that the two-way interaction between valence framing and involvement was not significant ($F = 2.876$, $p = .092$). Thus, Hypothesis 2e was not supported, and reveals that the valence framing effects on perceived fairness are not different between high-involved participants and low-involved participants.

Table 23 Two-way Analysis of Variance for Perceived Fairness

Source of Variance	SS	df	MS	*F*	p	η^2
involvement	33.29	1	33.29	12.45	**.001****	.065
valence framing	47.42	1	47.42	17.73	**<.001*****	.091
valence framing × involvement	7.69	1	7.69	2.876	.092	.016
Error	475.93	178	2.67			
Total	5596.3	182				

Note: Dependent variable: avefair
   *p<.05, **p<.01, ***p<.001
   R^2=.156 (adjusted R^2=.142)

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A main effect of involvement was found to be statistically significant ($F = 12.45$, $p = .001$, $\eta^2 = .065$). Participants who were highly involved with state park perceived the price to be fairer ($M_{avefair} = 5.7$, $SE = .17$) than those who were less involved ($M_{avefair} = 4.84$, $SE = .17$).

Hypotheses Related to Perceived Value

Valence Framing, Composite Price, and Price Magnitude

Before conducting the three-way ANOVA, the four items of perceived value were summed and averaged. A few tests of assumptions were performed to determine whether the three-way ANOVAs would be appropriate for hypothesis testing. Z scores were computed to check for outliers. The maximum and minimum standardized scores (z-scores) were 1.34 and -2.38. Since all z scores were between 3 and -3, the assumption of no outliers was met.

Hypothesis 3a, 3b, and 3c were tested using a three-way, between-subject ANOVA to detect the effects of valence framing, composite and price magnitude on perceived value. Levine's test was performed to test for the assumption of homogeneity of variance. The results showed that the *F* value was 3.037 with a *p*-value of 0.004, which indicates the assumption of homogeneity was violated. However, since the group sample sizes in this study were approximately equal, three-way ANOVA has been suggested to be robust to heterogeneity of variance under this circumstance (Myers & Well, 2003). Thus, the data was deemed appropriate for ANOVA.

The ANOVA table indicates that the model had an R^2 of 0.264, which means the model explained 26.4% of variance in perceived price. The ANOVA results revealed

that the three-way interaction was not significant ($F = .297$, $p = .586$). Moreover, the

two-way interaction between composite price and price magnitude was also insignificant

($F = .053$, $p = .817$). However, the results suggested a main effect of price magnitude on

perceived value ($F = 107.98$, $p < .001$, $\eta^2 = 0.254$), which is consistent with previous

research findings that higher price levels lead to lower perceptions of value (Zeithaml,

1988).

Hypothesis 3a predicted that compared to negative framing, positive framing

would increase disadvantaged tourists' perception of value. As shown in **Table 24**, the

main effect for valence framing was not significant ($F = 1.32$, $p = .251$). Thus,

Hypothesis 3a was not supported by the data and revealed that valence framing tactic

does not change price-disadvantaged tourists' perception of value.

Table 24 Three-way Analysis of Variance for Perceived Value

Source of Variance	SS	df	MS	F	p	η^2
valence	2.58	1	2.58	1.32	.251	.004
composite price	2.22	1	2.22	1.14	.287	.003
magnitude	210.75	1	210.75	107.98	**<.001*****	.254
valence × composite price	.115	1	.115	.059	.808	.000
valence × magnitude	16.67	1	16.67	8.54	**.004****	.025
composite price × magnitude	.104	1	.104	.053	.817	.000
valence × composite price × magnitude	.58	1	.58	.297	.586	.001
Error	647.98	332	1.95			
Total	8826.81	340				

Note: Dependent variable: avepv
  *p<.05, **p<.01, ***p<.001
  R^2=.264 (adjusted R^2=.248)

Hypothesis 3a predicted that compared to negative framing, positive framing would increase disadvantaged tourists' perception of value. As shown in **Table 24**, the main effect for valence framing was not significant ($F = 1.32$, $p = .251$). Thus, Hypothesis 3a was not supported by the data and revealed that valence framing tactic does not change price-disadvantaged tourists' perception of value.

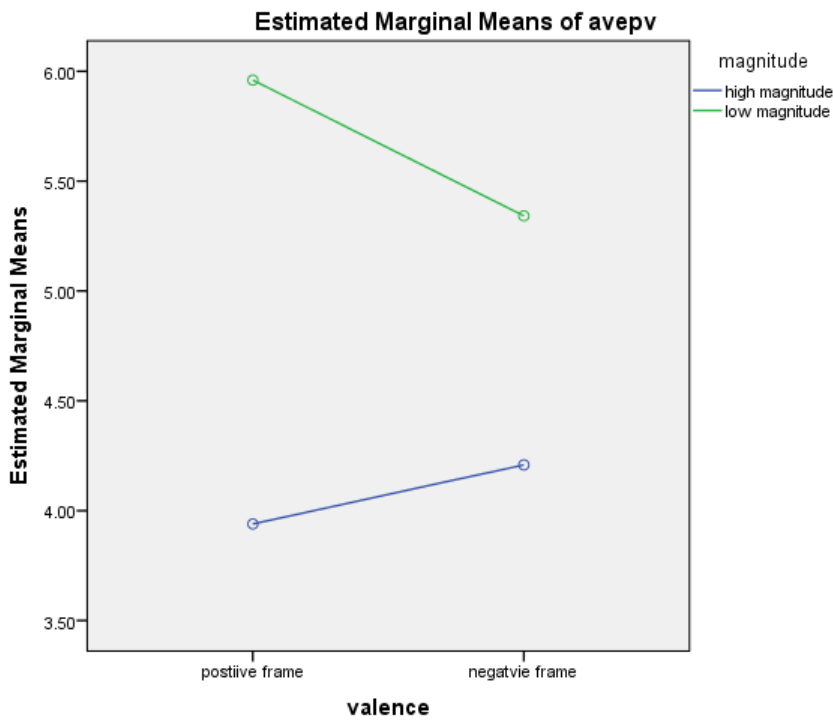**Figure 11 The Interaction Effect between Price Magnitude and Valence Framing**

Hypothesis 3b proposed that the effect of valence framing on perceived value would depend on the level of price magnitude. **Figure 11** shows the interaction effect between price magnitude and valence framing. The interaction effect of magnitude and valence framing was significant ($F = 8.54$, $p = .004$, $\eta^2 = .025$). As shown in **Table 25**,

the simple main effect of valence framing on perceived value for the low price

magnitude condition was statistically significant ($F = 8.013$, $p = .005$), but not for the

high price magnitude condition ($F = 1.627$, $p = .203$). For participants in the low price

magnitude condition, the mean for perceived value in the positive framing was higher

($M_{avepv} = 5.96$, SE=.16) than in the negative framing ($M_{avepv} = 5.34$, SE=.15), with a

statistically significant difference of .618 ($p = .005$). Thus, Hypothesis 3b was supported

and reveals that the valence framing a dual-price practice can change tourists' value

percepiton only when price level is low.

Table 25 Simple Main Effects of Valence Framing by Price Magnitude

Magnitude		Sum of Squares	Df	Mean Square	F	P
High price magnitude	Contrast	3.175	1	3.175	1.627	.203
	Error	647.98	332	1.952		
Low price magnitude	Contrast	15.64	1	15.64	8.013	**.005****
	Error	647.98	332	1.952		

Note: Dependent variable: avepp

*p<.05, **p<.01, ***p<.001

Hypothesis 3c proposed that the effect of valence framing on perceived value

would depend on the level of composite price. The interaction effect between composite

price and valence framing was not significant ($F = .059$, $p = .586$). Thus, Hypothesis 3c

was not supported, suggesting that the total costs of the trip do not influence the effect of

valence framing on perceived value.

Familiarity

The same high and low familiarity groups were used to examine the moderating role of familiarity in the valence framing effects. A two-way ANOVA was performed to test the effect of valence framing and familiarity on perceived value. Levine's test was performed to test for the assumption of homogeneity of variance. The results showed that the F value was .707 with a p-value less than .549, which indicates the assumption of homogeneity was not violated. Thus, the data was deemed appropriate for ANOVA.

Table 26 displays the two-way ANOVA results. The model had an R^2 of 0.081, which means the model only explained 8.1% of the variance in perceived value. Hypothesis 3d proposed the effect of valence framing on perceived value would depend on the level of price practice familiarity. The ANOVA results revealed that the two-way interaction between valence framing and familiarity was not significant ($F = .126$, $p = .723$) and revealed that the effects of valence framing on perceived value are not different with levels of familiarity. Thus, Hypothesis 3d was not supported.

Table 26 Two-way Analysis of Variance for Perceived Value

Source of Variance	SS	df	MS	F	p	η^2
familiarity	43.54	1	43.54	16.32	**<.001*****	.073
Valence framing	4.13	1	4.13	1.55	.215	.007
Valence framing × familiarity	.335	1	.335	.126	.723	.001
Error	552.25	207	2.67			
Total	5250.38	211				

Note: Dependent variable: avepv
*p<.05, **p<.01, ***p<.001
R^2=.081 (adjusted R^2=.067)

The main effect of familiarity was found to be statistically significant ($F = 16.32$, $p < .001$, $\eta^2 = .073$). Participants who were familiar with the dual-pricing practice perceived the value of the admission ticket higher ($M_{avepv} = 5.24$, $SE = .17$) than those who were less familiar ($M_{avepv} = 4.31$, $SE = .15$).

Involvement

A two-way ANOVA was performed to test the effect of valence framing and involvement on perceived value. Levine's test was performed to test for the assumption of homogeneity of variance. The results showed that the F value was .676 with a p-value of 0.568, which indicates the assumption of homogeneity was not violated. Thus, the data was deemed appropriate for ANOVA.

Table 27 displays the two-way ANOVA results. The ANOVA table indicates that the model had an R^2 of 0.078, which means the model only explained 7.8% of variance in perceived value. Hypothesis 3e proposed that the effect of valence framing on perceived value would depend on the level of involvement. The ANOVA results revealed that the two-way interaction between valence framing and involvement was not significant ($F = .057$, $p = .811$). Thus, Hypothesis 3e was not supported.

Table 27 Two-way Analysis of Variance for Perceived Value

Source of Variance	SS	df	MS	F	p	η^2
involvement	26.86	1	26.86	9.991	**.002****	.053
valence framing	13.79	1	13.79	5.13	**.025***	.028
valence framing × involvement	.154	1	.154	.057	.811	.000
Error	478.49	178	2.69			
Total	4764.25	182				

Note: Dependent variable: avepv
*p<.05, **p<.01, ***p<.001
$R^2 = .078$ (adjusted $R^2 = .062$)

The main effect of involvement was found to be statistically significant ($F =$ 9.991, $p = .002$, $\eta^2 = .053$). Participants who were highly involved with state park visiting perceived the value of the admission higher ($M_{avepv} = 5.22$, SE $= .17$) than those who were less involved ($M_{avepv} = 4.45$, SE $= .17$). This reveals that perceived value of a state park admission price increases as tourists' involvement with visiting a U.S. state park while traveling increases.

CHAPTER VII

CONCLUSIONS AND IMPLICATIONS

The final chapter consists of three parts. Findings of the study are reviewed in the first part, followed by theoretical and practical implications. The last part of the chapter discusses recommendations for future research based on the results as well as limitations of the current study.

Review of the Findings

The purpose of this study was to investigate a price-framing tactic and its effectiveness in mitigating price-disadvantaged tourists' negative reactions towards a dual-pricing practice. Building on prospect theory, the effect of valence framing on perceived price, fairness and value was examined. In addition, this study investigated four factors that could moderate the valence framing effect. **Table 28** presents the results of each of the hypotheses.

Among the fifteen hypotheses, only three were supported by the data. The three effects that were found to be significant ($p < .05$) were: a main effect of valence framing on perceived fairness, an interaction effect on perceived price between price magnitude and valence framing, and an interaction effect on perceived value between price magnitude and valence framing. Beyond the proposed hypotheses, a main effect of price magnitude on all three dependent variables was found. Precisely, compared to the low price magnitude conditions, the high price magnitude led to higher perceived price, lower price fairness perceptions and lower perceived value.

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Table 28 Hypothesis Testing Results

Hypothesis		Results
Perceived Price	H1a: if prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, price perception will be lower.	Not supported
	H1b: The effect of valence framing on price perception will depend on levels of price magnitude.	supported
	H1c: The effect of valence framing on price perception will depend on levels of composite price.	Not supported
	H1d: The effect of valence framing on price perception will depend on levels of familiarity.	Not supported
	H1e: The effect of valence framing on price perception will depend on levels of involvement.	Not supported
Perceived Fairness	H2a: if prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, perceived price fairness will be higher.	supported
	H2b: The effect of valence framing on price fairness will depend on levels of price magnitude.	Not supported
	H2c: The effect of valence framing on price fairness will depend on levels of composite price.	Not supported
	H2d: The effect of valence framing on price fairness will depend on levels of familiarity.	Not supported
	H2e: The effect of valence framing on price fairness will depend on levels of involvement.	Not supported
Perceived Value	H3a: if prices are framed in a positive (discount) term, as opposed to a negative (surcharge) term, perceived value will be higher.	Not supported
	H3b: The effect of valence framing on perceived value will depend on levels of price magnitude.	supported
	H3c: The effect of valence framing on perceived value will depend on levels of composite price.	Not supported
	H3d: The effect of valence framing on perceived value will depend on levels of familiarity.	Not supported
	H3e: The effect of valence framing on perceived value will depend on levels of involvement.	Not supported

Although no interaction effects were found between familiarity/involvement and valence framing, it was found that familiarity and involvement had significant effects on all the dependent variables. Specifically, participants who were familiar with the dual-

pricing practice and highly involved with visiting state parks perceived the differential

pricing as less pricey, fairer and of higher value.

Theoretical and Practical Implications

Theoretical Implications and Discussions

The findings of the current study have several theoretical implications. To begin

with, this study was informed by prospect theory. Past research has suggested that

prospect theory helps to explain decision making (Tversky & Kahneman, 1985, 1986,

1991), but few studies had examined whether the theory could explain how framing a

price differential affects price-related perceptions in an intangible good (i.e. service)

context. This study is arguably among the first to apply prospect theory to differential

pricing strategies in the context of the tourism and hospitality industry. In accordance

with prospect theory, this study empirically confirmed the effects of valence framing on

perceived fairness and perceived value among price-disadvantaged tourists. Specifically,

framing a differential price in a positive term (e.g., discount to locals) significantly

improved price-disadvantaged tourists' perception of fairness improved value perception

when the price level was low.

The finding that valence framing altered perceived fairness of a price differential

is consistent with the revenue management literature (Kimes & Wirtz, 2003a; Kimes &

Wirtz, 2003b; Wirtz & Kimes, 2007). Previous research on valence framing effects has

focused on traditional revenue management industries (e.g., hotels, restaurants) where

revenue management practices have been prevalent for the purpose of profit

maximization. The absence of this line of research attention for public sectors is not

particularly surprising because of the notion that public sectors' main mandate is typically not to maximize revenues or profits (Schwartz, Stewart, & Backlund, 2012). As demonstrated in this research, such price framing tactics are also applicable in the context of public tourism sectors such as state parks, where price differentials likely stem from redistribution mechanisms and maintaining stakeholders' perceptions of price fairness is often a challenge (Manning, 2007; Schwartz et al., 2012). Thus, one of the major contributions of this dissertation is providing a viable solution for not-for-profit tourism attractions to minimize tourists' negative perceptions when adopting traditional for-profit pricing practices.

Additionally, price magnitude was found to have a significant main effect on perceived price. This is congruent with marketing literature that has consistently found that actual price predicts perceived price (W.B. Dodds & Monroe, 1985; W. B. Dodds et al., 1991; K. B. Monroe, 2003; K. B. Monroe & Chapman, 1987). Moreover, the study found two significant interaction effects pertaining to price magnitude. First, it showed that the valence framing effects on perceived value varied across different price levels. Valence framing was only effective in changing perceived value when the state park price level was as low as $5, and no effect was found when price was as high as $15. Specifically in the low price magnitude condition, the mean perceived value in the positive framing was higher ($M_{avepv} = 5.96$) than in the negative framing ($M_{avepv} = 5.34$). This finding is in line with the diminishing sensitivity principle of prospect theory. Moreover, while past studies have consistently shown that valence framing of a price can influence perceptions of fairness (Kimes & Wirtz, 2003a; Kimes & Wirtz, 2003b)

and evaluation of a product (Dhruv Grewal, Gotlieb, & Marmorstein, 1994; Levin & Gaeth, 1988), this is arguably the first study to examine the valence framing effects on perceptions of value.

The second moderation effect related to price magnitude was found in the valence framing effects on perceived price. However, inconsistent with prospect theory, valence framing only had a significant effect on perceived price when the state park's admission price was $15. No effect was found when the price was set at $5. When the price was $15, the mean perceived price was significantly higher with positive framing ($M_{avepp} = 4.49$) than with negative framing ($M_{avepp} = 4.06$). This contradicts prospect theory in two ways. First, the results contradict the principles of loss aversion and reference dependence, which both posit that positive framing decreases price perceptions. Second, the findings contradict the principle of diminishing sensitivity, which postulates that valence framing would have a stronger effect on perceived price when price levels are low.

A possible explanation for the contradicting results could be the distinct nature of state park pricing. Generally speaking, when compared to other tourism and hospitality services, the prices for state park admission are relatively low and have a relatively smaller price range (usually ranging from $3 to $15). Although $15 is considered a high-priced admission in the context of state parks, the price magnitude may not be substantial enough to activate the phase of sensitivity decline. On the other hand, for the low price condition, $5 for one-day admission may be considered too insignificant for tourists to cognitively compare price differentials. In other words, it is possible that there

is a price magnitude threshold for the activation of the editing or coding process when evaluating a price. This implies that in prospect theory, the value function for each domain (either the loss or gain domain) might be an S-shaped curve rather than a simple concave or convex curve.

One possible explanation for the reverse effects of valence framing on perceived price could be that the regular prices ($12 in the negative framing condition and $15 in the positive framing condition) served as anchors when forming perceptions of price. For participants who were in the positive framing condition, their perceived price was based on the regular admission, which was $15. However, for participants in the negative framing condition, it is possible that they skipped the calculation of the out-of-state admission price (i.e., $12+$3=$15) and referred to the $12 regular price when forming their perceived price. That could be the reason why the mean perceived price was higher in the positive framing condition than that in the negative framing condition.

No significant main effects or interaction effects related to composite price were found. That is, whether having spent $50 or $1000 on the trip before getting to the state park did not affect any price-related perceptions towards the admission price. This result is incongruent with the composite price or sunk costs literature (Dharmaratne & Brathwaite, 1998; Stevens et al., 2014). However, it was further observed that past studies in this line of research mostly looked at the impacts of composite price of a trip from a macroeconomic perspective (Crompton, 2016; Dharmaratne & Brathwaite, 1998; Stevens et al., 2014). For instance, Stevens et al. (2014) conducted a macroeconomic analysis and found that increasing gas prices (i.e., increasing travel costs) relative to

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income negatively influenced national park attendance, but national park entry fees had a small impact on attendance. Contrary to previous research, this study took a micro approach and examined how composite prices affect *individual* decision making. The total costs of a leisure trip have been found to significantly influence overall decision making of the trip (i.e., to take or not to take the trip), but based on the results of this study, these costs might not be an important factor in making micro-decisions *during* the trip (i.e., to visit the state park or not). It is suggested that future research should do a direct comparison of micro versus macro decisions.

No moderation related to familiarity was found on the valence framing effects. Nevertheless, familiarity was found to have main effects on perceived price, fairness and value. Part of these findings follow prior research which suggested a positive effect of familiarity with a particular pricing practice on perceived fairness (Rohlfs & Kimes, 2007; Wirtz & Kimes, 2007). It is believed these findings contribute to the familiarity literature in two aspects. First, past research on familiarity has focused on familiarity with products (e.g., E. J. Johnson & Russo, 1984; Shehryar & Hunt, 2005) or brands (e.g., Biswas, 1992; M. C. Campbell & Keller, 2003). It is suggested this dissertation extends the literature by examining a different type of familiarity in the pricing research – familiarity with pricing practices. Second, while most tourism studies on familiarity with pricing practices have focused on fairness perceptions (Rohlfs & Kimes, 2007; Wirtz & Kimes, 2007), this study incorporated two additional dependent variables (i.e. perceived price and perceived value) and empirically validated the significant effects of familiarity with pricing practices.

Similar to the findings related to familiarity, no interaction effects of involvement were found, but involvement was found to significantly affect price-related perceptions. This echoes past findings which have also found positive relationships between involvement and perceived value (J. Campbell et al., 2014; C. F. Chen & Tsai, 2007) and negative relationships between involvement and perceived price (G. T. Kyle et al., 1999; Lichtenstein et al., 1988; Zaichkowsky, 1988). This study further demonstrated that in addition to perceived price and value, involvement also played an important role in forming fairness perceptions. Fairness issues would be less of a problem for highly-involved tourists than low-involved tourists. For tourism and hospitality scholars who tended to examine the fairness perceptions of revenue management practices, this is arguably an important finding because it suggests that involvement can be a predictor of perceived fairness.

Practical Implications

The current study also has several managerial implications. To begin with, this research demonstrated that an admission of $15 (as opposed to $5) was considered exceptionally high priced, unfair and of low value in the context of state park pricing. Thus, for state parks that are currently charging prices similar to $15, justifications for the price, such as high maintenance costs, limited government funding support and/or superior service or experience quality, should be provided to help visitors better understand the motivations for the price. This could be done through employee training, brochures, distribution of flyers, or additional explanations to pricing signs and websites.

With a reasonable explanation, tourists may be more likely to find the price acceptable and the admission worthy of the price (Kahneman et al., 1986).

In addition, this finding also indirectly implies that tourists may be less likely to tolerate small increases in state park admission prices. Because of this, for state parks that are planning to increase their prices, well-designed research should be conducted to investigate how sensitive target market segments are to the planned price increases and to explore tactics that would mitigate negative reactions.

Furthermore, the dual-pricing policy was found by respondents to be acceptable given the relatively high rating of perceived fairness (most of them were above 5 on of a 7-point scale). This finding echoes the results found by Kimes and Wirtz (2003a) and Apollo (2013). Although this is good news for state park administrations, park managers should not take it for granted and should stay cautious about potential tourists' negative reactions. Parks that are currently adopting the dual-pricing practice should train their employees to properly and clearly explain the reasons behind the practice to unsatisfactory park visitors.

It was also found that framing a differential price in a positive format (discount to locals) rather than a negative format (surcharge to tourists) significantly improved tourists' perceptions of price fairness and value perceptions. This suggests that the adoption of positive framing tactics could be used by park managers to potentially alleviate customer complaints related to dual-pricing and/or other pricing strategies

Moreover, it was found that for the low-priced state park admission tickets, tourists perceived the price as a better buy when it was framed in positive rather than

negative terms, and that no effect of valence framing was found when state park price was high. This finding could be particularly useful and informative for state parks that charge low prices and as a result, constantly face financial challenges. This implementation of price reframing requires only minimal costs and efforts which could include: making new or modifying current price signs, adding a short section in employee training, and minimal changes in the pricing descriptions on websites. It is believed, based on this research, that this change would result in better fairness perceptions, better value perceptions and potentially higher purchase intentions. Therefore, park managers are highly recommended to reframe their dual pricing as discounts to local residents wherever they publish their pricing information.

Based on the findings of this study, for high-priced state parks, the recommended choice of valence frames depends on the extent of the impacts from tourists' perceived fairness and perceived price. This study reveals that when a state park's admission is priced at the $15 level, the usage of a positive frame, compared to the usage of a negative frame, will not only increase perceived fairness but also perceived price. Therefore, if the major challenge of a state park is to bring traffic due to high price perception, then adopting a negative framing may help decrease tourists' price perception and subsequently increase number of visitors. On the contrary, the positive framing is recommended if a state park concerns stakeholders' fairness perceptions more than their price perceptions.

Although no interaction effects between familiarity and valence framing were found, it was found that familiarity with the dual-pricing practices positively affected

perceived fairness and value and negatively affected perceived price. This suggests that park managers should make more efforts to thoroughly introduce dual-pricing practices to visitors in order to increase their familiarity with said practices. Due to their ease of spreading information, this could likely be done via social media such as Facebook, Twitter and YouTube to easily, effectively and quickly familiarize potential visitors with pricing practices. In addition to social media, front-line park employees could give a short and easy to understand introduction of any dual-price policies when interacting with new visitors.

Lastly, this study demonstrated that involvement was positively related to perceived fairness and value, and negatively related to perceived price. Thus, state park managers should find ways to identify low-involved park visitors (e.g., first-time visitors) and pay additional attention to their potential resistance to the price policy. Also, cultivating visitors' involvement with the park should be kept on park managers' radar. This could be achieved through visitor relationship management and marketing. For example, relationships with visitors could be maintained or enhanced by weekly or monthly communication with visitors via mail or emails, and interacting with visitors on a regular basis either virtually on social media or physically during their visit.

Limitations and Recommendations for Future Research

As with any research, this study is not free from limitations. The sample of this study was recruited from an online panel, which was limited to participants who were available and willing to participate at the time of data collection. Thus, the sample may not be representative of the target population (i.e., American residents who are over 18

years old), and might not be able to be generalized beyond the individuals who were included in the panel and available to participate.

Moreover, previous research has found that culture plays an important role in the formation of perceived price and fairness (Kimes & Wirtz, 2003b). This has been particularly noticeable when comparing Asian and American cultures (Kimes & Wirtz, 2003b; Simmons & Schindler, 2003). For instance, Kimes and Wirtz (2003b) found a significant difference in perceived fairness of revenue management practices between Asians and Americans. Specifically, when compared to their American counterparts, Asian participants were found to consider general revenue management practices as less fair. Therefore, it is likely of interest to conduct a cross-culture study to examine how cultures moderate the effect of valence framing on price-related perceptions.

The context of this study is also limited to public tourism/leisure services. It is highly probable that people hold different views of public and private entities, which may subsequently affect price-related perceptions. For example, compared to private firms, public tourism service agencies might receive more resistance from the general public when it comes to price increases, as private firms have been stated to be more likely to be profit-focused (Crompton, 2016). For future research, it is recommended to replicate the current study in a private tourism service context such as attractions, hotels or restaurants and to identify the potential differences in tourists' reactions between the prices of a private service versus a public service.

Furthermore, compared to a real consumption situation, the use of scenarios may weaken participants' emotional responses and perceptions related to price (e.g.,

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perceived price, fairness and value). Therefore, future studies should focus on empirical validation of the findings of this study.

This research also only considered two levels of price magnitude (i.e. $5 and $15). Since past studies suggest that tourists might be highly sensitive to state park admission prices (Crompton, 2016), the findings of this study might have been different had the prices been higher or more spread apart. Thus, future research should include multiple price levels in their research design to examine tourists' price sensitivity and responses to valence framing at different price levels.

Furthermore, the manipulation of composite price only included monetary costs in this study, yet it has been suggested that monetary costs are just one component of composite price (Crompton, 2016; Zeithaml, 1988). Other components of composite price include time, effort, psychic, and opportunity costs (Crompton, 2016). The relative magnitudes of the effects composite price have likely vary across different types of costs. Thus, it is recommended that future research on tourism pricing should look at various components of composite price.

In conclusion, this dissertation was an initial attempt to demonstrate that pricing framing tactics may be effective in mitigating tourists' negative reactions towards a dual-pricing practice in the context of tourism public sectors. In addition, this study is arguably one of the first attempts to apply prospect theory to the context of tourism pricing strategies. While future research is needed to further the applicability of prospect theory to the fields of tourism and hospitality, it is presumed that the present study's results not only provide pricing management with directions on how to proactively

manage visitor' resistance but also support an influential theoretical framework of

pricing.

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