WAITING IN SERVICE ENVIRONMENTS:
INVESTIGATING THE ROLE OF PREDICTED VALUE, WAIT
DISCONFIRMATION, AND PROVIDERS’ ACTIONS IN
CONSUMERS’ SERVICE EVALUATIONS

by

Ruoh-Nan Yan

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Ruoh-Nan Yan
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ABSTRACT

Management of consumer waiting experiences is critical for practitioners in that unpleasant waiting experiences may result in negative service evaluations. This study focused on consumers’ queue waits during the pre-process phase of waiting experiences, i.e., before services are received, and investigated the extent to which relevant variables during this process may impact consumers’ subsequent service experience evaluations. The investigation purported to expand and refine the expectation-affect-service evaluation relationship. Specifically, the framework examined the influence of predicted value of service on wait expectations (conceptualized as “consumer zone of wait tolerance” derived from the service literatures), the effects of consumers’ comparisons between wait expectations and perceptions (i.e., wait disconfirmation) and perceived wait duration on affective responses to waiting, and the impact of affective responses to waiting on service experience evaluations. In addition, this study predicted the moderating role of actions of the service provider from a social justice perspective in the relationship between affective response to waiting and service experience evaluation.

Data were collected at two points in time (i.e., during waiting and at completion of service) via surveys completed by 393 adult consumers intercepted at three restaurants located in a southwestern city in the U.S. Hypotheses were tested through structural equation modeling, MANCOVA statistical techniques, and additional post hoc analyses. Findings suggest that both wait disconfirmation and perceived wait duration influence service experience evaluation through affective response to waiting. Results also revealed a positive relationship between predicted conditional value and zone of wait
tolerance. The study provides support for social exchange theory and better understanding of the role of actions of the service provider in the relationship between affective response to waiting and service experience evaluation. Lastly, post hoc analyses lend credence to the concept that consumers’ affective responses to waiting and service experience evaluations vary across the wait disconfirmation groups. Both theoretical and managerial implications are discussed and directions for future research are also provided.
CHAPTER 1
INTRODUCTION

The wait was longer than I have ever waited to get my hair done and I was not pleased.
(delayed hair salon customer)

I waited on the phone with Customer Service for over 45 minutes and was transferred to many different people before I finally spoke to someone who could help me. (cell phone customer)

I waited about three hours in the waiting room, which I believe is an absolutely ridiculous amount of time for something that needs immediate attention. (patient who waited in the hospital)

Background

It is common for consumers to wait during the process of acquiring and consuming services. Service waits are often regarded as negative experiences for consumers from both an economic and psychological perspective (Osuna 1985). Waiting involves economic costs because consumers use up a scarce resource, “time”, during waiting processes (Kumar, Kalwani, and Dada 1997; Osuna 1985). Waiting may also be interpreted as a psychological cost when consumers are not certain of the time they will be waiting, perceive the waits to be unfair due to lack of equity, or undergo boredom and stress during a typical waiting experience (Kumar et al. 1997).

Consumers’ sensitivity to economic and psychological costs of waiting has risen due to the change of pace in life. In most modern societies, the pace of life is becoming so rapid that the significance of time for consumers is increasing (Durrande-Moreau 1999) and their tolerance for long waits is decreasing (Kostecki 1996). As a result, consumers have become as conscious of their time allocation as they are of their money expenditures. Viewing shopping behavior as a costly activity, Hornik (1984) suggested
that time costs may be one of the major factors that influence consumers’ consumption decisions. Similarly, consumers’ time may be a major consideration in services consumption, including wait time (Berry, Seiders, and Grewal 2002; Taylor and Fullerton 2000). Thus, it is important to explore wait-related issues in order to better understand services consumption evaluations and behaviors (Durrande-Moreau 1999). The importance has been recognized by practitioners and educators.

**Waiting from Practitioner’s Perspective**

From a practitioner’s perspective, waiting lines can be damaging to businesses and have become an important marketing issue. Consumers’ perceived economic and psychological costs associated with waiting may bring about negative feelings; these unpleasant experiences and feelings may translate into poor evaluations of the service (Hui and Tse 1996; Kostecki 1996; Kumar et al. 1997; Taylor 1994). Therefore, long waits for consumers may negatively influence their service performance evaluations which, in turn, may impact the service business’ success.

In response to the need to manage consumer waits and reduce the negative effect of waits, a growing number of companies across different industries have attempted to manage consumer waiting experiences through various strategies. These strategies include an operation-based approach (e.g., increase of front-line employees), a perception-based approach (e.g., video displays with news updates as waiting time filler), or providing waiting time guarantees to their customers (Kumar et al. 1997). Recently, some theme parks have started a new pricing strategy for customers who are willing to pay additional fees for shorter waits (Setoodeh 2004). However, for most companies,
consumer waits remain an unresolved issue and, consequently, more efforts need to be made to understand the waiting process and to reduce the negative impact of waits on consumers’ evaluations (Kostecki 1996).

**Waiting from Academician’s Perspective**

Although most of the academic research on consumer waiting experiences has been conducted only within the last decade, some progress has been made. Various theories have been utilized to explain the waiting phenomena. For example, Larson (1987) studied waiting in queues from a social justice perspective and suggested that consumers may become irritated when they perceive they have been treated unfairly in their wait experience (e.g., violation of first in, first out rule). Other studies have been conducted to understand consumers’ waiting on the basis of attribution theory and found that causal attributions made by consumers when waiting tend to influence their affective responses and, in turn, their service quality evaluations (Chebat, Filiatrault, Gelinas-Chebat, and Vaninsky 1995; Taylor 1994). Field theory, claiming that an individual’s behaviors, cognitions, and feelings are determined by the psychological forces within his/her own space (Lewin 1943), has also been applied in several studies to investigate the impact of point of delay (Dube-Rioux, Schmitt, and Leclerc 1989), types of delay (Hui, Thakor, and Gill 1998), and queue waiting (Houston, Bettencourt, and Wenger 1998) on perceptions of service quality and service evaluations. Recently, Zhao and Soman (2003) took an innovative approach based on social comparison theory, to study the effect of the number of people waiting behind a consumer on his/her waiting choices. Based on social comparison theory, they concluded that consumers’ decisions to renege
or stay in queues depend on the number of people waiting behind them. Nowlis, Mandel, and McCabe (2004) investigated the effects of delays on consumption enjoyment of products by examining different factors, such as visceral factors, vividness, and actual/imagined consumption.

Among these studies, consumers’ affective responses to waiting and service evaluations have been frequently examined. For example, findings suggest that the amount of time consumers spend waiting has an impact on their affective responses (Hui and Tse 1996; Pruyn and Smidts 1998; Taylor 1994), service evaluations (Dube-Rioux et al. 1989; Houston et al. 1998; Hui and Tse 1996; Taylor 1994), and satisfaction (Diaz and Ruiz 2002; Katz, Larson, and Larson 1991; Pruyn and Smidts 1998; Tom and Lucey 1997). In the discussion of perception management of the wait experience, Taylor and Fullerton (2000) acknowledged three major integrative wait models (i.e., Baker and Cameron 1996; Hui and Tse 1996; Taylor 1994). While Baker and Cameron’s (1996) research is mainly conceptual, Hui and Tse’s (1996) and Taylor’s (1994) studies have been empirically investigated. These three models commonly detail the relationship between affective response and service evaluation.

The empirical findings based on Hui and Tse (1996) and Taylor (1994) suggest the notion that there may be relationships among expectations, affect, and service evaluations. The role of personal wait expectations has not been well documented and needs more exploration (Durrande-Moreau 1999). An example of personal wait expectations may be when the consumer visits the restaurant at peak hours, a longer wait will usually be expected. Taylor (1994) concluded that delay measured with three items
(actual delay duration, perceived delay duration, and difference between actual and expected delay duration), which is related to expectations, influences consumer affect (i.e., uncertainty and anger) and, affect in turn, impacts service evaluation. Similarly, Hui and Tse (1996) found that acceptability of the wait influences service evaluation through affective response to the wait. In addition to those studies acknowledged by Taylor and Fullerton (2000), Pruyn and Smidts’ (1998) study took an expectancy disconfirmation stance to study consumers’ reactions to waiting by examining how the difference between perceived waiting and acceptable waiting time, which may be viewed as wait expectation, has an impact on consumers’ appraisal of the wait.

Gaps in Knowledge

Although there has been some progress in understanding the relationships among consumers’ personal wait expectations, affective responses, and service evaluations, gaps in knowledge still exist. There is a need to further explore these relationships by refining the variables and by incorporating other wait-related constructs (Durrande-Moreau 1999; Taylor and Fullerton 2000).

First, the role and definition of personal wait expectation have not been consistently defined and measured and, thus, leaves room for further exploration in wait research (Durrande-Moreau 1999). The “expectation” concept in waiting has been portrayed as the notion of “probable duration,” “reasonable duration,” “acceptance of waiting time,” “acceptability of the wait,” and “acceptable waiting time” in various studies (Antonides, Verhoef, and van Aalst 2002; Chebat and Filiatrault 1993; Chebat and Gelinas-Chebat 1995; Houston et al. 1998; Hui and Tse 1996; Pruyn and Smidts
The terms, definitions, and operationalizations of this construct have been somewhat inconsistent. Durrande-Moreau (1999) categorized wait acceptability or wait tolerance as cognitive responses in a waiting situation and referred to them as personal wait expectations; however, she did not explain why and how wait acceptability/tolerance can be regarded as an expectation. Service expectations literature that holds view of expectations as a range of two levels of service expectations (i.e., the zone of tolerance) may be employed to further understand and refine this construct.

Second, existing wait research fails to explain the phenomenon as to why consumers stay and wait in long lines (e.g., Disney Land) and how their tolerances for waiting may differ. The value concept that emphasizes what is received (i.e., service) and what is given (i.e., monetary and non-monetary costs) (Zeithaml 1988) may provide an explanation. Although a paucity of empirical research exists regarding the possible influence of perceived value in consumer waiting behavior, it has been proposed that there may be a link between consumer perceived value and consumers’ willingness to wait for service (i.e., consumer wait acceptability or tolerance) which is associated with wait expectations (Durrande-Moreau 1999). Maister (1985) was one of the first to suggest this relationship. Later, Hayes (1990) and Kostecki (1996) proposed that practitioners might increase the value of service outcomes to deal with consumers’ wait perceptions. These assertions have not been empirically tested.

Third, past research suggests that consumers’ service evaluations are positively influenced by their affective responses to the wait (Houston et al. 1998; Hui and Tse 1996; Pruyn and Smidts 1998; Taylor 1994). However, preliminary evidence indicates
this relationship may not hold in all instances. Certain recovery strategies of the service provider may help alleviate the negative effect of lengthy waits (Sarel and Marmorstein 1998, 1999; Dellaert and Kahn 1999). For example, Dellaert and Kahn (1999) concluded that waiting may not always have a negative effect on consumers’ retrospective evaluations of Internet web sites when the waiting time is well managed (e.g., provision of duration time information). The findings imply that actions of the service provider may play a role in reducing the negative impact of consumer waiting experience on overall service evaluations (Taylor and Fullerton 2000). However, few empirical examinations have been conducted regarding the effect of actions of the service provider on consumers’ affective responses to waiting and service evaluations.

This research attempts to address the various gaps mentioned above by providing and empirically testing a framework of wait experience.

**Purpose of the Study**

The purpose of this research is to develop a conceptual framework of wait experience focusing on consumer pre-process queue waits and empirically test the relationships among a group of wait-related variables, i.e., predicted value of service, wait expectations conceptualized in the context of consumer zone of wait tolerance, wait disconfirmation, affective response to the wait, service experience evaluations, and actions of the service providers, in the hope that the consumer wait experience can be further understood. In particular, this study integrates three sets of waiting models that are examined by Taylor (1994), Hui and Tse (1996), and Pruyn and Smidts (1998) and proposes a conceptual framework that centers on the wait expectation-affect-service
evaluation relationship. In addition, one antecedent of wait expectation (i.e., predicted value of service) and one moderator (i.e., actions of the service provider) of the relationship between affect and service evaluation are incorporated into the framework.

This research draws upon past research regarding waiting behavior, perceived value, service expectation, affect, service evaluation, and social justice in order to achieve the following three objectives:

- **Roles of Wait Expectations and Wait Disconfirmation in Consumer Affective Response to Waiting**

  First, this research attempts to clarify and examine the roles of consumers’ wait expectations and wait disconfirmation in waiting. Consumers’ wait expectations and wait disconfirmation are developed based on service expectations literature to help clarify and understand the full range of expectations in waiting. More specifically, the concept of the zone of tolerance (Zeithaml, Berry, and Parasuraman 1993) in the services literature, depicting consumers’ service expectations with two boundaries, i.e., desired service expectation and adequate service expectation, is employed to better understand consumers’ wait expectations. In the current study, the consumer’s zone of wait tolerance represents his/her wait expectation, which is a range between desired wait expectation and adequate wait expectation. The wider the range, the greater is the consumer’s zone of wait tolerance.

  Wait disconfirmation is established based on expectancy disconfirmation paradigm (Oliver 1980) and service expectations (Zeithaml et al. 1993). That is, wait disconfirmation refers to the comparison between the consumer’s zone of wait tolerance
and his/her perception of wait duration which indicates the consumer’s subjective estimate of the waiting time. This study conjectures that wait disconfirmation affects consumers’ affective responses to waiting. More details about consumer zone of wait tolerance, wait disconfirmation, and perceived wait duration will be provided in later sections.

This study also investigates the effect of consumers’ perceptions of wait duration on their affective responses to waiting to further confirm the extant knowledge about the role of perceived wait duration in waiting. The comparative strengths of the effects of wait disconfirmation and perceived wait duration on affective response to waiting are investigated as well.

- **Effects of Predicted Value of Service on Wait Expectations (i.e., Consumer Zone of Wait Tolerance)**

  The second objective is to empirically test the effect of predicted value of service on consumer zone of wait tolerance. More specifically, overall value of service and the classification of five types of consumption values (i.e., functional, social, emotional, epistemic, and conditional), proposed by Sheth, Newman, and Gross (1991a, 1991b), are employed for understanding how various dimensions of predicted value may drive the variation in consumer zone of wait tolerance.

  The concept of predicted value of service is integrated in this study as the major antecedent of consumer zone of wait tolerance in order to understand how and what values drive the change in consumers’ tolerances to waiting. Even though the waiting process is typically regarded as a frustrating and irritating experience (e.g., Hui and Tse
1996), consumers may be more willing to wait when they perceive certain benefits, relative to costs, from receiving the service (e.g., Maister 1985). Research suggests that consumers are likely to imagine possible values they might receive prior to consumption (e.g., Woodruff 1997) and these benefits should be subjectively perceived by customers rather than objectively determined by a service provider.

**Moderating Effects of Service Providers’ Actions on the Relationship between Consumer Affective Response to Waiting and Service Experience Evaluation**

Limited research in waiting has investigated the moderating effects of actions of the service provider in the relationship between affect and service evaluation. The third objective of this study is to investigate the role of actions of the service provider in consumer wait experience. More specifically, this study attempts to investigate possible moderating effects of actions of the service provider on the affect-service evaluation relationship and determine if affect and actions of the service provider may interactively influence service evaluation. Utilizing social exchange theory, this study employs two moderators (i.e., apology and compensation) to explore how actions of the service provider might play a role in consumer wait experience and service evaluation.

**Contributions of the Study**

**Theoretical Contributions**

This study is differentiated from previous wait research in four ways. First, the framework, on the basis of the existing wait models (Hui and Tse 1996; Pruyn and Smidts 1998; Taylor 1994), is developed to enhance the understanding of consumer waiting behavior. As suggested by Taylor and Fullerton (2000), models outlining direct
and indirect relationships among various wait-related variables are limited, and there is a need to establish more comprehensive models and refine related constructs. In response to Taylor and Fullerton’s (2000) suggestions, the framework attempts to confirm the wait expectation-affect-service evaluation relationship with two additional variables, i.e., predicted value of service and actions of the service provider, which have not been well discussed in wait research.

Second, consumer zone of wait tolerance and wait disconfirmation are innovative in wait research wherein they consider two types of wait expectations (i.e., desired wait expectation and adequate wait expectation) and perceived wait duration. The inclusion of these constructs may not only aid in the understanding of the role of expectations in wait research regarding the conceptualization and operationalization, as suggested by Durrande-Moreau (1999), but will also help identify the cognitive mechanism that consumers may hold and how this mechanism influences consumers’ affective responses to waiting.

Third, the relationship between predicted value of service and consumer zone of wait tolerance is investigated. In previous studies, acceptable waiting time or acceptability of the wait, reconceptualized as consumer zone of wait tolerance in the current study, has been found to be influenced by waiting-duration information (Hui and Tse 1996) and economic-related waiting costs (Houston et al. 1998). Though the concept of value has been proposed to have a role in consumer wait research, no such empirical studies have been conducted. This study attempts to validate the relationship between predicted value of service and consumer zone of wait tolerance. In addition, to our
knowledge, this is the first study that incorporates the pre-consumption value perception (i.e., predicted value) in understanding wait experience, rather than post-consumption value, via the five types of value dimensions (Sheth et al. 1991a, 1991b) to understand consumer wait experience.

Fourth, to our knowledge, this study is the first wait-related research that examines the moderating role of actions of the service provider (i.e., apology and compensation) in the relationship between consumer affective response to waiting and service experience evaluation. This is important as past studies in waiting have merely focused on the direct relationship between affect and service evaluation (Chebat et al. 1995; Hui and Tse 1996; Taylor 1994; Taylor and Fullerton 2000).

**Managerial Contributions**

Managerially, despite the difficulty associated with managing waits associated with high consumer demands, this study attempts to promote understanding of consumers’ wait experiences. Practitioners may be able to reduce consumers’ negative reactions to long waits through management of consumers’ value perceptions and actions of the service provider. First, if confirmed, the relationship between predicted value of service and consumer zone of wait tolerance may suggest that the higher the value of service, the more consumers are willing to wait. Thus, practitioners may convey the possible values which they can offer to customers through marketing communications so that consumers have a better idea about the service and thus may be more willing to wait.

Second, the concepts of consumer zone of wait tolerance and wait disconfirmation may be central to understanding consumers’ affective responses to their waiting
experiences. Not only consumers’ perceptions of wait duration, but also their comparisons between consumer zone of wait tolerance (the range between desired and adequate wait expectations) may simultaneously play a role in how consumers react to waits. If confirmed, besides managing consumers’ perceptions of wait duration, practitioners may need to pay attention to the length of perceived wait duration wait as to whether it is within the consumer’s zone of wait tolerance.

Last, but not least, this study attempts to uncover the possible moderating role of actions of the service provider and to advise possible strategies for practitioners (i.e., apology and compensation) to reduce the negative effects of waits. When waits are unavoidable, service providers may still be able to turn around more negative affective responses and their negative effects on overall service evaluation. For example, training front-line employees to make apologies and provide small compensations (e.g., a free drink or snacks) to customers who have just experienced waits may be as critical as dealing with ordinary service failures in order to attain better service evaluations.

**Organization of the Study**

The first chapter of this research began with the introduction and includes an overview of relevant problem statements as well as the purpose of the study. The remainder of this study consists of five chapters. Chapter 2 contains a review of the literature in the areas of waiting, perceived and predicted value, expectations, zone of tolerance and disconfirmation, affective response, service experience evaluation, and fairness perception in the context of actions of the service provider. Chapter 3 presents the conceptual framework for this research and includes the rationale for each of the
hypotheses that are to be tested in the conceptual framework. Specifically, past research in relation to consumer waiting behavior and perceived value will be reviewed and utilized as the foundation for the establishment of the framework for this study. Consumer zone of wait tolerance and wait disconfirmation will then be discussed. The relationships between wait disconfirmation and affective response to waiting will be predicted here. The last part of Chapter 3 centers on the relationship between affective response to waiting and service experience evaluation with an emphasis on the moderating effects of actions of the service provider focusing on two variables (i.e., apology and compensation) linked to perceptions of fairness. Chapter 4 describes the methodology employed to conduct the investigation with several subsections, including sampling and data collection, questionnaire development and pretest, and operationalization of variables. Chapter 5 presents data analysis procedures and results of hypothesis testing. Finally, Chapter 6 provides discussion of findings and relevant theoretical and managerial implications.
CHAPTER 2

LITERATURE REVIEW

The following subsections present an overview of the literature in waiting and literature related to the constructs included in this study – predicted value of service, wait expectations (i.e., consumer zone of wait tolerance), wait disconfirmation, affective response to waiting, actions of the service provider in the context of fairness perceptions, and service experience evaluation.

Research in Waiting

According to Taylor (1994), waiting for service can be defined as “the time from which a customer is ready to receive the service until the time the service commences” (p. 56). Waiting time is often regarded as a waste of time (Leclerc, Schmitt, and Dube 1995) and has been described by researchers as boring, frustrating, annoying, stressful, and irritating (Gardner 1985; Hui and Tse 1996; Katz et al. 1991). Despite the fact that negative feelings can be evoked, research has found that consumers may react differently to waits depending on the type of wait in which they are involved (e.g., Dube-Rioux et al. 1989; Hui et al. 1998).

Types and Stages of Wait

Research has identified various types of waiting situations (Dube-Rioux et al. 1989; Hui et al. 1998; Taylor 1994). Dube-Rioux et al. (1989) recognized three types of wait: (1) pre-process, (2) in-process, and (3) post-process, as consumers may wait at different phases to receive services. In the restaurant setting, pre-process waits may occur prior to receiving the service (e.g., when a customer arrives at the restaurant until
he/she orders the meal); in-process waits take place during the period of time when the service is being delivered (e.g., from placing order to consuming the meal); and post-process waits involve waiting for the completion of transaction (e.g., waiting to pay the bill until he/she leaves the restaurant) (Dube-Rioux et al. 1989). Taylor (1994) identified three different types of pre-process waits: (1) pre-schedule, (2) post-schedule, and (3) queue waits. Pre-schedule waits occur when a consumer arrives at the service setting early for a scheduled meeting. Post-schedule waits involve situations in which a scheduled meeting has been postponed. Queue waits refer to the operation of a “first come, first serve” principle.

Past research has suggested that consumers’ reactions to delays tend to vary during different phases of waiting (e.g., Dube-Rioux et al. 1989; Kostecki 1996; Maister 1985). On a conceptual basis, Maister (1985) suggested that pre-process waits feel longer than in-process waits. This claim was empirically tested in the context of restaurant visits by Dube-Rioux et al. (1989). It was concluded that waits taking place during the pre-process phase are more unpleasant to the consumer than those during in-process phases. This phenomenon was later explained by Kostecki (1996) that the pre-process phase tends to have a strong “first impression” effect. Therefore, it may have a more critical impact in shaping consumers’ service evaluations.

The notion of the point of delay during waiting was expanded by Hui et al. (1998). The wait stage was conceptualized as the distance to the goal state of the service encounter and linked with the constructs of the perceived waiting time, affective response, and service evaluation. As expected, they found that as when consumers are
further away from their goal state, they tend to perceive longer waiting time and feel more negatively about the waiting experience.

**Actual Waiting Time and Perceptions of Wait Duration**

Consumers’ perceptions of waiting time may be more crucial than the actual waiting time in explaining consumers’ evaluations of and satisfaction with service (Davis and Heineke 1998; Hornik 1984; Katz et al. 1991; Tom and Lucey 1997). Hornik (1984) first empirically tested the relationship between perceived waiting time and actual waiting time and concluded that it is critical to employ a time perception approach to studying consumer behavior. Katz et al. (1991) found that as perceived waiting time increases, consumer satisfaction with the service provider (e.g., banking service) is likely to decrease. In the context of a fast food chain, Davis and Heineke’s (1998) research supported past findings and concluded that the perception of waiting time better predicts satisfaction than the actual waiting time when time is important to the consumer. The negative relationship between perceived waiting time and satisfaction was also found in Tom and Lucey’s (1997) study.

Despite the important role of consumers’ perceptions of wait duration in understanding wait experience, research suggests that it is necessary to look beyond perceived wait duration and include variables such as affective response and wait expectation (Hui and Tse 1996). The following paragraphs portray how consumers’ affective responses to waiting and wait expectations play a role in consumer waiting behavior.
**Expectation-Affect-Service Evaluation Relationship in Waiting**

Wait expectation-affect-service evaluation relationships have been investigated, directly or indirectly, in a few studies. Taylor (1994) proposed the delay-anger-service evaluation model (see Figure 1.1). Hui and Tse (1996) conceptualized a waiting duration information-affective response-service evaluation model (see Figure 1.2), and Pruyn and Smidts (1998) examined the model of customers’ reactions to waiting (see Figure 1.3) that addresses the effect of disconfirmation between perceived waiting time and acceptable waiting time on consumers’ appraisal of the wait and service evaluation.

The core of Taylor’s (1994) model lies in the concept that increased delay causes greater negative affect, which negatively affects overall service evaluation. The empirical results confirmed that delay influences overall service evaluation indirectly through anger. It is noteworthy that delay was operationalized as an average of three items to cover different aspects of the wait: (1) the actual delay duration, (2) the perceived delay duration, and (3) the difference between actual delay duration and expected delay duration. The inclusion of the third item concerning the comparison between actual delay and expected delay introduced the concept of disconfirmation between wait duration and wait expectation.

Hui and Tse’s (1996) model depicted that information about delay (i.e., waiting duration information and queuing information) brings forward affective responses to the wait, perceptions about the delay duration, and acceptability of the wait, all of which were found to have influences on service evaluation. Utilizing the context of “a new computerized course registration service,” the study found that acceptability of the wait
has an effect on service evaluation indirectly through affective response to the wait. In their study, the construct of acceptability of the wait was measured by examining how much longer than expected was the wait, which was viewed as a disconfirmation-related construct by Taylor and Fullerton (2000) and, indeed, implied the concept of disconfirmation between perceived wait and expectations.

In line with the expectancy disconfirmation paradigm, Pruyn and Smidts (1998) conceptualized that consumers would employ a point of reference to assess their waiting experience, and this reference was referred to as the “acceptable waiting time.” The core of the model suggested that the disconfirmation between perceived waiting time and acceptable waiting time affects both cognitive and affective components with respect to the appraisal of the wait. The researchers concluded that besides the perceived waiting time, disconfirmation between acceptable waiting time and perceived waiting time (i.e., disconfirmation of the acceptable waiting time) had an impact on consumers’ affective responses to the wait. The authors stated the acceptable waiting time, similar to adequate service expectation in this study, is used as a point of reference with which the perceived waiting time is compared. However, the concept of the zone of tolerance was not further explained in their study.

All of the three models are common in that the wait expectation-affective response-service evaluation relationship was validated. That is, wait expectations influence affective responses to waiting, which in turn, affect service evaluations. While wait expectations are considered as precursors in that relationship, there may be other variables which precede wait expectations. In this study, predicted value of service is
hypothesized to be an antecedent of wait expectations (i.e., consumer zone of wait tolerance).

**Consumer Perceived and Predicted Values**

**Conceptualizations of Consumer Perceived Value**

The concept of consumer perceived value has drawn considerable attention from consumer behavior researchers (e.g., Babin, Darden, and Griffin 1994; Bolton and Drew 1991; Sheth et al. 1991a, 1991b; Sweeney and Soutar 2001; Woodruff 1997; Zeithaml 1988). Zeithaml (1988) defined perceived value as “the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” (p. 14). The concept of the trade-off between benefits and costs has been most commonly adopted in perceived value research (Bolton and Drew 1991; Patterson and Spreng 1997; Sweeney and Soutar 2001; Woodruff 1997).

Research has suggested that perceived value varies across usage situations and individuals. Woodruff (1997) investigated the concept of customer value and defined the term in a hierarchical manner as “a customer’s perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer’s goals and purposes in use situations” (p. 142) and suggested that this value hierarchy may be different when the use situation changes. For example, a consumer’s value hierarchy for restaurant services may be different when the consumer is alone compared with the situation when he/she is accompanied with friends. Moreover, perceived value is subjective and tends to vary across individuals, i.e., different consumers may define value in a different manner.
(Ravald and Gronroos 1996). This subjective value perception may exist not only after the consumption experience but also prior to it (Day and Crask 2000; Huber and Herrmann 2000; Sweeney and Soutar 2001; Woodruff 1997), which is referred to as predicted value in the current study.

**Predicted Value**

Value of a service may be experienced at different phases of consumption (Day and Crask 2000; Huber and Herrmann 2000; Sweeney and Soutar 2001; Woodruff 1997). It is possible that consumers may anticipate benefits from a product or service before consumption. Woodruff (1997) stated that consumers are likely to imagine what value they want (i.e., desired value) in the form of attribute performance and consequences from using a product regardless of purchase time (prior to purchase vs. the time of use). This study adopts this perspective of value concept and refers to it as “predicted value.” When consumers are waiting to receive service, they are likely to anticipate certain types of value(s) they hope to obtain prior to consumption/usage regardless of their prior experience with the service. This concept is crucial in the current study in that past research in waiting focused on personal wait expectations (e.g., wait acceptability) (Durrande-Moreau 1999) without considering how consumers’ predicted values, or predicted benefits vs. costs, of a service to be received may impact these wait expectations. In the study, *predicted value of service* refers to consumers’ anticipated utility which may be acquired from consumption of a service. The investigation of predicted value in this study may help close this gap and explain why consumers have different levels of tolerance to waiting.
With a focus on predicted value of service, this study considers the classifications and measurements regarding the perceived value concept from past literature, one of which will be chosen in the current study as the structure of predicted value. As there are no classifications or measures in the context of predicted value, this knowledge regarding perceived value may be helpful.

**Measurement and Classifications of Consumer Perceived Value**

**Measurement**

There are various scales available to measure consumer perceived value in different contexts. Babin et al. (1994) recognize, in the context of shopping, two dimensions of shopping value, i.e., utilitarian value, resulting from conscious search for intended outcome, and hedonic values, stemming from spontaneous hedonic responses. Building upon Sheth et al. (1991a, 1991b) and other related value research, Sweeney and Soutar (2001) developed a scale in the context of durable goods to measure consumer perceived value (PERVAL) on four dimensions: (1) quality, (2) emotional, (3) price, and (4) social.

While recent multidimensional scales have been developed to measure the perceived value of tangible products and shopping activities (e.g., Babin et al. 1994; Sweeney and Soutar 2001), Petrick (2002) established a multi-dimensional scale for the measurement of perceived value of a service (i.e., leisure/tourism). Five dimensions of the scale include (1) quality, (2) emotional response, (3) monetary price, (4) behavioral price, and (5) reputation.
Classifications

There are different classifications of values. For instance, Holbrook (1994) suggests two aspects of value, either intrinsic/extrinsic to the product or self-oriented/other-oriented. Burns (1993) describes four types of value when studying the consumer evaluation process: (1) product value, (2) value in use, (3) possession value, and (4) overall value. Sheth et al. (1991a, 1991b) distinguished between five types of value that may be obtained from consumption of a product or service: (1) functional, (2) social, (3) emotional, (4) epistemic, and (5) conditional value. Recently, Heinonen (2004) proposed that perceived value is a function of benefit and sacrifice of (1) technical, (2) functional, (3) temporal, and (4) spatial value dimensions. This framework was empirically investigated in the context of online bill payment service.

For this research, the framework of consumption values proposed by Sheth et al. (1991a, 1991b) is adopted for several reasons. First, the framework of consumption values has its application for both goods and services (Sheth et al. 1991a, 1991b) and thus permits wide-ranging applications compared with other existing value frameworks. Among different value classifications, Heinonen (2004) emphasized the importance of time and location as value dimensions in the online context; while Holbrook (1994) and Burns (1993) direct their research to understanding values of products. Although Petrick (2002) developed a scale to measure perceived value, it is mainly tailored to understand the value concept in a specific context of tourism. The framework of consumption values has been utilized to understand various consumption behaviors (e.g., Albaum, Baker, Hozier, and Rogers 2002; Nelson and Byus 2002) and consumers’ relationship with a
service provider (e.g., Long and Schiffman 2000) and thus provides a broader base to understand the value concept.

Second, these five consumption values mirror various types of values that are found in previous studies (e.g., Babin et al. 1994; Sweeney and Soutar 2001). For example, quality and price dimensions in the PERVAL scale (Sweeney and Soutar 2001) reflect the functional dimension of consumption value, and both emotional and social dimensions replicate emotional and social dimensions of consumption values (Sheth et al. 1991a, 1991b). Third, the inclusion of conditional value in the framework of consumption values is critical and especially helpful due to the fact that perceived value may vary depending on use situations (Woodruff 1997).

**Perceived Value in Waiting**

Maister (1985) first proposed that consumers’ willingness to wait is a function of the perceived value of that for which they are waiting. Kostecki (1996) extended his proposition and posited that the value of the service to be purchased is likely to influence tolerable waiting time, defined as a maximum duration of wait that a consumer is willing to accept. Furthermore, in studying consumers’ time and effort perceptions related to buying or using a service, Berry et al. (2002) put forward that consumers’ time and effort are more likely to be regarded as investments when a service with hedonic value is expected. However, these propositions have not been empirically tested.

One study’s empirical results may have implications for the role of predicted value of service in the wait experience. Hornik (1984) found that consumers who view shopping as enjoyable, compared with other activities (e.g., child care, cooking), tend to
underestimate waiting time. According to Babin et al. (1994), enjoyment may be associated with one type of hedonic value. It may be inferred that consumers may predict that they will reap enjoyment from a consumption experience and thus their attention to how long they have to wait thus is distracted, which, in turn, may lower their wait expectations and widen the zone of wait tolerance.

Expectations, Zone of Tolerance, and Disconfirmation

Overall Expectations

The expectation construct has been found to influence consumers’ postpurchase evaluations (Oliver 1997). According to Oliver (1997), expectations are predictions of future events. When used in the consumption context, expectations are considered comparative referents that can be used for satisfaction assessments. Consumers tend to have expectations of product performance ranging from more specific attributes (e.g., price or waiting time) to more abstract levels (e.g., quality or purchase outcomes). In addition, consumer expectations may be established on multiple standards, such as desired expectation, predicted expectation, and ideal expectation levels. Different expectation measures will be required when multiple comparison standards take place (Oliver 1997).

Past research suggests that expectations have effects on (1) disconfirmation and (2) perceptions of performance. Expectations have been found to have a negative effect on disconfirmation. That is, high expectations tend to lead to negative disconfirmation and low expectations tend to lead to positive disconfirmation (Cadotte, Woodruff, and Jenkins 1987; Patterson 1993; Spreng and Page 2001). Expectations also have a positive
effect on consumers’ perceptions of performance when perceptions are assimilated toward prior expectations (Oliver 1997; Patterson 1993; Spreng and Page 2001). That is, expectations help consumers rationalize their perceptions of performance. Instead of focusing on direct effects of expectations, this study adopts the expectancy disconfirmation approach which will be further discussed in later subsections.

**Service Expectations**

In the context of services, expectations are defined as “beliefs about service delivery that function as standards or reference points against which performance is judged” (Zeithaml and Bitner 2003, p. 60). According to Zeithaml, Parasuraman, and Berry (1985), service performance may vary across service providers, across employees, and even within employees. Thus, customer expectations are not static and tend to vary due to the heterogeneous nature of service performance (Zeithaml et al. 1993).

Consumers are likely to have different types of service expectations (Johnston 1995; Zeithaml et al. 1993). They unconsciously or consciously hold views of what is acceptable, less than acceptable, and more than acceptable of service when they enter a service process. This view may be based on the organization’s image or information sources even when the consumer has not purchased or used the service in the past as well as past experience (Johnston 1995).

**Zone of Tolerance**

Consumers may evaluate service performance based on two expectation standards: what they desire and what they view acceptable (Zeithaml et al. 1993). The range between these two standards is known as the “zone of tolerance.” According to
Zeithaml et al. (1993), the zone of tolerance is defined as the extent to which customers recognize and are willing to accept service performance variation. The zone of tolerance can be viewed as a pre-performance expectation and is a range of service performance that a consumer considers satisfactory (Johnston 1995).

The zone of tolerance is bounded by two standards: (1) desired service expectation and (2) adequate service expectation (Zeithaml et al. 1993). Desired service expectation refers to the highest level of service the consumer hopes to receive and is a combination of what the consumer believes “can be” and “should be” (Zeithaml and Bitner 2003); adequate service expectation concerns the lowest level of service performance acceptable to the consumer. The zone of tolerance can expand and contract depending on various factors, such as consumers’ inferred service, personal needs, market alternatives (Zeithaml et al. 1993), usage situation, and importance of the occasion (Woodruff, Cadotte, and Jenkins 1983). Consumers’ inferred service is based on implicit cues (e.g., price and physical cues of the service building) that lead to customer inference about what the service will be like (Zeithaml et al. 1993). It may be linked to the concept of predicted value in the current study in that consumers are likely to predict and imagine the level of service they are going to receive.

Confirming the proposition made by Zeithaml et al. (1993) that both desired and adequate service levels exist in consumers’ minds, empirical assessment of the zone of tolerance model in different service contexts (i.e., auto repair service and health club service, respectively) revealed that desired service and adequate service expectations are significantly different concepts (Dion, Javalgi, and Dilorenzo-Aiss 1998; Walker and
Baker 2000). Some researchers support the idea that both desired and adequate service levels should be considered in order to better understand consumer expectations (Parasuraman, Zeithaml, and Berry 1994; Walker and Baker 2000). For example, Parasuraman et al. (1994) indicated that difference-score measures based on three separate ratings of desired, adequate, and perceived service levels provide more accurate and detailed data and more diagnostic value in understanding service superiority and service adequacy compared with the measures that directly capture consumers’ perceptions relative to desired/adequate service. Walker and Baker (2000) concluded that consumers have multi-expectation standards (i.e., zone of tolerance) against which service performance is evaluated and deemed it critical to examine both desired and adequate service levels. While zone of tolerance demonstrates how, in general, consumers’ expectations about services vary by looking at both desired and adequate service levels, consumers may similarly form certain expectations about waiting time as they enter a service process (Durrande-Moreau 1999).

**Expectations in Waiting**

Consumer wait expectations are important factors that may influence consumers’ wait experiences and their evaluations about services (Durrande-Moreau 1999). Researchers have employed various conceptualizations and measurements when studying consumers’ wait expectations, such as tolerance for waiting (e.g., Maister 1985), acceptable waiting time (Antonides et al. 2002; Pruyn and Smidts 1998), acceptance of waiting time (Chebat and Filiatrault 1993; Chebat and Gelines-Chebat 1995), and
acceptability of the wait (Houston et al. 1998; Hui and Tse 1996). These various terms are considered to be personal wait expectations by Durrande-Moreau (1999).

Despite the differences among the various conceptualizations and measurements of wait expectations, the research has mainly followed two approaches. First, Pruyn and Smidts (1998) defined acceptable waiting time as “the maximum number of minutes tolerated in a specific waiting situation and should be regarded as the minimum level of service the customer expects” (p. 323). The construct was operationalized as the maximum acceptable waiting time in minutes in the context of clinic service. Second, Hui and Tse (1996), similar to Chebat and Gelinas-Chebat (1995), referred to acceptability of the wait as the degree to which the duration of a given wait is congruent with the person’s belief of how long the wait should be. The researchers operationalized this construct as the extent to which the reported waiting duration was acceptable or too long on Likert scale items, which has been utilized as the basis for some other research studies (e.g., Houston et al. 1998).

With respect to difference in the conceptualizations of wait expectation, the first approach appears to integrate the concept of adequate service expectation from zone of tolerance (Zeithaml et al. 1993) in that a single indicator, similar to adequate service expectations, is used (i.e., maximum time the consumer is willing to wait); while the second approach takes a holistic view by considering simultaneously what the perception of wait duration is and how long the wait should be, which is closer to the conceptualization of disconfirmation even though the researchers did not explicitly discuss it. In terms of difference in the operationalizations, the first approach directly
measures acceptable waiting time in a temporal manner (i.e., minutes); while the second approach gauges consumers’ evaluations of time in a comparative sense. The lack of consistency results in a need to develop a clearer conceptualization and operationalization.

**Consumer Zone of Wait Tolerance**

The concept of *consumer zone of wait tolerance* is developed and employed in this study representing consumer wait expectations. It is defined as the extent to which customers recognize and are willing to accept the waiting time to receive the service. Consumer zone of wait tolerance, similar to zone of tolerance, consists of a range of two boundaries, i.e., desired wait expectation and adequate wait expectation. *Desired wait expectation*, which has not been discussed in previous wait research, refers to the most favorable waiting time in which the consumer hopes to receive a service and reflects what the consumer believe the wait “can be” and “will be” (Parasuraman, Berry, and Zeithaml 1991). *Adequate wait expectation* refers to the least favorable waiting time the consumer is willing to accept to receive a service.

**Expectancy Disconfirmation Paradigm**

Based on discrepancy theory (Michalos 1985), the expectancy disconfirmation paradigm suggests that a consumer will compare his/her experience with some set of expectations. Research suggests that consumers are posited to establish pre-consumption expectancies, make observations about performance, compare performance with expectations, and then form disconfirmation perceptions. Disconfirmation is found to be associated with the consumer’s initial expectations about a product’s performance.
(Patterson 1993). According to Oliver (1997), negative disconfirmation refers to “the negative discrepancy that occurs when performance is below standard” and positive disconfirmation refers to “the positive discrepancy that occurs when performance is above standard” (p. 104). A confirmation of expectations, or zero disconfirmation, exists if performance is equal to the standard.

This paradigm is mainly cognitive in nature due to the comparison process that requires deliberate processing of information (Oliver 1980). According to Zeithaml et al. (1993), consumers utilize different standards of comparison to form satisfaction and service quality perceptions. Expectations are viewed as a frame of reference that an individual would use in making a comparative judgment. When outcomes turn out better than expected, i.e., above the reference point, a positive disconfirmation takes place; on the other hand, when outcomes are poorer than expected, i.e., below the reference point, a negative disconfirmation occurs. Research has suggested that service performance that falls above the zone of tolerance results in a highly satisfying outcome (e.g., surprise and delight) (Cronin 2003; Johnston 1995); on the other hand, when service performance falls below the zone of tolerance, the customer will judge the overall service as unsatisfactory and thus feels frustrated (Zeithaml and Bitner 2003). Moreover, when service performance falls within the zone of tolerance, consumers may be indifferent to the service performance and thus react in neither a positive nor negative manner (Cronin 2003; Oliver 1997; Zeithaml and Bitner 2003).

The literature on disconfirmation offers two competing models with respect to the operationalization of the construct. The first one employs an objective algebraic
subtraction model (i.e., subtracting an expectation score from a performance score) (La Tour and Peat 1979; Weaver and Brickman 1974); while the second one posits the comparison process as a distinct variable called subjective disconfirmation on a “better than expected-worse than expected” scale (Oliver 1980, 1997).

This research adopts the first approach by making a comparison between consumer zone of wait tolerance (i.e., range between desired wait expectation and adequate wait expectation) and perceived wait duration in that it is likely for consumers to quantify the levels of wait expectations and perceived wait duration in hours and minutes (Oliver 1997). This approach acknowledges the important role of perceived wait duration which is often considered a key construct when studying consumer waiting experience (Hui, Dube, and Chebat 1997; Taylor and Fullerton 2000).

**Expectation Disconfirmation in Waiting**

Pruyn and Smidts (1998) employed the disconfirmation concept to study consumers’ cognitive and affective reactions to waiting and service evaluations. Wait disconfirmation in their study was operationalized as the difference between perceived waiting time and acceptable waiting time. The authors found that disconfirmation of the acceptable waiting time affects consumers’ affective responses to the wait. As aforementioned, even though the use of the term “acceptability of the wait” in Hui and Tse’s (1996) study is viewed as a type of wait expectation (Durrande-Moreau 1999), the conceptualization and measurement of this construct is associated with the concept of disconfirmation (i.e., the perceived wait duration is compared against the consumer’s perception of the length of the wait) (Taylor and Fullerton 2000). The authors found that
acceptability of the wait influences consumers’ service evaluations via affective responses to the wait (Hui and Tse 1996). In the context of consumers’ evaluations of Internet web sites after waiting, Dellaert and Kahn (1999) found that if perceived waiting times are significantly shorter than expected, the impact of the negative waiting experiences on evaluations of the websites tends to be negligible.

**Wait Disconfirmation**

*Wait disconfirmation*, in the current study, refers to the comparison made by the consumer between his/her perception of wait duration and wait expectation (i.e., consumer zone of wait tolerance). When perceived wait duration falls above the consumer zone of wait tolerance, positive wait disconfirmation occurs. On the contrary, when perceived wait duration falls below the consumer zone of wait tolerance, negative wait disconfirmation takes place. When perceived wait duration falls within the consumer zone of wait tolerance, zero disconfirmation, or confirmation, occurs (Oliver 1997). Viewed as a component of wait disconfirmation, perceived wait duration as a sole variable also has an important role in wait research and will be investigated in this study.

**Direct Effect of Perceived Wait Duration**

Perceived wait duration, or perceived waiting time, has been identified as one of the key variables in consumer waiting research (Taylor and Fullerton 2000). Perceived wait duration is defined by Taylor and Fullerton (2000) as “the consumer’s perception of the length of time over which the person is engaged in waiting” (p. 174). Research suggests that the perceived duration of the delay is more important than the objective waiting time due to the fact that perceptions of delays tend to be a more contiguous factor
in explaining consumer service evaluations (Hornik 1984). Perceived duration of a wait has been found to directly and indirectly affect consumer service evaluation through affect (e.g., anger) (Chebat et al. 1995; Hui et al. 1998; Hui and Tse 1996; Taylor 1994).

In the current study, perceived wait duration refers to the subjective estimate of the time over which the consumer is engaged in waiting.

**Affective Responses and Waiting**

**Affect in Consumer Behavior**

Affect is generally referred to as classes of mental phenomena that “are characterized by a consciously experienced, subjective feeling state which is commonly accompanying emotions and moods” (Westbrook 1987, p. 259). It has been further explained as a function of “the individual’s evaluation of the meaning, causes, consequences, and/or personal implications of a particular stimulus” (Westbrook 1987, p. 259). According to Oliver (1997), affective responses in consumer behavior are generally viewed as emotions even though they have been described as containing moods, feelings, emotions, and attitudes. Emotions are valenced reactions to events or objects and clusters of emotions with the same polarity are usually referred to as either positive or negative affect (Oliver 1997).

Emotions are different from moods for the former tend to be “more intense, attention getting, and tied to a specifiable behavior.” In contrast, moods are likely to be associated with specific times and situations and usually are more transient (Gardner 1985, p. 282). It is suggested that an individual is almost always aware of his/her emotions and their effects which may redirect attention to the source of the emotion and
interrupt ongoing behavior. However, an individual may not be aware of his/her mood and its effects which usually do not interrupt ongoing behavior (Clark and Isen 1982). Bagozzi, Gopinath, and Nyer (1999) further explained that emotions are different from moods in that “emotions arise in response to appraisals one makes for something of relevance to one’s well-being” (p. 185). According to Bagozzi et al. (1999), “something of relevance” means an incident or episode that happens to an individual, a behavior that an individual performs, or a change that has personal meaning to the individual.

Research has suggested that emotions have various effects on consumer information processing, goal-directed behaviors, and satisfaction (Bagozzi et al. 1999). For example, positive and negative mood states bias consumers’ evaluations of stimuli (Gardner 1985; Isen, Shalker, Clark, and Karp 1978; Isen and Shalker 1982). Regarding goal-directed behaviors, research indicates that consumers are usually motivated to choose actions that help promote the positive affect and avoid the negative affect associated with goal attainment and failure (Bagozzi et al. 1999). Furthermore, findings suggest that consumers’ emotions (e.g., pleasant, surprise) are likely to influence their satisfaction (Westbrook 1987; Westbrook and Oliver 1991). Westbrook and Oliver (1991) found that consumers’ emotional reactions (pleasant, surprise, interest, and hostility) affect their satisfaction of newly purchased automobiles.

**Measurement of Affect**

The most common method employed in consumer behavior research to measure affect is the self-rating scale (Oliver 1997). That is, consumers are asked to evaluate the extent to which they experience various emotions in a special setting. Different
approaches have been undertaken to measure emotions. For example, Plutchik (1980) and Izard (1977) investigated basic emotions from a biological perspective. Plutchik (1980) identified eight primary emotions (e.g., fear, joy, disgust, fear, surprise) and measured them based on the Emotions Profile Index via emotion descriptor pairs. Izard (1977) focused more on facial muscle responses associated with emotion and measured 10 emotions (e.g., shame/shyness, guilt, fear, anger) on the Differential Emotions Scale (DES). Mehrabian and Russell (1974) studied consumers’ emotional responses to environmental stimuli (e.g., shopping environment). They measured emotions on the PAD (pleasure-arousal-dominance) scale which contains 18 semantic differential items. Recently, Richins (1997) developed the Consumption Emotion Set (CES) in order to adequately represent consumers’ emotions in various consumption-related activities. The CES includes the emotion descriptors that are familiar to and easily understood by consumers (e.g., optimism, fear, anger, excitement, joy). Unlike Izard’s (1977) scale that emphasizes negative emotions, the CES covers the range of emotions that are most frequently experienced in different consumption situations (Richins 1997).

**Affective Response in Waiting**

Regarded as another key variable in consumer wait experience in addition to perceived wait duration (Taylor and Fullerton 2000), affective responses in wait research have been referred to as emotional types of constructs and have been measured in various forms, such as uncertainty and anger (e.g., Taylor 1994), and pleasure (revised from Mehrabian and Russell 1974) (e.g., Chebat and Gelinas-Chebat 1995; Dellaert and Kahn 1999; Houston et al. 1998; Hui and Tse 1996; Hui et al. 1998). Numerous studies in
waiting identify affective responses as an adjacent determinant of consumer service evaluations (Chebat and Gelinas-Chebat 1995; Hui and Tse 1996; Taylor 1994). That is, consumers’ affective responses to waits tend to influence consumer service evaluation. For instance, Taylor (1994) concluded that consumers’ overall evaluations of a service become less favorable when they become angrier with the wait.

Affective response to waiting is defined as a series of consumers’ feelings and emotions that are provoked by waiting for a service. The role of affective responses is critical in that customers’ feelings have been found to lead to the ultimate variable, i.e., consumer service experience evaluation.

Service Evaluation and Waiting

This study has its focus on the consumer’s evaluation of transaction-specific satisfaction with the service as the ultimate outcome variable for the framework. The following paragraphs discuss the general concept of satisfaction and its role in wait research.

Customer Satisfaction

According to Zeithaml and Bitner (2003), customer satisfaction is the customers’ evaluation of a service in terms of whether that service has met their needs and expectations. The customer satisfaction construct has been viewed as both cognitive and emotion-based responses to a service encounter (Oliver 1997; Storbacka, Strandvik, and Gronroos 1994).

There are two different conceptualizations of customer satisfaction. Transaction-specific satisfaction concerns “a customer’s evaluation of his or her experience with and
reactions to a particular product transaction, episode, or service encounter” (Olsen and Johnson 2003, p. 185). Cumulative satisfaction is defined as “a customer’s overall evaluation of his or her purchase and consumption experience to date” (Johnson, Anderson, and Fornell 1995, p. 699). While some researchers focus on cumulative satisfaction by looking at consumers’ aggregated experiences over a period of time, others pay more attention to consumers’ satisfaction level based on a single transaction (Oliver 1997).

The concept of transaction-specific satisfaction is adopted in this study because it helps to capture consumers’ psychological responses to a product’s or service provider’s performance on a given occasion (Oliver 1997; Olsen and Johnson 2003). That is, service experience evaluation, similar to transaction-specific satisfaction, examines the consumer’s evaluation of his/her experience with a particular service encounter with a focus on the effect of waiting. It is important to investigate transaction-specific service evaluation in that, according to research, each individual encounter is important in creating a combined image of the service firm in the minds of customers (Zeithaml and Bitner 2003).

Customer satisfaction can be affected by both positive and negative affect (e.g., Oliver 1993; Westbrook 1987). Oliver (1993) posited that a restaurant experience may evoke both negative and positive affective responses due to the complexity of the service and, thus, proposed the dual structure of affect (i.e., both positive and negative affect) in consumption activities. The empirical findings showed that both positive and negative affect directly influence overall service satisfaction measured by asking respondents
domains of satisfaction (e.g., enjoyment, right decision) instead of attributes per se (Oliver 1993). Westbrook (1987) also found that positive affective response is related directly to satisfaction and negative affective response is related inversely to satisfaction when studying consumers’ autos and cable television usage behaviors.

**Service Evaluation in Waiting**

Consumers’ service evaluations are usually regarded in waiting research as the ultimate dependent variable which may be referred to as either (1) evaluations of service quality (Chebat et al. 1995; Taylor 1994) or (2) evaluations of customer satisfaction (Katz et al. 1991; Pruyn and Smidts 1998; Tom and Lucey 1995). For example, Taylor (1994) measured both attribute-related evaluation and overall evaluation of service quality on a seven-point scale anchored by “very good” and “very bad.” Pruyn and Smidts (1998) measured overall satisfaction with the service on a 10-point scale ranging from “very dissatisfied” to “very satisfied.” Despite the dispute that service quality is concerned more about specific attributes of the service and satisfaction is more a global measure, both measures employed in most wait research focused on encounter-specific evaluation (e.g., Houston et al. 1998). *Service experience evaluation*, in this study, refers to the transaction-specific evaluation of satisfaction with a service experience, which contains both emotional and cognitive dimensions.

Whereas affective response to waiting has been found to impact consumers’ service evaluations (e.g., Chebat and Gelines-Chebat 1995; Hui and Tse 1996; Taylor 1994), preliminary evidence indicates that actions of the service provider that help bring about perceptions of fairness of the wait may moderate this relationship.
Fairness Perception and Waiting

Justice and fairness perceptions have been addressed in various research streams to explain people’s reactions to conflicts and disagreements. In the marketing literature, the concept of justice is valuable in understanding consumer satisfaction (e.g., Oliver and Swan 1989), repurchase intention, and word-of-mouth decisions (e.g., Blodgett, Hill, and Tax 1997). Recent service literature further linked justice perceptions with consumers’ reactions to service recovery and companies’ strategies in handling consumer complaints (Goodwin and Ross 1992; Smith, Bolton, and Wagner 1999; Tax, Brown, and Chandrashekaran 1998).

Dimensions of Justice

According to social exchange theory, there are three dimensions of perceived justice that may influence how people assess exchanges: 1) distributive, 2) procedural, and 3) interactional. Distributive justice concerns resource or reward allocation and the perceived outcome of exchange. Procedural justice involves the process used to make decisions and resolve conflicts. Interactional justice represents the manner in which information is exchanged and outcomes are communicated. For instance, in terms of service recovery, allocation of compensation (e.g., discounts, free merchandise, refunds, coupons, etc.) provided by the service provider can be regarded as a strategy to restore distributive justice perceptions. The speed/timing and flexibility of service providers when handling complaints help enhance the perception of procedural justice. An apology from the service provider has implications for quality of interpersonal treatment (e.g., courtesy, concern, empathy) which may help to enhance consumers’ evaluations of the

**Effects of Justice/Fairness Perception**

The three types of justice (i.e., distributive, procedural, and interactional) have been found to have either independent effects or combined effects on ultimate variables (e.g., satisfaction or word-of-mouth communication). Goodwin and Ross (1992) found that favorable compensation, indicating distributive justice, has the strongest effect on both perceived fairness and satisfaction compared with a procedural type of variable (i.e., voice). Similarly, Smith et al. (1999) concluded that perceived distributive justice has a stronger influence on customer satisfaction than procedures or interactions. However, in a study of consumer postcomplaint behavior, Blodgett et al. (1997) found that interactional justice (i.e., apology with courtesy and respect) has the largest impact on repatronage and negative word-of-mouth intentions.

With respect to the combined effects, distributive justice (e.g., favorable outcome or compensation) and interactional justice (e.g., apology)/procedural justice (e.g., speed) were found to interactively influence how consumers react to complaint handling (Tax et al. 1998), satisfaction, and perceived fairness (Goodwin and Ross 1992). The research concludes that an interaction between distributive (e.g., outcome) and interactional (e.g., apology) justice has the most impact. Therefore, service providers may perform better when presenting a tangible solution, e.g., a free drink or a small discount, supplemented by an apology in the face of service failure (Goodwin and Ross 1992; Tax et al. 1998).
Fairness Perception in Waiting

Actions of the service provider from a social justice perspective have been commonly investigated in service literature (Brashear, Brooks, and Boles 2004; Goodwin and Ross 1992; McColl-Kennedy and Sparks 2003; Smith et al. 1999; Smith and Bolton 2002; Tax et al. 1998). However, social justice has been discussed in waiting mainly from the perspective of queue management. That is, different queuing systems may result in different fairness perceptions. For instance, Larson (1987) identified perceived justice as a key variable in understanding waiting from a social perspective and suggested that first come, first served (FCFS) is the queue discipline and first in, first out (FIFO) is the system discipline to achieve social justice. Rafaeli, Barron, and Haber (2002) confirmed that consumers waiting in a single queue structure would perceive higher levels of fairness than those in a multiple queue structure.

While queue systems may alter consumers’ fairness perceptions, other actions of the service provider may play a role in fairness perceptions as well, e.g., in the context of waiting (Taylor and Fullerton 2000). However, their role in waiting experience has received limited attention. Waiting, regarded as one type of service failure, often provokes consumer complaints in the service delivery process (Powers and Bendall-Lyon 2002). Taylor and Fullerton (2000) suggest that provision of an apology may be one managerial action to mitigate the negative effect of waits.

In this study, actions of the service provider refer to visible strategies that are implemented through service personnel in response to the waiting customers. Both distributive and interactional justice variables (i.e., compensation and apology,
respectively) are investigated. More specifically, this study employees apology and compensation as two of the actions that the service provider is able to put into practice.
CHAPTER 3
THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

This study integrates and expands the frameworks set by Taylor (1994), Hui and Tse (1996), and Pruyn and Smidts (1998). The conceptual framework includes not only the three variables identified as key variables (perceived wait duration, affective responses to waiting, and service evaluations) in the wait experience but also three determinants of the wait experience (predicted value of service, wait disconfirmation, and actions of the service provider) (Taylor and Fullerton 2000) in addition to the concept of zone of wait tolerance (see Figure 2). This study focuses on the pre-process phase of consumers’ queue waiting experiences, i.e., waiting in queues before services are received, and investigates the extent to which relevant variables during this process have an impact on consumers’ subsequent service experience evaluations.

Conceptual Framework

Specifically, consumers’ predicted values of service (overall, functional, social, emotional, epistemic, and conditional) are viewed as a major antecedent of consumer zone of wait tolerance. Predicted value of service represents consumers’ anticipations for service in general; while consumer zone of wait tolerance represents wait expectations specifically and is a reference point which consumers are expected to evaluate their perceptions of wait durations. Consumer zone of wait tolerance is a range between the consumer’s desired wait expectation and adequate wait expectation.

Next, wait disconfirmation, the central variable in the conceptual framework, conceptualized as the comparison between consumer zone of wait tolerance and
perceived wait duration, is hypothesized to influence consumer affective response to waiting. Three types of wait disconfirmation (i.e., positive, negative, zero) are purported to have different effects on consumers’ emotional feelings about their waiting experiences. Moreover, perceived wait duration is predicted to directly influence consumers’ affective responses to waiting as well. The effect of wait disconfirmation is hypothesized to be greater than the effect of perceived wait duration.

Consumer affective response to waiting is hypothesized to have a positive effect on service experience evaluation. This study predicts that the direct relationship between affective response to waiting and service experience evaluation is moderated by actions of the service provider. Two actions of the service provider (i.e., apology and compensation) are hypothesized to exert interaction effects with affective responses to waiting on service experience evaluations.

**Hypotheses**

**Predicted Values of Service and Consumer Zone of Wait Tolerance**

**Predicted Overall Value**

*Predicted overall value of service* refers to the consumer’s overall anticipated utility which may be acquired from consumption of a service. Compared with various types of predicted value, which will be discussed in later paragraphs, predicted overall value is considered in a holistic sense.

Literature has suggested that consumers’ wait tolerances can be influenced by individual factors, such as consumer mood (Chebat and Gélinas-Chebat 1995), need intensity (Durrande-Moreau 1999; Kostecki 1996), and situational factors, such as
waiting environment (Durrande-Moreau 1999; Hui and Tse 1996; Kostecki 1996) and service alternatives (Kostecki 1996). Although a few researchers have proposed a relationship between value of service and wait tolerance (e.g., Berry et al. 2002; Kostecki 1996; Maister 1985; Taylor and Fullerton 2000), no validation of the linkage has been conducted. In “The Psychology of Waiting Lines,” Maister (1985) established eight propositions concerning waiting. One of the propositions purported that the more valuable the service, the longer the customer will wait. For example, waiting in lines to purchase a rock concert ticket may be more tolerable when the consumer values the service, e.g., predicts it to be a fun and exciting experience.

Kostecki (1996) followed this notion and conceptually emphasized that the value of the service prior to purchase may help in the understanding of consumers’ tolerances of waiting time. Houston et al. (1998) confirmed through empirical investigation that acceptability of a wait, one type of wait expectation, is the assessment in consumers’ minds between costs related to waiting and benefits of reaching the goal, implying that the relative value of service plays a role in influencing consumer zone of wait tolerance.

It is argued that when consumers predict a higher value of service, they tend to have greater tolerance and are willing to wait for a longer time. That is, when the overall value of a service is predicted to be higher by the consumer, his/her zone of wait tolerance will be wider. Therefore, a positive relationship between consumers’ overall predicted value of service and their zone of wait tolerance (i.e., difference between adequate and desired waiting expectations) is predicted. The first hypothesis is established as follows (see Figure 2.1):

\[ \text{Zone of Wait Tolerance} = f(\text{Predicted Value of Service}) \]
H1a: The greater the consumer’s predicted overall value of service, the wider the zone of wait tolerance.

The following section is dedicated to discussions of five types of consumption values proposed by Sheth et al. (1991a, 1991b), including functional, social, emotional, epistemic, and conditional values. According to Sheth et al. (1991a, 1991b), these five types of values are independent from each other.

**Predicted Functional Value**

*Predicted functional value* is defined as the anticipated utility acquired through utilitarian or physical performance of alternatives. Sheth et al. (1991a, 1991b) stated that functional values may be attained from product/service attributes, such as price, performance, durability, and reliability. Sweeney and Soutar (2001) further suggest that value for money and quality are aspects of functional value. From a utilitarian perspective, consumers are more concerned with shopping in an efficient and timely manner in order to fulfill their needs and goals with minimum level of irritation (Childers, Carr, Peck, and Carson 2001). Similar to the utilitarian value discussed by Babin et al. (1994) and Holbrook (1994), functional value may result out of necessity instead of recreation. Thus, shopping visits that are viewed by consumers as errands or work possess high functional value. Likewise, in the context of service, a consumer may select a wireless service provider for its cheaper plans, nationwide coverage network, and reliable service, which may be viewed as functional value.

In the context of online shopping behavior, Childers et al. (2001) stated that the utilitarian aspect of benefits regarding shopping online (e.g., perceived usefulness and
perceived ease of use) helps predict consumers’ online attitudes. That is, the more the utilitarian benefits, the more positive consumers’ attitudes toward online shopping. With the more positive attitude, it is more likely for the consumer to adopt the online channel for shopping tasks (Shim, Eastlick, Lotz, and Warrington 2001). Therefore, it is inferred that, as the perceived utilitarian benefit increases, the consumer may become more willing to make an effort and involve him/herself in consumption/shopping activities, implying that there may be a positive relationship between perceived utilitarian benefits and consumers’ willingness to wait for service.

While utilitarian value in the context of shopping is associated with positive attitude, research has found that there is a positive relationship between utilitarian value of web advertisement and time spent in browsing the ad pages. Raman and Leckenby (1998) concluded that consumers tend to spend more time at advertising web sites when they perceive the ads to have high utilitarian value. When the ad web sites are considered as important and useful, the time for consumers to spend on visiting the sites is more likely to be longer. Correspondingly, when consumers predict higher functional value from consuming a service, it may be more likely for them to wait patiently and to be more tolerant compared with the situation in which the service is predicted to be of low or no functional value to them. Thus, H1b is hypothesized as follows (see Figure 2.1):

**H1b:** The greater the consumer’s predicted functional value of service, the wider the zone of wait tolerance.

**Predicted Social Value**

*Predicted social value* refers to the anticipated utility acquired through association with specific social groups on a basis of demographic, socioeconomic, and cultural-ethnic
groups (Sheth et al. 1991a, 1991b). That is, services that allow consumers to share with each other or enhance their social image possess higher social value. Social value is sometimes linked with symbolic qualities of a product or service which tend to influence consumer evaluations (Holbrook and Hirschman 1982) and trigger experiential consumption.

Houston et al. (1998) examined the effect of waiting costs on consumers’ acceptability of waits and found that consumers were less willing to wait when encountering social costs during waiting in a queue. In other words, when waiting prevents the consumer from doing something else or being punctual for an appointment/activity, which in turn, might harm the image of that person in front of his/her peers and colleagues, it is less likely for the consumer to accept the wait. Cost may be viewed as “what is given” in the value perception (Zeithaml 1988). The higher the social cost for a consumer, given the equal benefits, the less social value a service may provide. In other words, when consumers perceive higher social value acquired by the service relative to costs, waiting may become more tolerable. Thus, there may be a positive relationship between predicted social value of service and consumer zone of wait tolerance. Thus, Hypothesis 1c is stated as follows:

**H1c:** The greater the consumer’s predicted social value of service, the wider the zone of wait tolerance.

**Predicted Emotional Value**

*Predicted emotional value* concerns the anticipated utility acquired from a service provider’s capacity to arouse feelings or emotional states” (Sheth et al. 1991a). Services which are able to provoke consumers’ emotional responses usually possess emotional
value to them. Emotional value is associated with hedonic value and experiential consumption. For example, Babin et al. (1994) recognized the importance of hedonic value of shopping and referred to it as joy, escape, enjoyment, and excitement. These emotions are upbeat and positive feelings that may be aroused during consumers’ shopping trips. Holbrook and Hirschman (1982) purported experiential consumption with an emphasis on the role of consumers’ emotional states in consumer behavior and posit that the emotive meanings of products, both goods and services, would induce consumers’ attentions, interest, and excitement, implying that a service may take on certain emotional value for consumers.

In the context of shopping, Hornik (1984) found that consumers who enjoy shopping perceive a shorter wait at the checkout line than those who do not enjoy shopping. The enjoyment provided via shopping activities may be considered as hedonic shopping value (Babin et al. 1994). Therefore, the enjoyment, as part of consumer emotions, may help consumers reduce their attention to how long they wait for a service, implying higher tolerance for the time spent waiting.

Hedonic value has been found to play a role in consumers’ convenience perceptions. In understanding the meanings of convenience in the context of services, Berry et al. (2002) proposed that consumers would perceive the time and effort spent to experience the service as less important when the service has high hedonic value. That is, consumers may not pay as much attention to the time spent waiting when they perceive high emotional/hedonic value to be associated with the service and thus the waits may not seem as unbearable as they could be. Therefore, when consumers predict
that the consumption of a service would stir up positive emotions and thus communicates higher emotional value, they are more likely to approach the service and thus more willing to wait for the service.

In summary, it is hypothesized that the higher the predicted emotional value, the more likely it is for consumers to be more willing to wait (see Figure 2.1).

**H1d:** The greater the consumer’s predicted emotional value of service, the wider the zone of wait tolerance.

**Predicted Epistemic Value**

Originating from research in variety seeking, optimal arousal, and innovation, *predicted epistemic value* refers to the anticipated utility obtained from a product’s or service’s “capacity to arouse curiosity, provide novelty, and/or satisfy a desire for knowledge” (Sheth et. al. 1991a, p. 162). Usually, this type of utility is obtained from stimuli that are unfamiliar and somewhat ambiguous or complex (Sheth et al. 1991b). In contrast to the information search for immediate use, Sheth et al. (1991b) asserted that epistemic behavior entails the attainment of general knowledge for future use. Therefore, purely new experiences with products or services, switching between brands, outdoor adventures, or even shopping trips may offer epistemic value according to Sheth et al. (1991a, 1991b).

Albaum et al. (2002) suggested that activities that are driven by curiosity, novelty, and complexity seeking or knowledge seeking motivations tend to provide more epistemic value. For example, the consumer may decide to visit a computer store to check out up-to-date technological products or he/she may go to a shopping mall to obtain market information (e.g., fashion) to fulfill epistemic needs without involving any
purchase to fulfill functional needs. Epistemic value may be linked to the hedonic shopping value identified by Babin et al. (1994) due to the fact that some items in the measurement (e.g., adventure- and fantasy-related items) correspond to the nature of epistemic value. While this type of value may not be as important for durable goods (Sweeney and Soutar 2001), it may reflect the value provided by a number of services, such as museums or theme restaurants, which may fulfill consumers’ curiosity and novelty seeking needs (e.g., Pullman and Gross 2004).

The novelty aspect of epistemic value in services can be also associated with its uniqueness of service in the marketplace. In explaining factors that may affect zone of tolerance, Zeithaml and Bitner (2003) posited that consumers’ perceptions that service alternatives exist in the market elevates the level of adequate service and thus narrows the zone of tolerance. In other words, consumers may have wider zones of tolerance when they perceive no other similar alternative available for them, indicating that consumers may have wider zones of wait tolerance when they perceive the service as unique and novel and to be not commonly available elsewhere. Therefore, when consumers predict higher epistemic value of the service, which may arouse their curiosity and provide a novel experience, their zones of tolerance may be wider. Similarly, when consumers perceive that they cannot receive similar service elsewhere, they will be more willing to wait longer for the service, i.e., wider zones of wait tolerance. The following hypothesis captures the positive relationship between zone of wait tolerance and predicted epistemic value of service (see Figure 2.1).

**H1e:** The greater the consumer’s predicted epistemic value of service, the wider the zone of wait tolerance.
Predicted Conditional Value

Originating from research that highlights the importance of situational influence on consumption behavior (Belk 1974, 1975), conditional value exists when a product or service is able to provide certain utility due to the specific situation or set of circumstances facing the consumer. *Predicted conditional value* is defined as consumers’ anticipated capacity of an alternative to “provide temporary functional or social value in the context of a specific and transient set of circumstances or contingencies” (Sheth et al. 1991b, p. 69). That is, this type of value emphasizes a situation faced by a consumer which may strongly influence his/her behavior but is temporary in nature (Albaum et al. 2002). When an alternative is chosen based on its conditional value, the utility perceived by the consumer may not be the same outside the specific situation (Sheth et al. 1991a, 1991b). For example, graduation gowns elicit conditional value due to the special occasions in which these products serve their functions and fulfill consumers’ needs. As stated by Sheth et al. (1991a, 1991b), conditional value may be present at the same time as either functional or social value, indicating the possibility that conditional value may be both utilitarian and social in nature. Therefore, it is likely for consumers to predict the coexistence of functional, social and/or conditional value.

While Sweeney and Soutar (2001) view conditional value as a specific case of other types of value and less critical for some types of products (e.g., durable goods), they purport this type of value may be significant in some services. For example, UPS express package delivery may not be crucial for regular mailing purposes; however, when a consumer is in great need to have the package sent to the destination within a day, both
functional and conditional values may be salient. Research has suggested that situational contingencies influence consumer purchase or choice behavior (Belk 1974, 1975) and time allocation, especially in discretionary activities (Hornik 1982).

In services expectations, Zeithaml et al. (1993) proposed that situational factors are likely to temporarily lower consumers’ adequate service levels and thus widen the zone of tolerance. It is thus inferred that zone of wait tolerance may vary with conditional value. When consumers anticipate benefits that can be obtained in certain situations through the consumption of a service, they may be more willing to accept the wait. H1f states the positive relationship between conditional value and consumer zone of wait tolerance as follows (see Figure 2.1):

H1f: The greater the consumer’s predicted conditional value of service, the wider the zone of wait tolerance.

**Wait Disconfirmation and Affective Response to Waiting**

Wait disconfirmation involves the comparison between consumer zone of wait tolerance, which is a range of two boundaries between desired wait expectation as one boundary and adequate wait expectation as another, and perceived duration of the wait for the service. Research has shown that disconfirmation influences emotional responses in service encounters (Bolton and Drew 1991; Liljander and Strandvik 1997; Muller, Tse, and Venkatasubramaniam 1991; Pruyn and Smidts 1998; Woodruff et al. 1983). Liljander and Strandvik (1997) found that disconfirmation between expectation and perception has an impact on consumers’ affective responses in both positive and negative manners. When the service is below what the consumer considers adequate, he/she will
have negative emotions. When the service is above the adequate level, positive emotions are likely to happen.

In the context of waiting in a polyclinic, Pryun and Smidts (1998) concluded that consumers’ affective responses depend on the difference between perceived waiting time and acceptable waiting time and suggested that a disconfirmation process helps consumers assess waiting situations. In their study, the acceptable waiting time was viewed as a critical reference point. Consumers were found to experience negative feelings when their perceived waiting time was longer than their acceptable waiting time. Hui and Tse (1996) suggest that consumers’ service evaluation is influenced by consumers’ acceptability of the wait through affective responses when the construct of acceptability of the wait implies the overall disconfirmation between expected waiting and perceived waiting. In addition, the effect of wait disconfirmation on affective response to waiting has been observed in studies incorporating the construct of acceptability of the wait (Houston et al. 1998).

Research also suggests that consumers may not react in a very positive or negative way when service performance falls within the zone of tolerance (i.e., zero disconfirmation) (Cronin 2003; Oliver 1997, Zeithaml and Bitner 2003). While this has not been examined in past wait research, it is inferred that when perceived wait duration falls within the consumer zone of wait tolerance (desired wait expectation < perceived wait duration < adequate wait expectation), consumers’ reactions may not be as positive or negative as in the situations where positive or negative disconfirmation arises.
Therefore, it is assumed that consumers experience positive wait disconfirmation when perceived wait duration is shorter than desired wait expectation. As wait disconfirmation becomes more positive, consumers are likely to react to waiting with more positive feelings. On the contrary, consumers experience negative wait disconfirmation when perceived wait duration is longer than adequate wait expectation. As wait disconfirmation becomes more negative, consumers are likely to undergo more negative feelings about waiting. Moreover, when consumers experience zero disconfirmation, i.e., perceived wait duration falls within the consumer zone of wait tolerance, their affective responses may be less pronounced to variations in disconfirmation as compared to those who experience positive and negative wait disconfirmation. Hypothesis 2 is stated as follows (see Figure 2.2):

**H2:** For consumers who experience positive wait disconfirmation, there is a positive relationship between wait disconfirmation and their affective responses to waiting. For consumers who experience negative wait disconfirmation, there is a negative relationship between wait disconfirmation and their affective responses to waiting. Moreover, for consumers who experience zero disconfirmation, there is a weaker relationship between wait disconfirmation and their affective responses to waiting compared with the aforementioned relationships.

**Perceived Wait Duration and Affective Response to Waiting**

Affective response to waiting has been identified as a variable that mediates the relationship between perceived wait time and service evaluation in a number of waiting studies (e.g., Chebat et al. 1995; Hui et al. 1998; Hui and Tse 1996; Taylor 1994). In general, delays of services are more likely to induce negative moods from consumers (Gardner 1985; Taylor and Claxton 1994). That is, consumers tend to become more
annoyed and less calm due to service delays. For example, a consumer may experience negative feelings about the service provider due to the fact that the service provider fails to deliver service in a timely manner. Having to wait for the service may result in financial costs or inconvenience that would consequently influence the consumer’s subsequent schedule. As the perceived waiting time increases, the accompanying costs could increase, resulting in greater negative feelings (Taylor 1994).

In the context of airline service, Taylor (1994) concluded that the longer the delay duration seems to the consumer, the more uncertain and anger he/she would feel. Similarly, in the context of a computerized course registration service, Hui et al. (1998) found that affective response to the wait is negatively associated with perceived waiting time. Therefore, the relationship between perceived wait duration and affective response to waiting is hypothesized as follows (see Figure 2.3):

**H3:** As perceived wait duration increases, consumers’ affective responses to waiting tend to become more negative.

**Comparative Effects of Wait Disconfirmation and Perceived Wait Duration**

Little research in waiting has investigated the different effects of disconfirmation and perceived wait duration on consumers’ affective responses to waiting except for two studies that provide some empirical results. According to Houston et al. (1998), the study showed that acceptability of the wait, which was essentially measured as one type of disconfirmation, had more impact on negative affect in the context of bank service than perceived wait length. Similarly, Pruyn and Smidts (1998) found that disconfirmation between acceptable waiting time and perceived waiting time had a stronger effect on
consumers’ affective responses to the wait than perceived waiting time alone. These studies focused on the independent effects of disconfirmation and perceived wait duration on consumer affect without specifically investigating the comparative strengths of the two effects of wait disconfirmation and perceived wait duration on affective response to waiting. Furthermore, no justification as to why disconfirmation may play a more critical role in explaining consumer affective reactions was provided in either of the studies.

This study employs the findings based on the satisfaction and service quality literature to provide explanations and put forward a hypothesis to test the comparative effects of wait disconfirmation and perceived wait duration on affective response to waiting. In the satisfaction and service quality literature, both disconfirmation and perceptions of performance have been found to impact satisfaction and service quality variables (e.g., Anderson and Sullivan 1993; Bolton and Drew 1991; Muller et al. 1991; Patterson 1993; Churchill and Surprenant 1982). However, regarding the comparative strengths of disconfirmation and perceptions of performance on satisfaction and service quality, the results are inconsistent (Bolton and Drew 1991; Churchill and Surprenant 1982; Muller et al. 1991; Patterson 1993). Two arguments are made to explain the conflicting findings. First, these studies are conducted using different research contexts (goods vs. services). Functional traits of high involvement with durable goods may result in the greater effect of performance on consumer satisfaction as compared to disconfirmation (Patterson 1993). Second, differences in terms of measurements for performance, expectation, and disconfirmation may bring about inconsistent results. Churchill and Surprenant (1982) suggest that when measurements are more objective
(e.g., “size of the plant will be 10 inches”), disconfirmation may play a more important role than performance in explaining satisfaction as compared to when judgments are more subjective (e.g., “quality is excellent”).

This study utilizes the objective vs. subjective reasoning to explain and predict the comparative effects of wait disconfirmation and perceived wait duration on affective response to waiting. A measure that compares performance (e.g., perceived wait duration) to expectation (e.g., zone of wait tolerance) may be more precise, with less latitude for variation, than a sole measure of performance. This is similar to the situation wherein objective measures (e.g., “size of the pant will be 10 inches”) call for more precise judgments than subjective measures (e.g., quality is excellent”). Therefore, it is predicted that the more precise, comparative measure, i.e., wait disconfirmation, will have a greater effect on affective response to waiting than the less precise, noncomparative measure, i.e., perceived wait duration. Accordingly, the following hypothesis states (see Figure 2.4):

**H4:** Wait disconfirmation (i.e., positive and negative disconfirmation) has a stronger effect on affective response to waiting than perceived wait duration.

**Affective Response to Waiting and Service Experience Evaluation**

Affect can be an independent contributor to customer satisfaction (Andreassen 2000; Bagozzi et al. 1999; Liljander and Strandvik 1997; Westbrook 1987; Westbrook and Oliver 1991). In the service context, Liljander and Strandvik (1997) found that both positive and negative affect have effects on customer satisfaction. Andreassen (2000)
also suggests that negative emotions triggered by a service failure tend to influence customer satisfaction negatively.

Consumers’ service evaluations have been found to be affected by consumer affective response to waiting. For example, Taylor (1994) found that overall service evaluations are directly influenced by consumers’ affective responses (i.e., anger and uncertainty) which, in turn, were affected directly by the length of delay. As anger increases, overall evaluation of service decreases. Cameron, Baker, Peterson, and Braunsberger (2003) concluded that the more positive consumers’ affect responses to waiting, the better evaluation of the overall experience. This relationship has also been found in several other studies (e.g., Hui and Tse 1996; Pruyn and Smidts 1993; Pruyn and Smidts 1998; Taylor 1994). Thus, Hypothesis 5 is stated as follows (see Figure 2.5):

**H5a:** When affective response to waiting is positive, service experience evaluation will be more positive than when affective response to waiting is negative.

**Moderating Role of Actions of the Service Provider**

Even though waiting has been regarded as a negative consumption experience in literature, the strength of the negative impact on overall evaluation may vary. For example, when studying consumers’ waiting experiences in the context of Internet websites, Dellaert and Kahn (1999) concluded that waiting does not always have a negative effect on consumers’ retrospective evaluations of Internet web sites as long as the waiting time is well managed. They found that consumers can separate their waiting experiences from their evaluations of web sites and waiting itself may not be a significant barricade to consumers’ enjoyment using the Internet. Moreover, McColl-Kennedy and
Sparks (2003) concluded that firms may be able to influence and modify customer emotions through specific actions when service failures occur, indicating that it is likely for service providers to turn negative customer emotions into less negative or even possibly positive emotions. Through the modification of emotions, it is likely that customer satisfaction can be achieved even after customers experience service failures.

When the wait continues, consumers may become more annoyed, frustrated, and unhappy. These more negative emotional responses in general would predict lower overall service evaluation, as found in past literature (Chebat et al. 1995; Houston et al. 1998; Hui and Tse 1998; Taylor 1994). However, when the service provider acknowledges and apologizes to the consumer, the customer may feel better and more positive about the service, which in turn, may influence the evaluation of the overall service. Haynes (1990) suggested that noticeable actions of the service provider may reduce the negative impact of waiting and help improve the customer’s mood. Taylor and Fullerton (2000) acknowledged this suggestion and put forward that offering an apology to customers who have been waiting is an obvious managerial action. However, little empirical examination of this relationship has been conducted. It is argued that wait situations can be better managed by service providers with certain plausible actions, such as apologies and compensation (Taylor and Fullerton 2000).

In this study, waiting is viewed as one type of service failure which may provoke consumer complaints in the services delivery process (Powers and Bendall-Lyon 2002). Two types of actions of the service provider (apology and compensation) taken as service recovery after waiting may help improve customer evaluations about the service.
Apology

An apology is a means of re-establishing psychological equity and can be expected to make up for any inappropriate or rude behavior (Goodwin and Ross 1992). In service literature, apologies are viewed as marketplace equity reactions (Folkes 1984). When the cause of service failure is related to the service provider, the consumer may feel an apology is deserved. Researchers suggest that service providers ought to apologize to customers in response to service failures even though they may not offer any tangible compensation (Sellers 1988). An apology has been found to have the greatest effect on customers’ perceptions of interactional justice (Smith et al. 1999). Customer perceptions of interactional justice may help to enhance their satisfaction with the service encounter (Smith et al. 1999). Research also indicates that an apology has its special significance when customers experience process failures which are associated with the manner in which the service is delivered.

When provision of an apology has a positive impact on perceptions of interactional justice (e.g., Goodwin and Ross 1992, Smith et al. 1999), research has found that giving an apology has a predictive positive effect on customer satisfaction (McColl-Kennedy, Daus, and Sparks 2003; Smith et al. 1999; Sparks and McColl-Kennedy 2001; Tax et al. 1998). Customers perceive higher levels of satisfaction with the service when the service provider provides an apology in response to service failures.

In the context of waiting, research suggests that service providers communicate recognition of the delay and their concern to customers through apologies (Taylor 1994). Findings suggest that the presence of an apology by the service provider affects
customers’ affective responses. For instance, Houston et al. (1998) found that there is an association between the presence of an apology by the service provider and consumer negative affect. Consumer affect is found to be less negative when the service provider provides an apology for the delay. However, the authors did not propose the moderating role of an apology in their study. Jones and Dent (1994) conducted research in both hotel and restaurant settings and found that an apology at the end of waiting process tends to make the wait more bearable. Sarel and Marmorstein (1998, 1999) examined the effect of the provision of an apology after waiting in the context of bank service and suggested the tendency that customers’ anger responses tend to be lower when receiving an apology from the front-line employees when the apology is perceived as sincere by the customers. Their studies did not examine how actions of the service provider (i.e., an apology) and consumers’ reactions to waiting may interactively influence subsequent service evaluations.

**Compensation**

Compensation, or outcomes, can take various forms, such as additional free service, actual monetary compensation, discounted price, repairs, and/or replacements (Goodwin and Ross 1992; Zeithaml and Bitner 2003). Research suggests that provision of compensation helps restore distributive justice and thus consumer satisfaction (Goodwin and Ross 1992; Smith et al. 1999). When studying consumer satisfaction/dissatisfaction through critical incident techniques, Bitner, Booms, and Tetreault (1990) first concluded that compensation given to a customer for his/her long wait in a restaurant (e.g., a free drink) may help reinstate customer satisfaction. Goodwin
and Ross (1992) studied consumer responses to service failures and found that favorable compensation is positively associated with consumers’ perceived satisfaction. Smith et al. (1999) confirmed the relationship and further suggest that compensation as one type of service recovery leads to customer satisfaction with the service encounter through perception of distributive justice. Smith and Bolton (2002) further examined the effect of customers’ emotional responses to service failure on their satisfaction judgments and found that customers with negative emotional responses valued compensation more than customers with no emotional responses.

Therefore, consumers who are presented an apology or compensation when finally being seated after long waits may perceive interactional or distributive justice, respectively, and are expected to have more positive feelings about the service compared with those who are not provided any recovery attributes. Existing affective responses evoked during waiting may not be as important to them as to consumers who are not presented an apology or compensation. The relationship between affective response to waiting and service experience evaluation may vary depending on the provision of apology or compensation. That is, the hypothesized positive relationship between affective response to waiting and service experience evaluation may be moderated by the presence of apology or compensation. The presence of apology or compensation may have a positive modulating effect on the relationship between affective response to waiting and service experience evaluation due to the fact that the service provider does not ignore but apologizes or compensates for the customer’s long wait. Thus, the hypothesis is established as follows (see Figure 2.5):
H5b: Affective response to waiting will have a stronger effect on service experience evaluation when an apology or compensation is present than when an apology or compensation is absent.

Although it has been argued that individuals evaluate justice variables independently (Greenberg 1990b), two-way interactions of these variables may significantly influence the satisfaction variable (Tax et al. 1998). Conlon and Murray (1996) suggested that the effect of providing explanations for product service failures on customer satisfaction may be enhanced when the explanation (one type of interactional justice) is accompanied by some type of compensation. That is, besides the independent effect of apology and compensation on customer satisfaction, it is likely that the interaction of apology and compensation may affect the affect-service evaluation relationship. Research suggests that consumer satisfaction is enhanced by the combination of apology and preferred compensation (Goodwin and Ross 1992; Mattila 2001; McCollough, Berry, and Yadav 2000). Making customers feel better about a failure through a mere provision of interactional justice (e.g., apology) may not always be effective unless distributive justice (e.g., compensation) can be also addressed. Therefore, the following three-way interaction is hypothesized (see Figure 2.5):

H5c: Service experience evaluation is dependent on a three-way interaction involving affective response to waiting, the presence of apology, and the presence of compensation.
CHAPTER 4

METHODOLOGY

This chapter is dedicated to presenting the methodology used to investigate this study’s hypothesized relationships. The first subsection consists of an overview of the sampling and data collection procedures. Questionnaire development and pretest are discussed in the second subsection. The final subsection presents the operational definitions of the variables employed in the study.

Sampling and Data Collection

A field study using the questionnaire method was employed in this study to gather relevant information in the restaurant industry. Specifically, the intercept approach was utilized. The respondents were approached when they were waiting to be seated at the restaurants. Testing of the relationships hypothesized in the framework required measurements at two points in time. Predicted value of service, desired wait expectation, adequate wait expectation, and demographic information data were measured when the respondents arrived at the service setting. This was especially meaningful when the literature has suggested that expectations should be measured prior to purchase and use (Patterson 1993). Perceived wait duration, affective response to waiting, actions of the service provider, and service experience evaluation were collected after the service was completed. A similar approach was adopted by Taylor (1994) for the investigation of the effects of delay on service evaluation. In her study, data were collected at two points (i.e., during the delay at the airport and at the end of service delivery).
Selection of the Service Setting

The selection of the service setting for the investigation of the conceptual framework was important due to several concerns. First, a natural setting with different lengths of waiting was desired to help capture how consumers perceive wait duration and their feelings about waiting. This approach helps overcome some of the limitations encountered in experimental studies (Sarel and Marmorstein 1999). Second, this study focused on consumers’ queue wait experiences during the phase of pre-process waiting, indicating that the setting had to permit measurements to be collected during waiting prior to receiving the service. Third, the setting should allow differentiation among different types of predicted value. Based on these considerations, pre-process waits at restaurants were chosen to test the hypothesized relationships.

The restaurant industry was appropriate for this study as a result of its qualities that met the above criteria. The restaurant industry has been selected as research context in previous wait research due to the fact that customers’ queues are common and with varying lengths prior to the actual service being delivered (Dube-Rioux et al. 1989; Sarel and Marmorstein 1998, 1999). Not only did it allow data collection during the phase of pre-process waiting, but it also was expected to offer hedonic-related values. Wakefield and Blodgett (1994) suggested that consumption at upscale restaurants is often driven by hedonic motives. Their viewpoint has been supported by Hanefors and Mossberg (2003) concluding that curiosity, emotions, and social interactions are likely to occur in an extraordinary meal experience.
Cooperation was obtained from three different restaurants in a Southwestern city in order to adequately capture the variance of five types of predicted value. The process of obtaining the cooperation from the restaurants lasted for approximately two months. First, a one-page proposal regarding this study was prepared and mailed to fourteen different restaurants to request for cooperation with the research and permission to collect data in the restaurants. Five of the restaurants were national chains and the rest were individually owned in the city. These restaurants were chosen for their reputations regarding waiting which has been experienced by the researcher and her associates. Next, the researcher contacted the manager and/or the owner of those restaurants via telephone to further discuss with them the research proposal and inquire about their interests in participating in the research. Among the fourteen restaurants, three restaurant owners/managers showed both their interests and concerns regarding the procedure of the proposed data collection. In order to tailor to the restaurants’ needs and encourage their participation, two aspects of the originally proposed methodology had to be slightly modified. First, instead of distributing souvenirs from the local university as instant rewards for customers’ participation, $3 dollar off coupons that were purchased by the researcher from the restaurants were used. Second, originally set to collect data at three points in time, the revised methodology required customers to fill out the questionnaire only at two points, as previously discussed in this section. This was done to reduce possible interruption in customers’ dining experiences. The three restaurants finally agreed to participate as service settings for this research.
Backgrounds of The Restaurants

The three restaurants were located in different areas of the Southwestern city and have different offerings on the menus with prices ranging from $5 to $10 for appetizers and from $10 to $20 for entrees. All of these three restaurants provide full service with a more casual atmosphere and have a designated waiting area inside the restaurants. Restaurant A is an Asian-American Bistro featuring Pacific Rim cuisine with a contemporary stylish setting. Restaurant B is an American restaurant offering seafood, steaks, and sandwiches with a friendly family atmosphere. Restaurant C is also an American restaurant featuring a metropolitan style bar setting with gourmet pizza and grilled food.

Data Collection Procedures

According to the management of the three restaurants, customers tend to wait various lengths of time on weekends with no waiting typically during weekdays. Therefore, surveys were administered to customers over a five-week period during weekends (Fridays, Saturdays, and Sundays) simultaneously at the three restaurants. Data collection was performed by the researcher and two trained research assistants, each one at a different restaurant. Prior to the data collection process, the researcher provided training to the research assistants on sampling, data collection, and answering questions from the customers during the process.

Customers appearing aged 18 and above were approached and requested to take part in the survey. Multiple respondents per family or group were allowed to participate.
The researcher and the research assistants identified themselves as students from a local university, conducting research on people’s feelings about restaurant services. Respondents were given a questionnaire with four sections: (1) “about to wait” section that contained questions regarding predicted value of service, desired wait expectation, and adequate wait expectation, (2) personal information about past experience with the restaurant and demographic information, (3) “about your waiting” section including questions involving perceived wait duration, affective response to waiting, and solo waits (i.e., the number of people with whom respondent was waiting), and (4) “about the restaurant” section regarding actions of the service provider, service experience evaluation, and service environment.

The respondents were instructed to complete all four sections of the questionnaire. The respondents were asked to fill out the first and second sections of the questionnaire while they were waiting to be seated at the restaurant. They were then instructed verbally and also in the questionnaire to answer questions in the third and fourth sections of the questionnaire after they finished their meals. They were also instructed, at that time, to return the completed questionnaires to the researcher on site. Participation incentives were given to customers as an act of good faith when they returned the survey. Those who participated in the survey were rewarded with $3 off coupons for their next visit at the restaurant where they dined.

**Questionnaire Development and Pretest**

The written questionnaire (see Appendix A) contained measures of the following variables: predicted overall value of service, predicted functional value of service,
predicted social value of service, predicted emotional value of service, predicted epistemic value of service, predicted conditional value of service, desired wait expectation, adequate wait expectation, perceived wait duration, affective response to waiting, the presence of apology and compensation, and service experience evaluation. Additionally, to be used as potential covariates, respondents were asked to indicate how frequently they had patronized the restaurant, how long they had patronized the restaurant, the number of people (people aged 12 and above and children aged 11 and below) they were with during waiting, their perceptions of the attractiveness of the service environment, and the importance they attached to receiving apologies/compensations after waiting to be seated. Lastly, demographic data were included as well, including age, gender, ethnicity, education, occupation, income, and marital status.

**Questionnaire Development**

The questionnaire was developed through a multi-stage process. First, a comprehensive review of literature was performed as an aid to obtain conceptual and measurement information about relevant variables in this study. A list of measurement items was compiled into a prototype questionnaire. Next, the measurement items were further refined based on the findings from a focus group interview. Finally, a pretest using a convenience sample of 20 consumers was employed to finalize the items for the questionnaire.
Focus Group Interview

A convenience sample of six university students were recruited to be focus group members to discuss their waiting experiences at restaurants. They were rewarded with $7 each for their participation. The focus group session, moderated by the researcher, lasted for approximately two hours. The conversations between the moderator and the six participants were captured on audio cassette and later transcribed. During the session, questions related to various types of values, wait tolerance, affect, apology/compensation, and service evaluation were posed to obtain more specific information to help establish the questionnaire. Respondents provided valuable information regarding the measures. For instance, two items were added to measure consumers’ predicted emotional value at restaurants (i.e., the extent to which they predicted that the restaurant would make them feel special and cool). Also, items for predicted epistemic and conditional value were modified to better fit the aspects of predicted value in the restaurant setting.

Pretest of the Questionnaire

In order to improve the measurement items in the questionnaire regarding clarity, readability, and comprehension, a pretest, the final step of the questionnaire development process, was conducted with a convenience sample of 20 university students, staff, and the researcher’s associates. Several changes were made based on the pretest results. First, the order of certain items in the questionnaire was adjusted to ensure the clarity and ease of filling out the questionnaire. Second, readability regarding spacing and wording was improved. Third, measurements for desired wait expectation and adequate wait expectation were revised to allow for clear understanding and more differentiation
between the two items. The preliminary *t*-test based on the pretest responses showed that there was a significant difference between desired wait expectation and adequate wait expectation (*p* < .05).

**Operationalization of Variables**

This subsection presents operational definitions and scale development employed for each variable. With the exception of the scales used to measure the five types of predicted value and desired wait expectation, most of the variables have been tested in previous literature and were readily available. Slight modifications had to be made to some items so that they were applicable to the restaurant setting. This was done based on the results of the aforementioned pretest. A summary of measures for each variable included in the framework is provided in Table 1 and a summary of covariate measures is shown in Table 2.

**Measures**

**Predicted Overall Value of Service**

Predicted overall value of service attempted to capture the consumer’s predicted overall utility acquired through consumption of the service. Consumers’ predicted overall value of the restaurant service was measured with two items modified from the instrument used in Cronin, Brady, and Hult (2000). The items were measured on a 7-point Likert-type scale ranging from “strongly disagree” (1) to “strongly agree” (7). Example statements are “To me, the value of this restaurant will be high” and “Compared to what I am going to pay, the overall ability of this restaurant to satisfy my wants and needs will be high.”
Predicted Functional Value of Service

Predicted functional value of service was intended to capture the consumer’s predicted utility acquired through utilitarian or physical performance regarding the consumption of the service. Consumers’ predicted functional value of the restaurant service was measured with four items modified from the instrument used in Albaum et al. (2002) and Sheth et al. (1991b). It is necessary to modify the wording of each item to tie in the context and the value concept for the restaurant setting. Predicted functional value concerns the attributes of service (Sheth et al. 1991a, 1991b). Thus, price, service, and speed were included. All five items were measured using a 7-point Likert-type scale ranging from “strongly disagree” (1) to “strongly disagree” (7). Example statements are “I anticipate that this restaurant will provide good monetary value for what I want” and “I anticipate that this restaurant will provide fast service.”

Predicted Social Value of Service

Predicted social value of service measured the consumer’s anticipated utility acquired through association with specific social groups. Drawing upon previous research related to social value (Sheth et al. 1991a, 1991b; Sweeney and Soutar 2001), consumers’ predicted social values of the restaurant service were measured with a four-item scale. Participants were asked to respond to the items using a 7-point Likert-type scoring format ranging from “strongly disagree” (1) to “strongly agree” (7). Example items are “I anticipate that this restaurant will allow me to obtain warm relationships with others” and “I anticipate that this restaurant will help bring me closer relationships with people I like.”
Predicted Emotional Value of Service

Predicted emotional value was defined as the extent to which the service is expected to possess the capacity to arouse the consumer’s feelings. Measures with a multiple item scale were obtained from several studies, including Babin et al. (1994), Sheth et al. (1991a, 1991b), Richins (1997), and Sweeney and Soutar (2001). Incorporating the descriptors in the Consumption Emotions Set (Richins 1997), example items for this type of value consisted of 10 emotion-related statements, such as joy, relaxation, pleasure, happiness, and sadness. A 7-point Likert type scale ranging from “strongly disagree” (1) to “strongly agree” (7) was used to assess each item. Example items were “I anticipate that my experience today at this restaurant will make me feel excited” and “I anticipate that my experience today at this restaurant will make me feel special.”

Predicted Epistemic Value of Service

Predicted epistemic value was intended to capture the perception of the extent to which the service has the capacity to arouse curiosity, provide novelty, and/or satisfy a desire for knowledge. Based on Babin et al. (1994) and Sheth et al. (1991a, 1991b), a five-item scale was constructed. Information obtained from the focus group interviews also guided the scale development. Participants were requested to rate items on a 7-point Likert-type scale ranging from “strongly disagree” (1) to “strongly agree” (7). Example statements are “I anticipate that this restaurant will provide me with a unique experience” and “I anticipate that this restaurant will provide me a sense of adventure.”
**Predicted Conditional Value of Service**

Predicted conditional value emphasizes anticipated service benefits obtained in special occasions. Belk’s (1975) situational factors were taken into account to make it more specific in the context of the restaurant industry. Comments from the focus group interviews were also used to help develop the scale. Items for this type of value were related to time pressure and task definition. All three items were rated on a 7-point Likert-type scale from “strongly disagree” (1) to “strongly disagree” (7). Example statements are “I anticipate that this restaurant will be a good choice for special occasions” and “I anticipate that this restaurant will be a good choice for the time I have available.”

**Desired Wait Expectation**

Desired wait expectation reflected the length of the wait for the service that the consumer believes can be and will be. Similar to Parasuraman et al. (1991), the word “will” was used to capture the desired level of wait expectation. The word “should” was avoided in this study to reduce unrealistic expectations. Due to the exploratory nature of this variable in the wait context, desired wait expectation, modifying from Dion et al. (1998), and Walker and Baker (2000), was measured with an open-ended question to obtain information about how long the respondents hope the wait to be seated at the restaurant would be. The statement is “Please indicate how long you hope waiting to be seated today will be [in hour(s) and minute(s)]?”
Adequate Wait Expectation

Adequate wait expectation measured the maximum time the consumer is willing to wait for the service in a specific service setting. Adapting from Antonides et al. (2002), Dion et al. (1998), and Pruyn and Smidts (1998), adequate wait expectation was measured by asking the respondents to indicate the maximum acceptable waiting time to obtain the service. The statement is “Please indicate the longest time you find acceptable to wait to be seated at this restaurant today [in hour(s) and minute(s)].”

Perceived Wait Duration

Perceived wait duration was operationalized as the consumer’s perception of the length of time he/she has waited for the service to commence. Adapted from Diaz and Ruiz (2002), Houston et al. (1998), and Pruyn and Smidts (1998), respondents were asked to answer an open-ended question, “Please indicate how long the wait to be seated at this restaurant today felt to you [in hour(s) and minute(s)].”

Affective Response to Waiting

Affective response to waiting measured the extent to which waiting for the service makes the consumer feel. Modified from Hui and Tse (1996), Houston et al. (1998), and Richins (1997), the bipolar measure was used to capture both the participants’ positive and negative affective responses to waiting. The measure was comprised of six semantic differential items on a 7-point scale. The original measure has fairly high reliability in Hui and Tse’s (1996) and Houston et al.’s (1998) studies (.87 and .93, respectively). An additional item (i.e., irritated) was included to reflect how waiting has been described in the literature (e.g., Durrande-Moreau 1999). Example endpoints are “Annoyed” (1) to
“Pleased” (7) and “Irritated” (1) to “Calm” (7). This measure allowed respondents to differentiate between positive and negative affective responses to waiting.

**Actions of the Service Provider**

There were two variables under this category in order to capture the interactional and distributive fairness perceptions of the respondents after waiting for the service. Similar to Houston et al. (1998), first, the respondents were asked to select a response from two categories of “no” (1) or “yes” (2) regarding the presence of apology offered by the service provider. Second, similarly, the respondents were also asked to select a response from two categories of “no” (1) or “yes” (2) regarding the presence of compensation offered by the service provider after waiting. In addition, for control purposes, the respondents were requested to answer two items on a 7-point Likert-type scale ranging from “not important at all” (1) to “extremely important” (7) regarding the importance of receiving an apology and compensation from the service provider after waiting. With respect to apology, the respondents were also asked to rate on a 7-point Likert-type scale ranging from “not sincere at all” (1) to “extremely sincere” about how sincere the apology seemed to them.

**Service Experience Evaluation**

Based on Cronin et al. (2000) and Hui et al. (1998), service experience evaluation intended to measure the overall evaluation considering all aspects of the service received by the respondents. The multiple-item scale encompassed the emotional aspect of the evaluation as well as the cognitive aspect. The emotional aspect of the evaluation was measured on a semantic differential scale ranging from negative feelings (1) to positive
feelings (7). Examples are “unfavorable/favorable” and “bad/good.” The cognitive aspect was measured with two items on a 7-point Likert-type scale ranging from “strongly disagree” (1) to “strongly agree” (7). Example statements of the cognitive dimension are “My choice to patronize this restaurant was a wise one” and “I think that I did the right thing by coming to this restaurant.”

**Selected Covariate Measures**

**Past experience with the service provider**

Due to the role of prior experience in consumer expectations, the possible effect of past experience with the service provider were controlled in this study (Zeithaml et al. 1993). Two items were used to assess respondents’ past experiences with the service provider. Information from the focus group interviews was incorporated to help establish appropriate timelines for the restaurant industry. The participants were asked to indicate how frequently they have patronized the service provider in the past six months by checking the response from seven categories ranging from “never until today” (1) to “more than once a week” (7). The second item asked the respondents to report how long it has been since they first patronized the service provider by selecting a response from seven categories ranging from “this is the first time” (1) to “for more than 2 years” (7).

**Solo waits**

Wait research has suggested that solo waits are less bearable than waiting with someone else (Maister 1985). In order to control for the effect, respondents were asked to report the number of people (people aged 12 and above, and children aged 11 and below) with whom they were waiting to be seated at the restaurant.
Perceived attractiveness of service environment

Perceived attractiveness of the service environment also plays a role in consumer affective response to waiting and satisfaction with the service (Durrand-Moreau 1999; Pruyn and Smidts 1998; Taylor and Fullerton 2000). This study measured consumers’ perceptions of service environment based on Brady and Cronin (2001). The respondents were asked to rate two items on a 7-point Likert scale from “strongly disagree” (1) to “strongly disagree” (7). Example statements are “The physical environment at this restaurant was appealing” and “The physical environment at this restaurant was one of the best in the industry.”

Demographic Variables

The following definitions were used to operationalize and measure eight demographic variables.

- Gender: Female, male (nominal data).
- Age: Age in years.
- Ethnicity: Indicated by selecting the appropriate ethnic group (nominal data).
- Education: Highest level of formal education completed (nominal data).
- Occupation: Indicated by selecting the most appropriate occupation (nominal data).
- Income: Indicated by selecting the appropriate household income range (ordinal data).
- Marital Status: Married, Single (never married, divorced, widowed) (nominal data).
CHAPTER 5

DATA ANALYSIS AND RESULTS

This chapter consists of six sections, preliminary data analysis, overall model fit for the entire sample, overall model fit for multigroup analysis, MANCOVA analysis, post hoc analysis, and summary of findings. In order to enhance understanding and clarity for readers, results of testing of relevant hypotheses are presented after each of the analysis procedures. The first section, preliminary data analysis, begins with an overview of respondents’ characteristics, followed by descriptives of variables related to waiting at the restaurants, diagnostics tests, and exploratory and confirmatory factor analyses for entire sample and multigroup analysis. Second, overall model fit using structural equation modeling via LISREL 8.54 (Jöreskog and Sörbom 1996) for entire sample follows to determine the final structural model for testing the major part of the research model as a whole (i.e., for testing H1 through 5a with the exception of H2). The third section presents overall model fit based on multigroup analysis conducted for the three wait disconfirmation groups (i.e., positive, zero, and negative) to test Hypothesis 2 specifically and provides an additional probing test for Hypothesis 4. The fourth section describes MANCOVA using SAS employed to test Hypotheses 5b and 5c regarding the interactive effects of affective response to waiting and service providers’ actions (i.e., apology and compensation) on respondents’ service experience evaluations. The fifth section describes additional post hoc analyses. Table 3 presents the analysis procedures for hypothesis testing. The chapter concludes with the last section of a summary of findings associated with the tested hypotheses.
Preliminary Data Analysis

A total of 434 questionnaires were distributed during the five-week data collection period, and 408 questionnaires were returned, yielding a 94% response rate. Ninety-six percent of the returned questionnaires were usable ($N = 393$). Among those usable questionnaires, 175 surveys were collected at Restaurant A, 142 at Restaurant B, and 76 at Restaurant C. During the data collection process, about five percent of the customers who were approached refused to participate in the survey.

Respondents’ Characteristics

The demographic characteristics of the sample are summarized in Table 4. The descriptive analysis of the survey results showed that the majority of respondents were middle-aged to older with an average of 47 years old. About 52% of the respondents were female and approximately 84% of the respondents were Caucasian or White. Approximately 67% of the sample had at least attended college or had completed a bachelor’s degree and 25% had completed a graduate degree. The household incomes ranged from middle to higher levels with over 8% reporting annual household incomes of $25,000 to $39,999, 12% reporting annual household incomes of $40,000 to $54,999, 13% reporting annual household incomes of $55,000 to $69,999, and over 57% reporting annual incomes more than $70,000. Regarding the occupational composition of the respondents, almost 40% of them held managerial or professional positions, 20% were retired, and approximately 11% worked in the field of technical, sales, or administrative support. Compared with the profile of general demographic characteristics in Arizona (U.S. Census Bureau 2000), the respondents differed with respect to annual household
income, education, and marital status. They were wealthier and better educated with graduate degree than the general Arizona population.

**Demographic Differences across Restaurant Samples**

Analysis of Variance (ANOVA) showed that there was a significant difference among the three restaurants in relation to the respondents’ ages ($F = 14.41, p < .001$). The average age of the respondents at Restaurant B was the oldest among the three restaurants, followed by Restaurant C and Restaurant A ($M = 54.10$ vs. $M = 49.67$ vs. $M = 42.76$). Results showed an occupational difference across the three restaurants ($p < .05$). Restaurant A and Restaurant B had more customers with occupations in managerial or professional fields than Restaurant C. Restaurant B and Restaurant C had more customers who are retired than Restaurant A. Additionally, results revealed that a higher percentage of the respondents at Restaurant A and Restaurant B were married than at Restaurant C. Regarding patronage frequency, results indicated a significant difference among the three restaurants. Restaurant A had almost three times the number of customers who visited the restaurant for the first time as compared to the other two restaurants. On the other hand, Restaurant B had customers who visited on a more frequent basis than the other two restaurants. Over 30% of its customers visited the restaurant at least once a month. However, cross tabulation statistics revealed that these three restaurants had similar composition of clientele in terms of gender, ethnicity, education, and income ($p$’s > .05).
Waiting at the Restaurants

With respect to waiting (see Table 5), the average length of perceived wait duration across the three restaurants was 14.41 minutes with the minimum of zero minutes and the maximum of four hours. Regarding desired and adequate wait expectations, the average length was 15.94 minutes and 27.54 minutes, respectively. The t tests showed that the reported desired and adequate wait expectations were significantly different ($p < .05$). With respect to the respondents’ zones of wait tolerance (i.e., difference between desired and adequate wait expectations), the average length was 11.63 minutes.

Differences in Waiting across the Restaurants

Regarding perceived wait duration, univariate comparison indicated a significant difference among the three restaurants. Waiting at Restaurant C felt the longest to the respondents than at Restaurant A and Restaurant B ($M = 20.68$ vs. $M = 13.09$ vs. $M = 12.70$ minutes, $p < .05$). The average desired wait expectation was the longest at Restaurant C ($M = 17.38$ minutes) and the shortest at Restaurant B ($M = 14.09$ minutes) ($p < .05$). The average adequate wait expectation was the longest at Restaurant A ($M = 29.2$ minutes) and the shortest at Restaurant B ($M = 25.04$ minutes) ($p < .05$). On the other hand, univariate comparison showed that zones of wait tolerance (difference between desired and adequate wait expectations) were not significantly different across the three restaurants ($F = .74$, $p > .05$).

Although the restaurant samples may have differed in terms of some, but not all, demographic factors and their wait experiences, they were combined as an entire sample
for data analyses due to the fact that major demographic factors such as gender, ethnicity, education, and income were not different across the restaurant samples as previously mentioned. In addition, a similar approach was utilized by Cronin et al. (2000) in which multiple service providers were chosen in each of the industries (e.g., fast food) and analyses based on the whole sample were then conducted in their study.

**Diagnostic Tests**

Diagnostic statistics were first run to test for multicollinearity among the six types of predicted value. Using consumer zone of wait tolerance (difference between desired wait expectation and adequate wait expectation) as the dependent variable and the various types of predicted value as the independent variables, the variance inflation factor (VIF) for relevant regression models ranged between 1.07 and 2.40 and the tolerance values ranged between .41 and .93. In addition, using emotional and cognitive dimensions of service experience evaluation as dependent variables, and the various types of predicted value, perceived wait duration, wait disconfirmation, consumer zone of wait tolerance, affective response to waiting as the independent variables, the VIF ranged between 1.14 and 3.20 and the tolerance values ranged between .31 and .87. Because no VIF value exceeded 10 and the tolerance values were greater than .10, it was concluded that multicollinearity did not exist (Hair, Anderson, Tatham, and Black 1995). In the later subsections, a discussion of additional diagnostic tests conducted via structural equation modeling to ensure reliability and validity of the constructs in this study is provided.
**Exploratory Factor Analysis**

In order to refine the measures included in this study, exploratory factor analyses with Varimax rotation were conducted on each of the multiple-item scales, including exogenous constructs (i.e., various types of predicted value) and endogenous constructs (i.e., affective response to waiting and service experience evaluation). According to Anderson and Gerbing (1982), prior to testing the full model, employment of exploratory factor analysis is appropriate in that it permits identification of items with poor psychometric properties and allows more purified measurement models for further analyses. A priori designations for each of the five types of predicted value were employed in the analyses in addition to predicted overall value. The a priori procedure was performed at this stage based on the framework of five consumption values (Sheth et al. 1991b), which has been confirmed in past studies (e.g., Long and Schiffman 2000).

For each analysis, Eigenvalues greater than one and scree plots helped determine the number of factors for each scale, and strength of factor loadings and face validity were used as criteria in determining the items to be included in each factor. Items with factor loadings of at least .50 or without the problem of high cross-loadings on more than one factor were retained to ensure unidimensionality. Each factor was named according to the salient themes among the items. Results of exploratory factor analyses are provided in Table 6 with specific factor loadings and variance extracted.
Exploratory Factor Analysis of Exogenous Constructs

Predicted overall value

Exploratory factor analysis produced a one-factor solution for predicted overall value. The factor was composed of two items characterizing the respondents’ general prediction of the restaurant’s ability to provide high value and satisfy its customers’ needs and wants. Variance explained for this variable was 87%. Internal reliability according to Cronbach’s alpha coefficient was .85.

Predicted functional value

Exploratory factor analysis revealed a one-factor solution for predicted functional value. The factor contained five items representing the functional aspect of value, such as good monetary value, good service, and quality food, with factor loadings ranging from .69 to .85. Variance explained for this variable was 60%. Internal reliability based on Cronbach’s alpha coefficient was .83.

Predicted social value

Exploratory factor analysis for this variable resulted in a one-factor solution with all of the original four items in the scale, including warm and closer relationships with others. Factor loadings of these items ranged from .74 to .88. Explained variance for this variable was 68% with the Cronbach’s alpha coefficient being .84.

Predicted emotional value

Exploratory factor analysis revealed that predicted emotional value was explained by one factor consisting of six items, such as feeling joyful, happy, and special at the restaurants. Factor loadings of these six items ranged from .73 to .85. Cronbach’s alpha
coefficient showed that the internal reliability for the factor was .88 with 63% of variance explained.

**Predicted epistemic value**

Exploratory factor analysis produced a one-factor solution for the three-item scale, including prediction that the restaurant would provide a variety of selections and a unique experience. Internal reliability for this variable, based on Cronbach’s alpha coefficient, was .79. Seventy-one percent of variance was explained by these three items with factor loadings ranging from .81 to .86.

**Predicted conditional value**

Exploratory factor analysis revealed a one-factor solution for predicted conditional value consisting of only two items in the scale, including prediction that the restaurant would be a good choice for special occasions and for time availability. Variance explained by the factor was 65%. Based on Cronbach’s alpha coefficient, internal reliability for the factor was .49. Factor loadings for the two items were .80. Even though the reliability of the factor was slightly lower than .50, it was retained for following data analyses due to its face validity and the preliminary objective of the exploratory factor analysis as aforementioned.

**Exploratory Factor Analysis of Endogenous Constructs**

**Affective response to waiting**

Exploratory factor analysis produced one factor for this variable consisting of five items in the scale, such as “I felt pleased about waiting to be seated at this restaurant today” and “I felt relaxed about waiting to be seated at this restaurant today.” Variance
explained by the factor was 90% with factor loadings ranging from .93 to .96. Internal reliability for the factor was .97 based on Cronbach’s alpha coefficient.

**Service experience evaluation**

Exploratory factor analysis revealed that service experience evaluation was explained by two factors. Variance explained by the first factor, *emotional dimension of service experience evaluation*, was 85% with factor loadings ranging from .83 to .96 for three items, such as “This restaurant visit was positive” and “This restaurant visit was good.” Internal reliability for this factor, based on Cronbach’s alpha coefficient, was .97. Variance explained by the second factor, *cognitive dimension of service experience evaluation*, was 98% with factor loadings of .99 for both items, such as “My choice to patronize this restaurant was a wise one” and “I think that I did the right thing by coming to this restaurant.” Internal reliability for the second factor was .98 based on Cronbach’s alpha coefficient.

Overall, the above results produced from exploratory factor analyses showed that each of the multiple-item scales had construct reliability ranging from .49 to .98. All factors were retained for confirmatory factor analysis. In addition to the multi-item scales, this study utilized two single item measurements in order to test the hypotheses.

**Calculations of One-item Measures**

**Consumer zone of wait tolerance**

In order to test Hypotheses 1a to 1f, consumer zone of wait tolerance was calculated by subtracting desired wait expectation from adequate wait expectation (e.g., Nadiri and Hussain 2005; Walker and Baker 2000), both of which were measured in
terms of hours and minutes. The greater the difference score between the two variables, the wider the zone of wait tolerance.

**Wait disconfirmation**

Wait disconfirmation was calculated to facilitate testing of Hypotheses 2 and 4. The calculation of wait disconfirmation based on the concept of zone of wait tolerance has not been done in the existing literature. Theoretically, disconfirmation is the comparison between expectation and perception of performance (Oliver 1997). Therefore, in this study, wait disconfirmation was constructed by obtaining the absolute difference score between perceived wait duration (perception of performance) and consumer zone of wait tolerance (expectation).

After exploring the data and identifying the items with acceptable psychometric properties for further data analyses, confirmatory factor analysis was then conducted for entire sample and for multigroup analysis.

**Confirmatory Factor Analysis: Measurement Models**

The exploratory factor analyses discussed previously provide preliminary understanding of the data. Next, confirmatory factor analyses via LISREL 8.54 using the maximum likelihood method (Jöreskog and Sörbom 1996) were conducted to establish four measurement models. Measurement Model 1 was used to estimate the structural model for the entire sample (see Table 7), and the other measurement models were used to estimate the structural model across the three wait disconfirmation groups utilizing multigroup analysis (see Tables 8-10). Further explanation will be provided later. The factors retained from previous exploratory factor analyses in relation to various types of
predicted value, affective response to waiting, and service experience evaluation were used as the basis for analysis at this stage of data analysis. The measurement model allows for the assessment of discriminant and convergent validity. If the measurement model provides an acceptable fit to the data, the structural model then provides an assessment of nomological validity (Anderson and Gerbing 1988). Therefore, the measurement models were established in this study prior to examining the hypothesized relationships.

**Measurement Model for the Entire Sample**

The first measurement model (Model 1; Table 7) was estimated for the entire sample of this study \((N = 393)\) in order to test Hypotheses 1a to 5a with the exception of Hypothesis 2. The measurement model included the main latent variables of this study (i.e., predicted overall/functional/social/emotional/epistemic/conditional value, zone of wait tolerance, wait disconfirmation, perceived wait duration, affective response to waiting, and emotional and cognitive dimensions of service experience evaluation).

**Validation of scales**

In order to improve the internal reliability of the scales, six observed variables retained based on the above exploratory factor analyses were eliminated. The items selected for deletion were determined by examining standardized factor loadings and cross-loadings on multiple factors. As a result, two items were removed from the predicted functional value scale: “I anticipate that this restaurant will be necessary for what I need,” and “I anticipate that this restaurant will provide fast service.” One item, “I anticipate that this restaurant will be a place where I can socialize with people,” was
deleted from the predicted social value scale. Two items were eliminated from the predicted emotional value: “I anticipate that my experience today at this restaurant will make me feel joyful,” and “I anticipate that my experience today at this restaurant will make me feel happy.” One additional item, “Overall, this restaurant visit was favorable,” was removed from the emotional dimension of the respondents’ service experience evaluation.

The results of the confirmatory factor analysis indicated that the measurement model for the entire sample (Model 1) provided very good fit to the data: $\chi^2 (310) = 500.72$, Goodness-of-Fit Index (GFI) = .92, Adjusted Goodness of Fit Index (AGFI) = .89, Comparative Fit Index (CFI) = .99, Root Mean Square Error of Approximation (RMSEA) = .037.

**Measurement Models for Three Wait Disconfirmation Groups**

In order to test Hypothesis 2, three wait disconfirmation groups were established and corresponding measurement models were estimated on the basis of the measurement model for the entire sample (Model 1). The structure of factors and items retained accordingly for Model 1 were used for analysis at this step.

**Establishment of wait disconfirmation groups**

The respondents were divided into groups according to their zones of wait tolerance and perceived wait durations. If the respondents perceived the wait at the restaurant to be shorter than their desired wait expectation, they were assigned to the positive wait disconfirmation group ($n = 207$). If the respondents perceived their wait at the restaurant to be longer than their desired wait expectation, but shorter than their
adequate wait expectation, they were assigned to the zero wait disconfirmation group \((n = 145)\). For those respondents who perceived their wait at the restaurant to be longer than their adequate wait expectation, they were categorized as the negative disconfirmation group \((n = 41)\).

Three measurement models were established based on the wait disconfirmation groups to prepare for following multigroup analysis. Multigroup analysis was chosen in this study to test Hypothesis 2, predicting different relationships between wait disconfirmation and affective response to waiting across the three wait disconfirmation groups (i.e., positive, zero, and negative), because it allowed not only for examination of the relationship between wait disconfirmation and affective response to waiting in the three groups but also for comparison of the strength of the relationships across the three groups. It also allowed additional testing of Hypothesis 4 regarding the comparative effects of wait disconfirmation and perceived wait duration on affective response to waiting in the positive and negative wait disconfirmation groups.

**Measurement models for multigroup analysis**

The second measurement model (Model 2; Table 8) was estimated for the group of respondents with positive wait disconfirmation, the third model (Model 3; Table 9) for the group of respondents with zero wait disconfirmation, and the fourth one (Model 4; Table 10) for the group of respondents with negative wait disconfirmation. The results of the confirmatory factor analyses indicated that the three measurement models for the three wait disconfirmation groups also produced good fit to the data: (1) Model 2: \(\chi^2(309) = 441.46\), Goodness-of-Fit Index (GFI) = .88, Adjusted Goodness of Fit Index
(AGFI) = .83, Comparative Fit Index (CFI) = .98, Root Mean Square Error of Approximation (RMSEA) = .040; (2) Model 3: \( \chi^2 \) (306) = 362.13, Goodness-of-Fit Index (GFI) = .86, Adjusted Goodness of Fit Index (AGFI) = .80, Comparative Fit Index (CFI) = .99, Root Mean Square Error of Approximation (RMSEA) = .027; (3) Model 4: \( \chi^2 \) (306) = 271.77, Goodness-of-Fit Index (GFI) = .73, Adjusted Goodness of Fit Index (AGFI) = .61, Comparative Fit Index (CFI) = 1.00, Root Mean Square Error of Approximation (RMSEA) = .000. The results of these measurement models were then used to estimate the structural model for the three wait disconfirmation groups.

**Psychometric Properties of Constructs for All Measurement Models**

**Internal reliability and variance extracted**

The psychometric properties of the multi-item constructs in the measurement models for both the entire sample and the three wait disconfirmation groups were examined (Tables 7-10). Construct reliability was calculated using the procedures outlined by Fornell and Larcker (1981). Computations using the standardized factor loadings and measurement error for each latent construct indicated reliabilities ranging from .96 for the construct of affective response to waiting to .75 for the construct of predicted social value. In general, all latent constructs possessed internal reliability exceeding the minimum criterion of .60 recommended by Bagozzi and Yi (1988). Variance extracted measures ranged from 95% for the construct of cognitive dimension of service experience evaluation to 51% for the construct of predicted functional and social value. Although the variances extracted for the constructs of predicted functional and social value were slightly lower than the variances extracted for other constructs,
they still exceeded the recommended 50% (Bagozzi and Yi 1988). Therefore, they were considered acceptable and retained for further analyses.

**Convergent and discriminant validity**

Convergent validity refers to the extent to which multiple measurements of a construct are in agreement (Bagozzi 1981). The convergent validity of the scales was supported in that the estimated standardized factor loadings from the four measurement models for the indicators measuring the same constructs were statistically significant at \( p < .05 \) by examining the \( t \) values (because all \( t \) values exceeded the critical \( t \) of 1.96 for \( p = .05 \)) (Tables 7-10).

Discriminant validity indicates that all constructs are empirically differentiated from each other in the research model. The confidence interval test for discriminant validity was supportive. That is, no confidence intervals of plus or minus two standard errors around the correlation for the constructs (\( \phi \) values) included 1.0 (Anderson and Gerbing 1988). Also, the variance extracted test (Fornell and Larcker 1981) indicated that the variance extracted estimates for the constructs were all greater than the square of the correlation coefficients between the constructs. Tables 11-14 show the intercorrelations between constructs employed in this study for the entire sample and for the three wait disconfirmation groups.

**Overall Model Fit of the Research Model and Its Rival Models for the Entire Sample**

The structural model of the proposed Research Model (see Figure 3) was estimated for the entire sample according to Model 1 (see Table 7). It is suggested that,
in addition to testing a proposed model, rival models with different paths should also be compared to the proposed model (Bollen and Long 1992). Thus, in this subsection, overall model fit for the proposed Research Model and its rival models were estimated. Comparisons among these models were discussed to determine the final model for hypothesis testing.

**Changes to the Research Model**

In order to test the framework as a whole (Hypotheses 1a to 5a with the exception of Hypothesis 2) using structural equation modeling, rather than testing individual relationships through regression analysis as proposed, several changes had to be made in the proposed research model (see Figure 3). First, the latent construct of wait disconfirmation, conceptualized as a function of zone of wait tolerance and perceived wait duration, was incorporated into the model. Second, the predicted interactive effects of actions of the service provider (i.e., apology and compensation) were dropped from the analysis of structural equation modeling for both the entire sample and multigroup analysis but were examined in a separate analysis using MANCOVA which will be discussed later. Based on these changes, the Research Model was estimated.

**The Research Model**

The Research Model (Figure 3) contained seven exogenous constructs (i.e., predicted overall/functional/social/emotional/epistemic/conditional value and perceived wait duration) and five endogenous constructs (i.e., zone of wait tolerance, wait disconfirmation, affective response to waiting, emotional dimension of service experience evaluation, and cognitive dimension of service experience evaluation). First,
the six types of predicted value were posited to be predictors of consumer zone of wait tolerance (Hypotheses 1a to 1f). Next, both zone of wait tolerance and perceived wait duration had direct paths leading to wait disconfirmation, which were not conceptualized in the original study and, thus, were not hypothesized. Both wait disconfirmation and perceived wait duration were predicted to have direct effects on affective response to waiting (Hypotheses 2 and 3). Comparison of strength of the effects of wait disconfirmation and perceived wait duration on affective response to waiting was predicted (Hypothesis 4). Finally, affective response to waiting was hypothesized to have impact on both emotional and cognitive dimensions of service experience evaluation (Hypothesis 5a). Hypothesis 2 will be discussed later in the context of the multigroup analysis. Hypotheses 5b and 5c will be examined with the MANCOVA analysis.

**Overall Model Fit of the Research Model**

Structural equation modeling via LISREL 8.54 was conducted for all of the respondents to test Hypotheses 1a-1f, 3, 4, and 5a of the Research Model. The structural model, based on the Research Model (Figure 3), was first estimated by including only the paths specified in the Research Model; however, LISREL failed to identify a model and generate relevant statistical information for examination. Two additional paths, the positive relationships between the constructs of predicted epistemic value and affective response to waiting and between the constructs of emotional and cognitive dimensions of service experience evaluation, were suggested and, therefore, added to the model. Analysis of this estimated model (Figure 3-1) indicated a good overall model fit $[\chi^2 (341) = 633.68, \text{Goodness-of-Fit Index (GFI)} = .90, \text{Parsimony Normed Fit Index (PNFI)} = .81, \text{Parsimony Goodness-of-Fit Index (GFI)} = .83]$. The model fits the data well, confirming the relationships hypothesized in the research model.
Comparative Fit Index (CFI) = .98, Root Mean Square Error of Approximation (RMSEA) = .044. Examination of the new Research Model (Figure 3-1) revealed that all of the hypothesized paths were supported \((p < .05)\) with the exception of five paths, predicted overall value (H1a), predicted functional value (H1b), predicted emotional value (H1c), predicted social value (H1d), and predicted epistemic value (H1e) to consumer zone of wait tolerance.

**Overall Model Fit of the Rival Models**

In order to assess whether or not the estimated Research Model (Figure 3-1) was the best model, a series of four nested structural models were estimated as rival models for comparison. The Revised Research Model was first estimated with two additional paths suggested by the statistics obtained from the estimated Research Model; the other three rivals (the Value-Free Model, the Value-Evaluation Model, and the Value-Affect Model) were estimated without including the paths of various types of predicted value to consumer zone of wait tolerance.

**The Revised Research Model**

Analysis of the modification indices and standardized residuals of the estimated Research Model (Figure 3-1) discussed above revealed that two additional paths could be included to improve the fit of the model. The estimated Research Model was then respecified by adding these two paths (predicted functional value \(\rightarrow\) cognitive dimension of service experience evaluation and predicted conditional value \(\rightarrow\) cognitive dimension of service experience evaluation), both of which were positive relationships (see Figure 4). The fit of this Revised Research Model was improved over the previous estimated
research model \[ \chi^2 (339) = 537.61, \text{Goodness-of-Fit Index (GFI)} = .92, \text{Parsimony Normed Fit Index (PNFI)} = .81, \text{Comparative Fit Index (CFI)} = .99, \text{Root Mean Square Error of Approximation (RMSEA)} = .036 \]. All paths were significant except for the five paths, i.e., predicted overall value (H1a), predicted functional value (H1b), predicted emotional value (H1c), predicted social value (H1d), and predicted epistemic value (H1e) to consumer zone of wait tolerance.

Three Additional Rival Models

Another three nested models were estimated without specifying the paths between the six types of predicted value and consumer zone of wait tolerance. One of the resultant models, a Value-Free Model (Figure 5) denoting relationships among zone of wait tolerance, perceived wait duration, wait disconfirmation, affective response to waiting, and emotional and cognitive dimensions of service experience evaluation, was estimated \[ \chi^2 (341) = 643.52, \text{Goodness-of-Fit Index (GFI)} = .90, \text{Parsimony Normed Fit Index (PNFI)} = .81, \text{Comparative Fit Index (CFI)} = .98, \text{Root Mean Square Error of Approximation (RMSEA)} = .044 \]. All paths were significant. A Value-Evaluation Model (Figure 6) was estimated with all significant paths \[ \chi^2 (339) = 546.84, \text{Goodness-of-Fit Index (GFI)} = .92, \text{Parsimony Normed Fit Index (PNFI)} = .81, \text{Comparative Fit Index (CFI)} = .99, \text{Root Mean Square Error of Approximation (RMSEA)} = .037 \]. In addition to the paths specified in the previous Value-Free Model, this model reveals that predicted functional and conditional values directly impact respondents’ cognitive dimension of service experience evaluation. Furthermore, a Value-Affect Model (Figure 7) was estimated \[ \chi^2 (340) = 631.88, \text{Goodness-of-Fit Index (GFI)} = .90, \text{Parsimony} \]
Normed Fit Index (PNFI) = .81, Comparative Fit Index (CFI) = .98, Root Mean Square Error of Approximation (RMSEA) = .044. This model is different from the Value-Free model in that it specifies the relationship between predicted epistemic value and affective response to waiting.

Overall, the above five models (Figures 3-1 through 7) showed a good model fit based on the relevant indices (e.g., GFI). While the PNFI values (.81) revealed a somewhat weak parsimony as compared to the value of .90 which assumes good fit (Garson 2005), it is not uncommon in past studies to have PNFI smaller than .90 (e.g., Garbarino and Johnson 1999).

**Comparisons Among the Estimated Research Model and Rival Models**

In order to assess the final model for this research based on statistics, a series of nested model comparisons were performed among the estimated Research Model (Figure 3-1) and the rival models (Figures 4-7) through sequential chi-square difference tests (SCDTs) (Anderson and Gerbing 1988). Results of model comparisons are shown in Table 15.

First, a chi-square difference test between the estimated Research Model (Figure 3-1) and the Revised Research Model (Figure 4) with the two additional paths from predicted value to service experience evaluation produced a significant decrease in chi-square in the Revised Research Model, which lent support for the Revised Research Model \( \chi^2_{\text{diff}} = 96.07, df = 2, p < .005 \). Next, the Revised Research Model (Figure 4) was assessed against the Value-Free Model (Figure 5). The comparison revealed that there was a significant decrease in chi-square value in the Revised Research Model.
\( \chi^2 = 105.91, \, df = 2, \, p < .005 \), which, again, offered support for the Revised Research Model.

Another \( \chi^2 \) difference test comparing the Value-Evaluation model (Figure 6) against the Value-Affect model (Figure 7) generated a significant decrease in chi-square in the Value-Evaluation Model, which indicated that the Value-Evaluation Model is the better one (\( \chi^2 \text{ diff } = 85.04, \, df = 1, \, p < .005 \)). Moreover, the Revised Research Model (Figure 4) was compared again with the Value-Evaluation Model (Figure 6). The \( \chi^2 \) difference test revealed a significant increase in chi-square in the Value-Evaluation Model, which offered support for the Revised Research Model (\( \chi^2 \text{ diff } = 9.23, \, df = 0, \, p < .01 \)). Finally, the Revised Research Model (Figure 4) was compared to the Value-Affect Model (Figure 7). The chi-square difference test produced a significant decrease in chi-square of the Revised Research Model (\( \chi^2 \text{ diff } = 94.27, \, df = 1, \, p < .005 \)), which provided support for the Revised Research Model.

In summary, statistical results based on the model comparisons provided support for the Revised Research Model which specified the relationships between various types of predicted value and consumer zone of wait tolerance, and the effects of wait disconfirmation and perceived wait duration on affective response to waiting, which, in turn, influenced both emotional and cognitive dimensions of service experience evaluation. The Revised Research Model also denoted the relationships between predicted epistemic value and affective response to waiting, and predicted functional and conditional value and cognitive dimension of service experience evaluation. Therefore, the Revised Research Model (Figure 4) was used to test relevant Hypotheses 1a-1f, 3, 4,
and 5a. In addition to the statistical validity of the Revised Research Model, it was selected on the basis of theoretical soundness. The theoretical aspects will be discussed in Chapter 6.

**Test of Hypotheses 1a to 1f**

Hypothesis 1a, stating the positive effect of predicted overall value on consumer zone of wait tolerance, was not supported. The Revised Research Model (Figure 4) based on the entire sample, indicated a nonsignificant path ($\gamma = .03, p > .05$). Consumers’ general prediction of the restaurant’s ability to provide high value and satisfy its customers did not influence their tolerance for waiting at the restaurant.

Hypothesis 1b, predicting the positive effect of predicted functional value on consumer zone of wait tolerance, was not supported. The Revised Research Model showed a nonsignificant path between predicted functional value and zone of wait tolerance ($\gamma = -.03, p > .05$). Consumer predicted functional value with respect to good monetary value, good service, and quality food did not impact consumers’ tolerance for waiting.

Hypothesis 1c, examining the expected positive relationship between predicted social value and consumer zone of wait tolerance, was rejected. Results based on The Revised Research Model indicated a nonsignificant path ($\gamma = .00, p > .05$). Although consumers may predict that visiting the restaurant may help build warm and closer relationships with others, this prediction may not determine how long consumers are willing to wait for service.
Hypothesis 1d, hypothesizing the positive effect of predicted emotional value on consumer zone of wait tolerance, was not supported. Results based on the Revised Research Model showed a nonsignificant relationship ($\gamma = .12, p > .05$), implying that customers’ prediction of the restaurant’s ability to make them feel joyful, happy, special, and cool has no effect on their tolerance for waiting to be seated at the restaurant.

Hypothesis 1e, stating the positive relationship between predicted epistemic value and consumer zone of wait tolerance, was also rejected. The Revised Research Model indicated a nonsignificant path between predicted epistemic value and consumer zone of wait tolerance ($\gamma = -.13, p > .05$). Although not significant, the negative coefficient is surprising. While customers may seek a variety of selections and predict that the restaurant would provide them a unique experience, their tolerance for waiting is not affected.

Predicting the positive effect of predicted conditional value on consumer zone of wait tolerance, Hypothesis 1f was supported. The Revised Research model showed that there is a positive relationship between predicted conditional value and consumer zone of wait tolerance ($\gamma = .16, p < .01$). When the consumer anticipates more temporary utilities from going to the restaurant, he/she may be more likely to have a wider zone of wait tolerance. In other words, when consumers anticipate that certain utilities or benefits can be obtained from restaurants for special occasions or based on their time availability, their zones of wait tolerance may be broader and, thus, are more willing to wait. This finding is congruent with Zeithaml et al.’s (1993) study proposing that situational factors
may have an effect on consumers’ expectations (i.e., zone of tolerance), especially the level of adequate service expectation.

**Test of Hypothesis 3**

According to Hypothesis 3, the findings would reveal an independent effect of perceived wait duration on affective response to waiting. As hypothesized, perceived wait duration had a negative effect on affective response to waiting ($\gamma = -.51, p < .01$). Thus, Hypothesis 3 was supported, confirming earlier findings reported by Taylor (1994) and Houston et al. (1998). That is, when perceived waiting time increases, the associated costs, both economic and psychological, may increase, resulting in greater negative feelings.

**Test of Hypothesis 4**

The anticipation that wait disconfirmation may have a stronger effect on affective response to waiting than perceived wait duration itself (Hypothesis 4), was rejected. Results based on the Revised Research Model for the entire sample indicated that there was a positive relationship between wait disconfirmation and affective response to waiting ($\beta = .30, p < .05$). The positive coefficient suggested that, as wait disconfirmation became more positive, consumers’ affective responses to waiting would become more positive. On the other hand, there was a negative relationship between perceived wait duration and affective response to waiting ($\gamma = -.51 p < .01$). That is, as consumers perceived the wait to be longer, their affective responses to waiting were likely to become more negative, which is in line with the result of Hypothesis 3. Contrary to the prediction, comparison of the two coefficients revealed that perceived
wait duration with a larger coefficient seemed to play a more critical role in explaining affective response to waiting than wait disconfirmation. Additional results by wait disconfirmation groups will be presented under the “Overall Model Fit for Multigroup Analysis” section.

Test of Hypothesis 5a

Hypothesis 5a posited the direct relationship between affective response to waiting and service experience evaluation. Results based on the Revised Research Model suggested a significant path between affective response to waiting and the emotional dimension of service experience evaluation ($\beta = .44, p < .01$). Additionally, results showed a significant relationship between affective response to waiting and the cognitive dimension of service experience evaluation ($\beta = .23, p < .01$). Both paths were in a positive direction as hypothesized. Thus, Hypothesis 5a was supported. That is, as hypothesized, when consumers experience more calm/optimistic/relaxing feelings about waiting, they tend to have better and more positive emotional-based evaluations and are more likely to evaluate their restaurant visits as a right and wise one. This finding lends support to past wait literature (Cameron et al. 2003; Hui and Tse 1996; Pruyn and Smidts 1998; Taylor 1994).

Continuing with structural equation modeling, multigroup analysis was conducted to test Hypothesis 2. This was done by using the three wait disconfirmation groups.

Overall Model Fit for Multigroup Analysis

Hypothesis 2, specifying different effects of wait disconfirmation on affective response to waiting across the three wait disconfirmation groups (i.e., positive, zero, and
negative), was tested using structural equation modeling via multigroup analysis technique (Jöreskog and Sörbom 1996). The established measurement models (Tables 8-10) were used for this analysis. Due to the sole interest in the relationship between wait disconfirmation and affective response to waiting across the three wait disconfirmation groups, the Value-Free Model (Figure 5), one of the rival models estimated previously was chosen for this task because this model is only different from the Revised Research Model in that it does not specify the relationships between various types of predicted value and consumer zone of wait tolerance. It is appropriate because these relationships are not of interest for testing Hypothesis 2.

**The Structural Model for the Wait Disconfirmation Groups**

A series of analyses were conducted based on the Value-Free Model to examine the strength of the relationship between wait disconfirmation and affective response to waiting across the three wait disconfirmation groups, including constraining all paths in the model, freeing the focused relationship across the groups, and constraining the focused relationship for only the positive and negative wait disconfirmation groups.

**The Value-Free Model Estimated with All Paths Constrained**

First, the structural model of the Value-Free Model (Figure 5) was estimated with all seven paths which are the same as the Revised Research Model with the exception of predicted value (i.e., zone of wait tolerance → wait disconfirmation, perceived wait duration → wait disconfirmation, wait disconfirmation → affective response to waiting, perceived wait duration → affective response to waiting, affective response to waiting → emotional dimension of service experience evaluation, and affective response to waiting →
cognitive dimension of service experience evaluation) being constrained to equality across the three wait disconfirmation groups (i.e., positive, zero, and negative). This analysis produced an overall $\chi^2$ value of 1553.70 with 1181 degrees of freedom. The $t$ values of the relationship between wait disconfirmation and affective response to waiting in the three groups revealed that there was a non-significant relationship between the two constructs in the three groups because none of the $t$ values exceeded the critical $t$ of 1.96 for $p = .05$.

**The Value-Free Model Estimated with One Path Being Freed**

A second structural model based on the Value-Free Model (Figure 5) was estimated allowing a single parameter estimate for the path between wait disconfirmation and affective response to waiting to vary freely across the three groups while constraining the other six paths to be equal ($\chi^2 = 1552.21$, $df = 1179$). The chi-square difference test with two degrees of freedom between the first and the second structural models revealed a non-significant decrease in chi-square of the second structural model ($\chi^2_{\text{diff}} = 1.49$, $df = 2$, $p > .05$), indicating a non-significant difference in the relationship between wait disconfirmation and affective response to waiting across the three groups. That is, there was no difference when setting the relationship between wait disconfirmation and affective response to waiting to differ across the three groups as compared to the situation when setting the relationship to be equal.

**The Value-Free Model Estimated with One Path Being Freed for Only One Group**

Similarly, a third structural model was estimated constraining the path between wait disconfirmation and affective response to waiting to be equal simultaneously for the
positive and negative wait disconfirmation groups, but allowing it to vary for the zero
wait disconfirmation group ($\chi^2 = 1552.90$, $df = 1180$). The $\chi^2$ difference test with one
degree of freedom revealed a non-significant decrease in chi-square of the first structural
model ($\chi^2_{\text{diff}} = 0.8$, $df = 1$, $p > .05$), implying, again, a non-significant difference in the
strength of the relationship between wait disconfirmation and affective response to
waiting between the positive and negative wait disconfirmation groups and the zero wait
disconfirmation group. Due to lower chi-square and fewer degrees of freedom, the
second structural model (Figure 8) estimated with the relationship between wait
disconfirmation and affective response to waiting set to vary freely is used to test
Hypothesis 2.

**Test of Hypothesis 2**

Hypothesis 2 posited the relationships between wait disconfirmation and affective
response to waiting. Specifically, this study predicted that there is a positive relationship
between wait disconfirmation and affective response to waiting for consumers in the
positive wait disconfirmation group, a negative relationship between the two constructs
for consumers in the negative wait disconfirmation group, and a weaker relationship
between the two constructs in the zero wait disconfirmation group. Results based on the
multigroup analysis (Figure 8) rejected this hypothesis. The effect of wait
disconfirmation on affective response to waiting in the positive wait disconfirmation
group was not significant even though the direction was positive as hypothesized ($\beta = .07$, $p > .05$). Similarly, for both zero and negative wait disconfirmation groups, the
relationships between wait disconfirmation and affective response to waiting were not
significant (β = -.06, p > .05; β = .07, p > .05, respectively). In addition, the strength of
the relationships between wait disconfirmation and affective response to waiting in the
positive and negative wait disconfirmation groups did not differ significantly from that in
the zero wait disconfirmation.

While the results for this hypothesis are unexpected, additional post hoc
regression analyses shed some light on how the effect of wait disconfirmation on
affective response to waiting may perform differently for the three wait disconfirmation
groups. These findings are presented later in the Post Hoc Analysis section.

**Additional Test of Hypothesis 4**

Multigroup analysis allowed further comparison of strength of effects of wait
disconfirmation and perceived wait duration on affective response to waiting in the
positive and negative wait disconfirmation groups (Hypothesis 4). Consistent with the
previous analysis based on the entire sample, results based on the multigroup analysis
(Figure 8) also failed to support this hypothesis. Comparisons of the coefficients showed
that, contrary to anticipation, perceived wait duration had a stronger effect on affective
response to waiting (γ = -.26, p < .01) than wait disconfirmation in both positive and
negative wait disconfirmation groups (β = .07, p > .05; β = .07, p > .05, respectively).
Similar to the results obtained from the previous SEM analysis based on the entire
sample, this analysis also indicated that perceived wait duration with a larger coefficient
was a better predictor of affective response to waiting than wait disconfirmation.
Following structural equation modeling, the statistical technique, MANCOVA, was employed in order to test Hypotheses 5b and 5c regarding the interaction among affective response to waiting, apology, and compensation.

**MANCOVA Analysis**

MANCOVA was conducted to examine the interactive effects of affective response to waiting, apology, and compensation on respondents’ emotional and cognitive dimensions of service experience evaluations (Hypotheses 5b and 5c) with importance of apology/compensation, sincerity of apology, and perceived attractiveness of service environment used as covariates (see Chapter 4).

The sample was split into two levels on each of the three independent variables: (1) affective response to waiting (negative vs. positive), (2) apology (no vs. yes), and (3) compensation (no vs. yes). The method used to split the sample for the variable of affective response to waiting took into account the sample size of each cell for the analysis. Mean split was first considered for the analysis; however, due to the imbalanced cell sample sizes, a rating of 3.6 was then used for splitting the respondents for further analyses. This approach facilitated greater balance in cell sizes.

**Two-way MANCOVA for Hypothesis 5b**

A series of analyses were conducted using affective response to waiting and apology/compensation as the independent variables and emotional and cognitive dimensions of service experience evaluation as the dependent variables.
**Interactive Effect of Affective Response to Waiting and Apology**

The interactive effect of affective response to waiting and apology on both emotional and cognitive dimensions of service experience evaluation was inspected with importance of apology, sincerity of apology, and perceived attractiveness of the environment as covariates. The covariates of importance of apology and sincerity of apology were found to be nonsignificant and, thus, were removed from the model. Multivariate tests confirmed the significance of the model as a whole (F = 35.56, \( p < .0001 \) for the emotion dimension; F = 43.11, \( p < .0001 \) for the cognitive dimension).

**Interactive Effect of Affective Response to Waiting and Compensation**

The interactive effect of affective response to waiting and compensation on the same dependent variables was examined with importance of compensation and perceived attractiveness of the environment as covariates. The covariate, importance of compensation, was not found to be significant and, thus, was removed from the model. Multivariate tests indicated that the model as a whole was significant (F = 35.75, \( p < .0001 \) for the emotional dimension; F = 41.15, \( p < .0001 \) for the cognitive dimension).

Information obtained from the two established MANCOVA models was then used. Univariate F-tests for each of the models were further examined to test Hypothesis 5b.

**Test of Hypothesis 5b**

Hypothesis 5b predicted positive two-way interactive effects between affective response to waiting and apology/compensation on service experience evaluation. Univariate tests (see Tables 16-17) indicated that the interactive effects of affective
response to waiting and apology were not significant on either emotional or cognitive dimensions of service experience evaluation ($F = 2.01, p > .05; F = 0.12, p > .05$, respectively). Likewise, the interactive effects of affective response to waiting and compensation were not significant on either emotional or cognitive dimensions of service experience evaluation ($F = 1.43, p > .05; F = .02, p > .05$, respectively). Therefore, Hypothesis 5b was not supported.

Despite the nonsignificant results, cell mean statistics suggested a directional pattern regarding the interactive effect on the emotional dimension of service experience evaluation. That is, respondents who had negative affective responses to waiting but received an apology from the service provider had a slight tendency to have better and more positive evaluations of the service ($M = 4.87$) than those who did not receive an apology ($M = 4.34$). Regarding compensation, the cell means are, however, not in the expected direction. Respondents who had negative affective responses to waiting and received compensation from the service provider showed worse and less positive evaluations about the service ($M = 3.00$) than those who did not receive compensation ($M = 4.46$). A similar result based on the cell means showed that respondents who had negative affective responses to waiting and received compensation from the service provider were also less likely, on a directional basis, to think that visiting the restaurant was a wise choice ($M = 5.00$) than those who did not receive compensation ($M = 5.32$). Additionally, apology itself did not have a significant effect on either emotional or cognitive dimension of service experience evaluation ($F = 1.82, p > .05; F = .20, p > .05$, respectively). Compensation itself did not significantly influence the emotional and
cognitive dimensions of service experience evaluation ($F = .43, p > .05; F = .12, p > .05$, respectively).

While the MANCOVA models as a whole produced significant results, neither the focused effect (i.e., interactive effect of affective response to waiting and apology/compensation) nor the individual effect of apology/compensation on service experience evaluation was significant. Reexamination of the models showed that the significance might be contributed to the main effects of affective response to waiting and the covariate, perceived attractiveness of the environment. Univariate statistics showed significant effects of affective response to waiting and perceived attractiveness of the environment on the emotional dimension of service experience evaluation ($F = 44.71, p < .0001; F = 41.07, p < .0001$, respectively) and also the sole significant effect of perceived attractiveness of the environment on the cognitive dimension ($F = 158.95, p < .0001$) for the apology model. Similarly, univariate F-tests showed significant effects of affective response to waiting and perceived attractiveness of the environment on the emotional dimension of service experience evaluation ($F = 12.96, p < .001; F = 38.99, p < .0001$, respectively) and also the sole significant effect of perceived attractiveness of the environment on the cognitive dimension ($F = 149.50, p < .0001$) for the compensation model.

**Three-way MANCOVA for Hypothesis 5c**

The three-way interactive effect of affective response to waiting, apology, and compensation were investigated with importance of apology/compensation, sincerity of apology, perceived attractiveness of the environment as covariates. Results revealed that
importance of apology/compensation and sincerity of apology were not significant in the examined relationships and, thus, were removed from the analyses. According to multivariate statistics, the new model retained only perceived attractiveness of the environment as a covariate ($F = 20.27, p < .0001$ for the emotional dimension; $F = 23.36, p < .0001$ for the cognitive dimension) and was used to test Hypothesis 5c.

**Test of Hypothesis 5c**

Hypothesis 5c stated the three-way interactive effect of affective response to waiting, apology, and compensation on the respondents’ service experience evaluations. Unfortunately, this hypothesis could not be assessed (Table 18). Although the three-way interaction model as a whole based on multivariate tests was significant at .001 level for both emotional and cognitive dimensions of service experience evaluation, MANCOVA failed to calculate the three-way interactive effect due to zero degree of freedom, which may be due, in part, to the insufficient number of respondents who received compensation from the service provider.

Because evidence was inconclusive, further analysis was conducted. It was reasoned that effects of apology and compensation may not work equally for all customers (Smith and Bolton 2002) who had various zones of wait tolerance and perceived wait duration. Thus, additional *post hoc* analyses were run across the three wait disconfirmation groups. In the following subsection, two sets of *post hoc* analyses were employed to further explore Hypothesis 2 and Hypothesis 5b.
Post Hoc Analysis

Hypothesis 2

A post hoc examination regarding the path between wait disconfirmation and affective response to waiting (Hypothesis 2) was employed to further explore the relationship. In this analysis, three dummy variables based on the comparisons between perceived waiting duration and zone of wait tolerance were developed. The first dummy variable (Dummy 1) was created with a value of 1 if perceived wait duration is above the zone of wait tolerance (positive wait disconfirmation, i.e., perceived wait duration is shorter than desired wait expectation) and a value of 0 otherwise. The second dummy variable (Dummy 2) was constructed with a value of 1 if perceived wait duration is below the zone of wait tolerance (negative wait disconfirmation, i.e., perceived wait duration is longer than adequate wait expectation) and a value of 0 otherwise. The third dummy variable (Dummy 3) was generated with a value of 1 if perceived wait duration falls within the zone of wait tolerance (zero wait disconfirmation, i.e., perceived wait duration is longer than desired wait expectation but shorter than adequate wait expectation) and a value of 0 otherwise. Next, a set of regression analyses were employed using the three dummy variables as independent variables and affective response to waiting as dependent variable. This is consistent with the approach originally proposed based upon regression analysis for testing this hypothesis.

Post hoc Analysis: Results of Hypothesis 2

Regression analysis results indicated a significant positive relationship between positive wait disconfirmation and affective response to waiting ($\beta = .21, p < .001$).
Results further showed that there was a significant negative relationship between negative wait disconfirmation and affective response to waiting ($\beta = -0.21$, $p < 0.001$). However, there was no significant relationship between zero wait disconfirmation and affective response to waiting ($\beta = -0.01$, $p > 0.05$). Post hoc analysis using the originally proposed regression analysis revealed congruent results with Hypothesis 2. That is, for the positive wait disconfirmation group, as wait disconfirmation became more positive, consumers’ affective responses to waiting became more positive. For the negative wait disconfirmation group, consumers’ affective responses to waiting became more negative as the disconfirmation became more negative. For consumers in the zero wait disconfirmation group, their affective responses were not affected by the change in wait disconfirmation. This finding based on post hoc analyses agreed with the literature that posits that consumers will have indifferent emotional reactions when service performance falls within the zone of tolerance (Zeithaml and Bitner 2003).

**Hypothesis 5b**

While the MANCOVA for the entire sample did not show promising results for Hypothesis 5b testing as discussed earlier, it was reasoned that apology and compensation may play an especially important role in explaining consumers’ evaluations about the service for those customers who experience negative emotions (Smith and Bolton 2002), which may be a result of negative wait disconfirmation. Therefore, additional MANCOVA analyses were employed to examine the predicted relationship in Hypotheses 5b. Instead of including all of the respondents, this set of analyses investigated whether affective response to waiting and actions of the service
provider (i.e., apology and compensation) interactively influence emotional and cognitive dimensions of service experience evaluation within each of the three wait disconfirmation groups.

Additional two-way MANCOVAs were run for each of the three groups using affective response to waiting and apology/compensation as the independent variables and emotional and cognitive dimensions of service experience evaluation as the dependent variables with perceived attractiveness of the environment as a covariate.

**Post hoc Analysis: Results of Hypothesis 5b**

**Positive wait disconfirmation group.** For the positive wait disconfirmation group, results (Tables 19-20) revealed that there was a main effect of apology ($F = 7.14, p < .01$). Those who received an apology from the service provider had better and more positive evaluations about the service ($M = 6.13$) than those who did not receive an apology ($M = 5.97$). Also, a significant interaction between affective response to waiting and apology in explaining the emotional dimension of service experience evaluation was found ($F = 7.91, p < .01$). Those respondents in the positive wait disconfirmation group who had negative affective responses to waiting but received an apology from the service provider had better and more positive evaluations about the service ($M = 5.65$) than those who did not receive an apology ($M = 3.92$) ($F = 8.88, p < .01$).

In contrast, neither the main effect of apology nor the interaction between affective response to waiting and apology had significant effects on the cognitive dimension of service experience evaluation ($F = 2.25, p > .05$; $F = .61, p > .05$, respectively). Mean statistics revealed a slight tendency for respondents who received an
apology to view their visits at the restaurant as right and wise choices ($M = 6.26$) as compared to those who did not receive an apology ($M = 5.99$). Although the interactive effect of affective response to waiting and apology was not significant, the cell means were clearly in the expected direction. Those who had negative affective responses to waiting and received an apology from the service provider had a slight tendency to view their visits at the restaurant as right and wise choices ($M = 6.30$) than those who did not receive an apology ($M = 5.58$).

With respect to affective response to waiting and compensation, results showed that neither the main effect of compensation nor the interactive effect of affective response to waiting and compensation on the emotional dimension of service experience evaluation was significant ($F = .38, p > .05; F = .96, p > .05$, respectively). Similarly, no significant results were found for the cognitive dimension of service experience evaluation ($F = .01, p > .05; F = .11, p > .05$, respectively). The cell means implied directional support, i.e., respondents who received compensation had slightly better and more positive evaluations about the service and thought of visiting the restaurant as a right and wise choice ($M = 6.34$ for the emotional dimension; $M = 6.55$ for the cognitive dimension) than those who did not receive compensation ($M = 5.98$ for the emotional dimension; $M = 6.03$ for the cognitive dimension). Nonetheless, regarding the interactive effect of affective response to waiting and compensation, unexpectedly, those who had negative affective responses to waiting and received compensation from the service provider had a tendency to have worse and less positive evaluations about the service ($M = 3.00$) and were somewhat less likely to view their visits at the restaurant as right and
wise choices ($M = 5.00$) than those who did not receive compensation ($M = 4.34$; $M = 5.76$, respectively). Of course, these means must be carefully evaluated given their nonsignificance.

**Zero wait disconfirmation group.** For the zero wait disconfirmation group, results (Tables 21-22) showed that the main effect of apology was not significant in explaining the two dimensions of service experience evaluation ($F = 2.67$, $p > .05$ for the emotional dimension; $F = .16$, $p > .05$ for the cognitive dimension). However, the means were in the expected direction. Regarding the interaction between affective response to waiting and apology, this study found marginal significance in explaining the emotional dimension of service experience evaluation ($F = 3.52$, $p = .063$), but no significance for the cognitive dimension ($F = 0.26$, $p > .05$). Contrast tests for the emotional dimension further showed that respondents who had negative affective responses to waiting but received an apology from the service provider showed better and more positive evaluations about the service ($M = 5.31$) than those who did not receive an apology ($M = 4.12$) ($F = 4.11$, $p < .05$).

With respect to compensation, the main effects on both dimensions of service experience evaluation were not significant ($F = .79$, $p > .05$ for the emotional dimension; $F = .02$, $p > .05$ for the cognitive dimension) even though the cell means indicated a slight tendency that respondents who received compensation had somewhat better and more positive evaluations about the service ($M = 6.67$) and viewed their visits as a wise and right one ($M = 5.67$) than those who did not receive compensation ($M = 5.66$ for the emotional dimension; $M = 5.49$ for the cognitive dimension). The interactive effect of
affective response to waiting and compensation could not be evaluated as a result of insufficient statistical information.

**Negative wait disconfirmation group.** Results for the negative wait disconfirmation group (Tables 23-24) showed that the main effect of apology was significant in explaining the emotional dimension of service experience evaluation ($F = 7.81, p < .01$). Results showed, unexpectedly, that service experience evaluation was found better and more positive for those who did not receive an apology ($M = 5.60$) than those who did receive an apology ($M = 4.55$). The interactive effect of affective response to waiting and apology was also significant ($F = 11.98, p < .01$). Surprisingly, respondents who had negative affective responses to waiting but received an apology from the service provider actually showed more negative evaluations about the service ($M = 2.67$) than those who did not receive an apology ($M = 5.66$) ($F = 15.95, p < .001$). However, the evaluations of those who had positive responses to waiting but received an apology, as compared to those that did not receive an apology, were not affected. Neither the main effect of apology nor the interactive effect of affective response to waiting and apology was found significant for this group of consumers in explaining the cognitive dimension of service experience evaluation ($F = .02, p > .05$; $F = .21, p > .05$, respectively).

Regarding compensation, univariate results indicated that the main effect of compensation was not significant in explaining either emotional or cognitive dimensions of service experience evaluation ($F = .59, p > .05$; $F = .39, p > .05$, respectively). Mean statistics, however, were in the expected direction. The interactive effects of affective
response to waiting and compensation on both emotional and cognitive dimensions were not conclusive due to insufficient statistical information.

**Summary of Findings**

Data of this research provided mixed results for the hypothesized relationships. The structural equation model for the entire sample revealed good support for the effect of predicted conditional value on consumer zone of wait tolerance (Hypothesis 1f), the effect of perceived wait duration on affective response to waiting (Hypothesis 3), and the effect of affective response to waiting on service experience evaluation (Hypothesis 5a). However, it failed to confirm the effects of other types of predicted value (Hypothesis 1a to 1e) and the prediction regarding the strength of effects of wait disconfirmation and perceived wait duration on affective response to waiting (Hypothesis 4). Multigroup analysis via structural equation modeling did not confirm the relationship between wait disconfirmation and affective response to waiting within each of the three wait disconfirmation groups (Hypothesis 2). However, the hypothesized relationship was supported via regression analyses. Lastly, MANCOVA analyses for the entire sample demonstrated partial support for Hypotheses 5b and 5c with *post hoc* analyses shedding further light on these relationships within each of the wait disconfirmation groups.
CHAPTER 6
DISCUSSION, IMPLICATIONS, AND CONCLUSIONS

The purpose of this study was to empirically test the relationships in the predicted value-wait disconfirmation-service evaluation model of wait experience focusing on consumers’ pre-process waits in the context of services. Specifically, this research adopted the consumption value framework proposed by Sheth et al. (1991a, 1991b) and predicted that there was a positive relationship between various types of predicted value and consumer zone of wait tolerance. In addition, this study attempted to understand the roles of wait disconfirmation, perceived wait duration, actions of the service provider in consumers’ affective responses to waiting, and their subsequent service experience evaluations.

In this concluding chapter, discussion of findings and relevant implications for academic research and management are presented in accordance with the order of the research objectives. The last section presents conclusions including the limitations associated with the study as well as avenues for future research.

Discussion and Implications

There were three major objectives in this study which guided the development of the hypotheses tested in the previous chapter. A discussion of the findings is presented by objective. The first objective of this research was to clarify the roles of consumers’ wait expectations and wait disconfirmation.
**Objective One: Roles of Wait Expectation and Wait Disconfirmation**

**Wait Expectation (i.e., Consumer Zone of Wait Tolerance)**

This study found that desired wait expectation is significantly different from adequate wait expectation, implying that there are two distinct levels of wait expectation (i.e., desired wait expectation and adequate wait expectation). The range of the difference between these two levels characterizes a new concept in this study, zone of wait tolerance, to represent wait expectation. That is, consumers appear to hold ideal waiting times as part of their expectations when waiting in service settings (i.e., desired wait expectation). Findings also suggest that they have a maximum time they are willing to wait (i.e., adequate wait expectation) as another type of expectation.

The findings of the two levels of wait expectations not only confirm the service literature in relation to the concept of zone of tolerance but also help explain wait tolerance with a more solid theoretical foundation. First, drawing upon the service literature, this research provides a better understanding in consumers’ wait tolerance by associating it with the concept of zone of tolerance which consists of two levels of service expectation. Instead of viewing consumer tolerance as only one level, as has been done in past wait studies (e.g., Houston et al. 1998; Hui and Tse 1996; Pruyn and Smidts 1998), this study suggests that, in the context of waiting, consumers may have two different expectations about how long they are willing to wait. In addition, the concept of zone of tolerance has been investigated mainly in understanding service quality (e.g., hotels, insurance, and health clubs) (Nadiri and Hussain 2005; Zeithaml et al. 1996;
Walker and Baker 2000). This study employed the concept and applies it in the context of waiting.

Second, this research provides empirical support to explain how wait tolerance may be connected with the concept of wait expectation. This is a significant contribution as it has only been suggested conceptually in past wait research that wait tolerance may be associated with wait expectation (Durrande-Moreau 1999). Third, this study constructs the concept of zone of wait tolerance, the range between desired and adequate wait expectations, and uses it to establish three types of wait disconfirmation.

This study’s findings regarding the concept of zone of wait tolerance have implications for practitioners. Managers should be aware that customers have a multi-wait expectation standard against which their waiting experiences can be evaluated. It is not merely one fixed time length as suggested in previous wait research (e.g., Pruyn and Smidts 1998). This can be good news in that the range provides more flexibility for companies to manage waits. For example, instead of striving for desired wait standards, a service provider with limited resources can improve customers’ perceptions of waiting by making improvement to meet the range between customers’ desired and adequate wait expectation levels.

**Wait Disconfirmation**

Conceptualizing wait disconfirmation as the comparison between wait expectation (i.e., zone of wait tolerance) and perceived wait duration, this study constructs three types of wait disconfirmation (i.e., positive, zero, and negative) using the objective subtraction approach. Past wait research (e.g., Pruyn and Smidts 1998) primarily included negative
and positive disconfirmation in their studies. Furthermore, the zone of wait tolerance was
not used as the benchmark for expectation in previous wait research.

Inclusion of three types of wait disconfirmation is an important addition to the
expectancy disconfirmation paradigm in the sense that it helps confirm the theory
regarding these types of disconfirmation in the context of waiting, as suggested by the
service literature (Bolton and Drew 1991; Johnston 1995; Liljander and Strandvik 1997).
Moreover, utilizing the concept of zone of wait tolerance, the formation of wait
disconfirmation helps clarify the inconsistencies in conceptualization and measurement
of disconfirmation in wait research (e.g., Davis and Heineke 1998; Hui and Tse 1996;
Pruyn and Smidts 1998) through objective measurements of both perceived wait duration
and zone of wait tolerance.

Due to the close nature between wait disconfirmation and perceived wait duration,
managerial implications of the findings will be provided after discussing all relationships
under this objective.

**Wait Disconfirmation, Perceived Wait Duration, and Affective Response to Waiting**

**Wait disconfirmation and affective response to waiting**

This study predicted that wait disconfirmation would influence consumers’
affective responses to waiting and the relationship depends on whether the consumer has
a positive, zero, or negative wait disconfirmation (Hypothesis 2). Utilizing structural
equation modeling with samples divided into the three wait disconfirmation groups, wait
disconfirmation did not predict affective response to waiting. This was contrary to our
expectations. However, when examining the relationship based on the entire sample, it
was found that wait disconfirmation influences affective response to waiting in a positive manner. That is, as wait disconfirmation became more positive, consumers were more likely to feel relaxed, optimistic, pleased, and calm about waiting. With regard to the potential effects of the three wait disconfirmation groups, post hoc testing via regression analysis with dummy variables, as opposed to structural equation modeling approach, showed promising results. As expected, for consumers in the positive wait disconfirmation group, wait disconfirmation was found to be positively related to affective response to waiting; for consumers in the negative wait disconfirmation group, the relationship became negative; and for consumers in the zero wait disconfirmation group, no significant relationship was found as the beta coefficient for this relationship was close to zero.

The inconsistent results with respect to the structural equation modeling testing and regression analysis might be explained by the difference in the analytical techniques and characteristics of the sample. First, results of correlation coefficients among latent constructs in the SEM model for the entire sample and for the three wait disconfirmation groups revealed that standard deviation scores for the whole sample tended to be larger than those for the individual wait disconfirmation groups. That is, significant relationships between these variables may not be as easily identified for the wait disconfirmation groups as compared to the situation when the entire sample was used for analysis. Promising results may have been found via regression analysis with dummy variables, in part, due to the fact that the entire sample was taken into consideration when dummy variables were created for comparison.
Second, the inconsistent findings of the structural equation modeling and regression analysis may stem from the sample size of this study. The sample size for the entire sample was considered sufficient for the structural equation modeling approach (Hair et al. 1995), but it may not have been sufficient when conducting multigroup analyses based on the three wait disconfirmation groups. Over half of the respondents in this study experienced positive wait disconfirmation \((n = 207)\) and about one third of the sample experienced zero wait disconfirmation \((n = 147)\). However, the number of respondents belonging to the negative wait disconfirmation group was much smaller than those in the other two groups \((n = 41)\). This fact may have made it difficult to detect the potential impact. Descriptive statistics suggested that the average perception of waiting time (14.4 minutes) in this study was not particularly long during the period of data collection during weekends. Although, it was close to the average length of waiting time (13 minutes) reported in previous studies (Pruyn and Smidts 1993). Therefore, it may have been less likely for the respondents to experience negative disconfirmation.

Despite the mixed findings from the two different analysis methods, this study, in general, confirmed past satisfaction literature that disconfirmation influences consumers’ emotional responses (e.g., Liljander and Strandvik 1997; Oliver 1997). However, this study did so in the context of waiting. That is, consumers with different types of wait disconfirmation may experience different emotional reactions. Results of regression analysis indicated that positive and negative wait disconfirmation predicts affective response to waiting in the expected directions, but there is no relationship between zero wait disconfirmation and affective response to waiting. The expectancy disconfirmation
paradigm and service literature stating that consumers with zero disconfirmation, or confirmation, may react to service performance indifferently (Zeithaml and Bitner 2003) may help explain the latter finding.

Lastly, this study is different from previous wait studies in that affective response to waiting was measured with items selected not only from Mehrabian and Russell’s (1974) scale (e.g., happy/unhappy, pleased/annoyed) but also from the Consumption Emotion Set (CES) proposed by Richins (1997) (e.g., pessimistic/optimistic, irritated/calm). The inclusion of emotional items from CES in the measurement of affective response to waiting was meant to capture broader senses of emotional responses (Richins 1997) that consumers may undergo in the context of waiting with no intention to identify specific dimensions of those emotions (e.g., pleasure-arousal-dominance), as done in Mehrabian and Russell’s (1974) study.

**Perceived wait duration and affective response to waiting**

This study hypothesized that there was a negative relationship between perceived wait duration and affective response to waiting (Hypothesis 3). As anticipated, this study confirms the role of perceived wait duration suggested in previous wait studies (Hui and Tse 1996; Pruyn and Smidts 1998; Taylor 1994; Taylor and Fullerton 2000). Clearly, the longer consumers feel about their waiting time, the more negative their emotions about their waits.

**Comparative effects of wait disconfirmation and perceived wait duration**

The initial expectation was that wait disconfirmation would have a stronger effect on affective response to waiting than perceived wait duration itself (Hypothesis 4).
Findings suggest that both perceived wait disconfirmation and perceived wait duration have significant effects on consumers’ affective responses to waiting; however, the effect of wait disconfirmation, instead of stronger, was weaker than the effect of perceived wait duration.

This evidence confirms past literature in which perceived wait duration was suggested as a key construct in understanding wait behavior (Taylor and Fullerton 2000). But, it also shows inconsistencies in premises from other literature (e.g., Bolton and Drew 1991; Pruyn and Smidts 1998). A possible explanation may stem from the context of restaurant services regarding consumer involvement.

The literature suggests that disconfirmation and perception of performance may carry different predictive power in influencing service quality and customer satisfaction (Anderson and Sullivan 1993; Bolton and Drew 1991; Churchill and Surprenant 1982; Patterson 1993). In some studies, perception of performance was found to explain more variance in customer satisfaction than disconfirmation for high-involvement purchase situations (e.g., innovative heaters or video disc player) (Churchill and Surprenant 1982; Patterson 1993). The reason was that when the purchase was perceived to be highly relevant to the consumer, he or she would place more emphasis on the performance of products (Patterson 1993). As full-service restaurants are usually characterized to have high customer contact (Stafford and Day 1995) and require high level of purchase effort and consumer involvement (Stell and Donoho 1996), it is not unreasonable that customers’ perceptions of performance may perform better than disconfirmation. Therefore, perceived wait duration (perception of performance) was found to be a better
predictor of affective response to waiting than wait disconfirmation as shown in this study.

The measurements of the two constructs may also be used to explicate the inconsistent result. This study revealed that perceived wait duration plays a more important role than wait disconfirmation based on the employment of objective measurements (in hours and minutes). However, when employing a similar objective approach, Pruyn and Smidts (1998) found that disconfirmation was a better predictor of affective response than acceptable waiting time, i.e., similar to adequate wait expectation. The difference in the two studies may lie in the “conceptualization” of disconfirmation. In their study, disconfirmation was based on the comparison between perceived waiting time and acceptable waiting time; whereas, in this study, wait disconfirmation incorporates two levels of zone of wait tolerance for comparison. Literature in relation to the concept of zone of tolerance (Walker and Baker 2000; Liljander and Strandvik 1993; Zeithmal et al. 1993) suggests that it is important to consider both levels of wait expectation because consumers form expectations based on not only on the minimum tolerable performance but also on the favored performance.

Overall, these findings add to the existing literature. Researchers may consider employing a subjective approach, in addition to an objective approach, to study the effect of perceived wait duration and wait disconfirmation on affective response to waiting. Subjectivity may help to reflect consumers’ true senses about their wait experiences when desired and adequate wait expectations essentially reflect consumers’ subjective beliefs about service (Zeithaml and Bitner 2003) and perceived wait duration also relates to
consumers’ subjective estimates about how long the wait is. Thus, it is reasonable to measure these variables in a subjective manner (e.g., “longer than expected-shorter than expected” for wait disconfirmation). The objective measurement approach used through the comparison between perception of performance (perceived wait duration) and expectation (zone of wait tolerance with two levels) is a first of its kind. However, more research needs to be done to better understand whether perceived wait duration is truly of more importance than wait disconfirmation. If it is, the theoretical rationale for this relationship needs to be clarified.

In general, this study suggests that both perceived wait duration and wait disconfirmation impact consumers’ emotional reactions to their waiting experiences. As wait disconfirmation is a function of perceived wait duration and zone of wait tolerance, the comparison in addition to the direct effect of perceived wait duration appears to jointly influence consumers’ affective responses to waiting. Therefore, it is critical for practitioners to strive to achieve wait management by considering these variables. For instance, instead of focusing only on the acceptable waiting time (i.e., adequate wait duration) and perceived wait duration, knowing customers’ desired waiting time may help practitioners identify the mechanism among these three wait-related factors. That is, in addition to strategies to manage consumers’ perception of wait duration through video displays or provision of magazines in wait areas, practitioners also have to pay attention to perceived wait duration as to whether it is above, within, or below consumers’ zone of wait tolerance. In other words, practitioners should be aware that it is likely for consumers to feel more positive and happier about waiting the higher their perceived
waiting times are above zone of wait tolerance. On the other hand, as perceived waiting times fall far below consumers’ zones of wait tolerance, they are likely to become much unhappier. The fact that consumers with zero wait disconfirmation, i.e., perceived wait duration falls within the range of zone of wait tolerance, react in neither positive nor negative manner implies that companies which do not have rich resources may still maintain their business as long as zero wait disconfirmation can be achieved.

While it is critical for practitioners to identify consumers’ zones of wait tolerance (i.e., what they desire and what they find acceptable) and strive to meet their expectations, another approach to achieve this goal is to widen the zone of wait tolerance. According to the study, the average length of zone of wait tolerance was approximately 12 minutes. However, it is possible that this length may become longer depending on different factors, one of which is the customers’ predicted value.

**Objective Two: Predicted Value and Wait Expectation**

The second objective of this study was to empirically examine the relationship between predicted value of service and consumers’ tolerance for waiting which was conceptualized in this examination as the zone of wait tolerance. This study adopted the consumption value framework (Sheth et al. 1991a, 1991b) and investigated how various types of predicted value (i.e., overall/functional/social/emotional/epistemic/conditional) might influence consumers’ zones of wait tolerance (Hypotheses 1a to1f). Although the findings in relation to the effects of five of the predicted values on consumer zone of wait tolerance were inconsistent to previous propositions made by wait researchers (Kostecki
1996; Maister 1985), a positive relationship between predicted conditional value and zone of wait tolerance was identified.

**Predicted Conditional Value and Consumer Zone of Wait Tolerance**

Results showed that there was a significant, positive relationship between predicted conditional value and consumer zone of wait tolerance (Hypothesis 1f). As the prediction that certain benefits could be temporarily provided by the restaurant became stronger, consumers were more tolerant for waiting.

The nonsignificant relationships for predicted functional and social value may be explained by the fact that predicted conditional value was found to influence zone of wait tolerance. According to Sheth et al. (1991a, 1991b), conditional value is usually connected with functional or social value in a transient circumstance; this infers predicted conditional value may be present at the same time as functional and social value. For instance, a consumer may consider visiting a certain restaurant for his mother’s birthday not only to celebrate the special day but also to enjoy the good food and quality service. It is also likely that a group of high school friends may choose to visit a certain restaurant not only for celebrating their graduation anniversary but also for gathering and socializing with each other. As the measurement for predicted conditional value was comprised of functional (i.e., temporal concern) and social aspects (i.e., special occasion), the significant effect found for predicted conditional value may partly be the result of its association with predicted functional and social values.
Predicted Overall/Functional/Social/Emotional/Epistemic Value and Consumer Zone of Wait Tolerance

Regarding the results for other types of predicted value (Hypotheses 1a to 1e), surprisingly, no significant relationships were found between the five types of predicted value and consumer zone of wait tolerance. There are several possible explanations for these results. First, one explanation has been posited for predicted functional and social value in the preceding section. Second, the nonsignificant results may stem from the service settings chosen to examine the hypothesized relationships. The literature suggests that upscale restaurants are more likely to provide hedonic values, such as emotional and epistemic values (Hanefors and Mossberg 2003). Possibly, the three restaurants included in this study may not have been considered upscale restaurants by the respondents. The fact that about 50% of the respondents had annual household incomes higher than $70,000 may have influenced how value of service was regarded. In other words, the concept of value is relative to the price paid where the value itself could be used as constraints for income and budget differences among different consumers (Ismail and Khabiti 2004). Therefore, it is possible that the three restaurants may not have been considered upscale enough for respondents to anticipate emotional or epistemic value. Respondents’ ratings on the five types of predicted value at the three restaurants support this argument. Further examination of the statistics (Table 11) show that means of predicted functional and conditional value ($M = 5.42; M = 5.15$, respectively) are significantly higher than means of predicted emotional and epistemic value ($M = 3.84; M = 4.50$, respectively) ($p$’s < .01).
Second, a small portion of consumer zone of wait tolerance was explained by all of the six types of predicted value ($R^2 = .03$). Hence, aside from the value concept, there may be other variables that might be investigated as predictors of consumer zone of wait tolerance. The service literature suggests that quality of service (Cronin et al. 2000) and other factors, such as word-of-mouth and personal needs in terms of social and physical dependency (e.g., Zeithaml et al. 1993), may help further explain how consumers establish their wait expectations (i.e., zone of wait tolerance).

Third, this study employed the consumption value framework proposed by Sheth et al. (1991a, 1991b) as the basis of the classification for predicted value in the hope that a potentially richer interpretation might be obtained. Findings, however, showed significance for only one type of value and, thus, raised some issues regarding the applicability of the framework in the context of restaurants in relation to the concept of predicted value. Consumption value framework has been adopted to study consumer health behavior, smoking behavior, and customer relationships with the service provider. To our knowledge, this study was the first to apply the concept in the context of restaurants. As suggested by Sheth et al. (1991b), “While some choices may be influenced by only one value, most are influenced by two or more, and some are influenced by all five” (Sheth et al. 1996b, p.7). For example, in the context of drug rehabilitation center, functional, social, and emotional values are primary drivers (Sheth et al. 1991b). For long-distance telephone service, functional value and emotional values are most important values even though other types of value may be identified (Sheth et al.
Therefore, it is likely that, in the context of restaurants, conditional value plays a more salient role for consumers’ wait decisions than other types of value.

Another issue pertains to the utilization of the concept of predicted value with the five types of consumption value. How well can customers anticipate the five types of value prior to consumption at restaurants as compared to perceiving them after consumption? As compared to products, services tend to be more intangible (Zeithaml and Bitner 2003), so it may not be as easy for consumers to identify or anticipate specific types of values obtained prior to consumption.

Fourth, the principle of scarcity suggests that the more valuable and “scarce” the service, the more customers are tolerant for waiting (Taylor and Fullerton 2000). Instead of utilizing the concept of predicted value based on perceived value literature, Foa’s (1976) resource exchange theory may be considered to further understand consumers’ tolerance for waiting from a scarcity perspective. Drawing upon this theory, Brinberg and Wood (1983) suggested that resource scarcity tends to influence the types of resources consumers are willing to give in an exchange. In other words, when resources are perceived as scarce, individuals are more likely to exchange a particular resource, such as time. When applying this theory to the context of waiting in service environments, the degree to which the service is perceived to be scarce by the consumer may have an effect on how much time he or she is willing to spend waiting. Rather than the five types of predicted value used in this study, two underlying dimensions of resource categories (i.e., particularism and concreteness) (Brinberg and Wood (1983)
might be used to classify and measure consumers’ perceptions of service in the hope that the scarce nature of service will be captured in relevant cases.

Regardless of the limited support for the existing literature in which a positive relationship between value of service and consumers’ tolerances for waiting was proposed, the empirical results of this research provide several contributions. First, drawing upon perceived value literature, this study adopts the concept of predicted value with a focus on utilities prior to consumption rather than in postconsumption. Although the measurements of various types of predicted value were context-specific to the restaurant setting in this study, they add to the existing literature by extending conceptualization of perceived value with empirical support (Day and Crask 2000; Huber and Hermann 2000; Oh 2000). Second, this study empirically tested the relationship between predicted value and consumers’ wait tolerance. Even though the results were not as expected, this research attempted to stimulate new ideas and open venues for further research.

Managerially, the findings provide some insights. Value is the tradeoff between what is given and what is received. As this study found that predicted conditional value affected consumers’ zone of wait tolerance, restaurants need to consider customers’ anticipations of sacrifice, including monetary cost (e.g., price) and non-monetary cost (e.g., waiting time, location), relative to their anticipations for conditional value from the service. That is, restaurants should strive to create and strengthen firm reputation in relation to how the service can provide a positive experience for consumers to share with
their family and friends for special occasions so that customers are willing to wait for the service.

While the empirical results of the relationship between value and consumer tolerance for waiting provided limited support for existing literature (Maister 1985; Kostecki 1996), results revealed that predicted epistemic value positively influences consumers’ affective responses to waiting. Also, predicted functional and conditional values predicted consumers’ cognitive dimension of service experience evaluations in a positive manner. Further discussion and implications about these findings will be provided in the later section.

**Objective Three: The Role of the Service Provider’s Actions in Service Experience Evaluation**

The third objective of this research was to investigate the role of actions of the service provider in consumers’ affective responses to waiting and service experience evaluations. In addition to the direct relationship between affective response to waiting and service experience evaluation (Hypothesis 5a), this study hypothesized that actions of the service provider (i.e., apology and compensation) played a moderating role in the relationship between affective response to waiting and service experience evaluations (Hypotheses 5b and 5c).

**Affective Response to Waiting and Service Experience Evaluation**

As anticipated, this study found that affective response to waiting has a direct, positive effect on service experience evaluation, both emotional and cognitive. When consumers react more positively to waiting in terms of their emotions, the better and
more positive will be their emotional-based evaluations and the higher likelihood that they will think that visiting the restaurant was a wise and right choice. This finding is not only consistent with past literature (Cameron et al. 2003; Hui and Tse 1996; Pruyn and Smidts 1998; Taylor 1994) but also provides further insights in wait research.

First, this study is different from other examinations in that the affect-service evaluation relationship was examined in the context of restaurants. Thus, these findings expand the application of the theory found in other contexts, such as financial services (Houston et al. 1998), medical services (Pruyn and Smidts 1998), and airline services (Taylor 1994). Second, this study found two dimensions of service experience evaluation (i.e., emotional and cognitive) when most research has considered service evaluation or satisfaction as a unidimensional construct (e.g., Houston et al. 1998; Pruyn and Smidts 1998). Oliver (2000) suggested that customer satisfaction has both cognitive and affective characteristics. The employment of both emotional and cognitive dimensions in this study lent support for the distinguishable nature between emotional and cognitive customer satisfaction (Simintiras, Diamantopoulos, and Ferriday 1997; Oliver 2000; Woodruff, Cadotte, and Jenkins 1982) and extends its application to the context of waiting.

Third, this study advises that both wait disconfirmation, an extension of wait expectation, and perceived wait duration indirectly influence service experience evaluation through affective response to waiting. This is a significant contribution due to the fact that the dual direct effects of wait disconfirmation and perceived wait duration on affective response to waiting and subsequent service evaluations have not been
simultaneously investigated in past wait studies. Research has tended to either focus on the relationship between perceived wait duration and affect (e.g., Hui and Tse 1996, Hui et al. 1998) or that between disconfirmation and affect (e.g., Pruyn and Smdits 1998). This study suggests that wait disconfirmation and perceived wait duration are critical antecedents of consumers’ affective responses to waiting which, in turn, impact their service experience evaluations.

**Interactive Effects of Affective Response to Waiting, Apology/Compensation, and Service Experience Evaluation**

Drawing upon social exchange theory, this study predicted two-way interactive effects between affective response to waiting and apology/compensation and three-way interactive effects of affective response to waiting, apology, and compensation on service experience evaluation. Surprisingly, no significant two-way effects were found when running MANCOVA analysis on the entire sample. A three-way interaction was, unfortunately, not detected either. However, when examining the relationships post hoc within each of the wait disconfirmation groups, apology was found to interact with affective response to waiting to have an effect on service experience evaluation, i.e., the emotional dimension, in the positive and negative wait disconfirmation groups. Results revealed marginally significant support for consumers in the zero wait disconfirmation group.

The mixed findings of this study suggest that actions of the service provider may play a role in explaining consumers’ service experience evaluation in the context of waiting under particular circumstances. On the one hand, this study found that apology
had a positive effect on service experience evaluation only for customers who had positive and zero wait disconfirmation. This findings coincide with evidence from past service literature in which apology from the service provider in reaction to service failures might interact with other factors, such as failure type and emotion, and help increase consumers’ evaluations of the service encounter through perceptions of interactional justice (Goodwin and Ross 1989; Smith et al. 1999; Tax et al. 1998). As most research was conducted in an experimental setting with a focus on service failure and customer complaints, this study confirmed the effect of apology through a field study in the context of waiting, but only in the positive wait disconfirmation condition and partly in the zero wait disconfirmation condition.

However, the same positive effect of apology was not found for consumers in the negative wait disconfirmation group. That is, instead of a positive relationship, apology had a negative effect on the emotional dimension of service experience evaluation for consumers who had negative affective response to waiting. Nonetheless, as expected, for those who had positive affective response to waiting, apology was found to have a positive effect on emotion-based evaluation.

A possible explanation of this result may be that when consumers experienced negative wait disconfirmation, they tended to experience more negative feelings about waiting. Therefore, waiting, as one type of service failure, may become more notorious. A simple apology through courtesy and concern from the service provider may not be able to make customers feel better -- in fact, it may result in less positive emotional evaluations of the service. In other words, that apology was found to have a negative,
instead of positive, effect on emotion-based evaluation may be due to the magnitude of service failure. Social exchange theory posits that, resources in exchange relationships should be in equivalent amounts to help individuals assess fairness (Smith et al. 1999). In the context of service failures, research suggests that the magnitude of the failure determines the level of recovery required to reinstate justice perception. An apology has a more positive effect on customers’ interactional justice perception when the magnitude of failure is low than when magnitude of failure is high (Smith et al. 1999). Waiting may be deemed as a serious failure for consumers who experience negative wait disconfirmation and thus negative affective response to waiting. Therefore, an apology may be seen as an insufficient recovery from such an offense highlighting the injustice of the situation.

The negative effect of apology in the negative wait disconfirmation group may also be explained from the perspective of attribution theory. According to attribution theory, individuals tend to make causal inferences which, in turn, influence their evaluations and behavior (Heider 1958; Weiner 1980). Weiner (1980) suggested that there are three underlying causal dimensions of attributional characteristics, including stability (Is the cause likely to recur?), locus of causality (Who is responsible?), and controllability (Did the responsible party have control over the cause?). In the context of consumer complaining behavior, Folkes (1984) suggested that consumers would feel that they deserved an apology and refund, and even react with anger when product failure is firm-related and due to controllable actions. Therefore, it is likely that, in the context of waiting, consumers who experience long waits and have negative wait disconfirmation
may attribute the wait to the fact that the restaurant, for example, is understaffed (a controllable firm-related cause). Based on this type of attribution, a simple apology from the service provider without other recovery actions may actually confirm to customers that long waits are truly the outcome of firm-related error. Thus, they would become angrier and feel that they deserve more than just an apology.

Even though the means were in the expected directions, this study fails to find significant results regarding the role of compensation. This may be due, in part, to the insufficient number of respondents who received compensation from the service provider. According to descriptive statistics, over 15 percent of the respondents \((n = 60)\) received an apology from the service provider after waiting to be seated, but only five percent \((n = 15)\) of them received compensation. In particular, within the negative wait disconfirmation group \((n = 41)\), only two respondents reported that they received compensation. Observations made through the data collection process suggest that restaurants are less likely to dispense free drinks or appetizers as compensation when customers have to wait to be seated as compared to the situation when customers’ dining experience is poor. Customers may not, therefore, expect compensation from the service provider after waiting. In fact, this study found that the respondents rated apology from the service provider significantly more important than compensation \((M_A = 3.63 \text{ vs. } M_C = 2.82, p < .001)\), even though ratings of importance for both actions are somewhat low.

In addition, the findings for apology rather than compensation may be explained by resource exchange theory which suggests that individuals prefer exchanges of resources that are the same or similar categories instead of different categories. Based on
this theory, Smith, et al. (1999) found that when a process failure occurs, an apology (i.e., an interactional recovery strategy) from the service provider will have a more positive effect on interactional justice perception than when an outcome failure occurs. On the contrary, compensation (i.e., a distributive recovery strategy) will have a more positive effect on distributive justice perception when an outcome failure happens than when a process failure occurs. Waiting is viewed as a process type of service failure (Powers and Bendall-Lyon 2002). Therefore, an apology may help to enhance interactive justice and, thus, have a more profound effect than compensation in the context of waiting.

Additionally, while some effects were found significant for the emotional dimension of service experience evaluation, neither the main effects nor the interactive effects of affective response to waiting and actions of the service provider had an impact on the cognitive dimension. According to the service literature, service recovery strategies have positive effects on customer satisfaction through justice perception (Goodwin and Ross 1992; Tax et al. 1998; Smith et al. 1999). In past investigations, the construct of satisfaction has typically been measured on an emotional basis (McColl-Kennedy et al. 2003, Smith et al. 1999). The cognitive dimension of service experience evaluation has not been treated separately in past service literature even though satisfaction is viewed as a hybrid response including both emotional response and cognitive evaluations (Oliver 2000). The fact that no significant effects were found for the cognitive dimension calls for future investigation. For instance, why do actions of the service provider, such as apology and compensation, have limited effects on customers’ cognitive evaluations? While past research focuses more on the emotion-based
measurement of satisfaction when examining the effect of justice variables, the answer to this question will be meaningful and help researchers and managers to fully understand the function of justice variables in relation to satisfaction.

As Taylor and Fullerton (2000) suggested that there is a need to empirically investigate the role of actions of service providers in consumers’ waiting experiences, this study made a first attempt in wait research to examine the relationship between affective response to waiting and ultimate service experience evaluation when taking into account actions of the service provider. As such, this study provides several contributions to the field of wait research. Findings of this study increase the understanding of social exchange theory in wait behavior by examining the role of actions of the service provider. In wait research, social exchange theory focusing on justice perception has only been examined with respect to queue structure and management (e.g., Larson 1987; Rafaeli et al. 2002). This study utilizes social exchange theory and investigates how actions of the service provider after waiting may influence customer satisfaction, referred to as service experience evaluation in this study, through justice perception. This study also expands the understanding of the effect of actions of the service provider into the realm of consumer waiting in addition to other contexts, such as hotel services (Smith et al. 1999).

This study also contributes to social exchange theory by suggesting that there may be restrictions on how and when actions of the service provider should be provided. With the exception of the study conducted by Smith and Bolton (2002), past service literature has mainly centered on how service recoveries, such as apology and compensation, may
help to enhance customer satisfaction without paying attention to customers’ affective responses to service failures. This study’s results imply that actions of service provider, for the purpose of correcting service failures such as long waits, may not always help to enhance customers’ service evaluations. Under certain circumstances (e.g., customers who had negative affective response to waiting due to negative wait disconfirmation), the effect of apology on emotion-based service experience evaluation may be detrimental. This finding calls for caution in terms of the practice of provision of apology/compensation.

Managing waiting can be a complex issue to tackle for practitioners. The good news for companies is that this relationship is not static and the negative effect of waiting may be fixed or alleviated by actions of the service provider through a no-cost action such as apology. In the restaurant context, an apology seems to have a positive effect on the emotional dimension of service experience evaluation after customers’ waiting experiences. For instance, when being apologized for waiting to be seated, customers who have positive and zero wait disconfirmation generally show better and more positive evaluations about the restaurant. In addition, apologies will help to enhance customers’ emotional evaluations of the service for customers whose affective responses to waiting are more positive even though they experience negative wait disconfirmation. However, practitioners have to practice this service recovery action with caution. A simple apology should be avoided when customers have already experienced negative wait disconfirmation with more negative affective responses to waiting (i.e., when waiting is so long that it becomes a serious failure with high magnitude to customers). With this in
mind, companies should train their wait staff to interpret emotional cues sent out from customers. It may be helpful for wait staff to identify whether customers are extremely irritated or annoyed and provide a proper action accordingly.

Apart from affective response to waiting and actions of the service provider (i.e., apology and compensation), the data also suggest four additional paths, including the relationship between predicted epistemic value and affective response to waiting, the effects of predicted functional and conditional value on the cognitive dimension of service experience evaluation, and the effect of the cognitive dimension of service experience evaluation on the emotional dimension of service experience evaluation.

**Additional Paths**

**Predicted Epistemic Value to Affective Response to Waiting**

This study found a direct, positive relationship between the construct of predicted epistemic value and affective response to waiting, indicating that consumers’ feelings about their waits depend, in part, on the predictions that the restaurant will provide uniqueness and various selections to consumers. Although this relationship was not hypothesized in the original model, it confirms past literature regarding how uniqueness of service may help shape consumers’ emotions during their service experiences. For instance, Pullman and Gross (2004) investigated how design of service experience influences consumers’ emotions and found that provision of unique experience through interaction with the service provider is positively related to consumers’ emotions.

Additionally, literature in relation to variety seeking behavior (e.g., Zukerman 1979) also suggests that when an environment provides low stimulation, consumers are
likely to feel bored and the desire for higher stimulation may arise (Chen and Paliwoda 2004). The stimulation can be determined by the level of novelty, complexity, or uncertainty. In the context of waiting, higher level of stimulation may exist as consumers predicted higher epistemic value from the restaurant (e.g., unique experience, variety, or sense of adventure); therefore, it is less likely for them to feel bored about waiting. This finding suggests that providing unique service which customers cannot find elsewhere may help customers feel more positive, calm, and optimistic during their waiting. Restaurants should establish reputations through advertising and positive word-of-mouth to promote special menus that cannot be found in other places, unique ambiance (e.g., Rain Forest Café Restaurants), or wide selections. As such, it may be easier for customers to anticipate epistemic value of the service, which may help result in more positive emotional reactions about unavoidable waits.

**Predicted Functional and Conditional Value to the Cognitive Dimension of Service Experience Evaluation**

This study found that there is a positive relationship between predicted functional and conditional value and the cognitive dimension of service experience evaluation. These direct links, not specified in the original research model, in fact supports the quality-value-satisfaction relationship examined in both marketing and services literature (e.g., Andreassen 2000; Cronin et al. 2000; Durvasula, Lysonski, Mehta, and Tang 2004; Fornell, Johnson, Anderson, Cha, and Bryant 1996; Patterson and Spreng 1997; Petrick 2004). According to this research stream, perceived service value has a positive effect on customer satisfaction. The higher the perceived service value to the consumer, the better
he or she feels about the service and the more positive he or she evaluates the service (Cronin et al. 2000). The difference lies in that predicted value, as opposed to perceived value, was measured in this study. This study suggests that not only post-consumption perceived value but also predicted value prior to consumption has an impact on consumers’ satisfaction, or service experience evaluation in this study.

The finding of this relationship broadens the knowledge of perceived value. The reason may be that, according to perceived value literature, predicted value is a type of perceived value that occurs at a pre-consumption of consumption stage (Day and Crask 2000; Woodruff 1997). The rationale for finding effects of both types of value may be attributed to the fact that predicted value is viewed as the revised version based on the consumer’s previous experience and there is strong association between the two types of value (Oh 2000). In confirmation of this contention, Oh (2000) concluded in his study that both expected value (i.e., pre-purchase value) and perceived value (i.e., post-purchase value) are key factors when understanding customers’ dining decisions, such as purchase intention. Following this logic, it does not seem unreasonable to uncover the linkage between predicted value and service experience evaluation in this study.

Additionally, attitude literature suggests that the consumer’s evaluation of the attitude object are likely to be consistent with his or her beliefs (Eagly and Chaiken 1993). In other words, consumers’ cognition-based evaluation may be associated with their anticipated values, such as functional and conditional value, which are more likely to be utility in nature and rationality-based (Sheth et al. 1991a, 1991b). These additional findings in the context of waiting imply that restaurants may be more likely to enhance
their customers’ ultimate cognitive service evaluations with continuous efforts to ensure the quality of food and service and to strengthen its reputation in consumers’ minds about its great service environment in which social gathering for special occasions are favorable.

**Cognitive Dimension of Service Experience Evaluation to Emotional Dimension**

This study also uncovered some interesting findings regarding the positive relationship between cognitive and emotional dimensions of service experience evaluation, which may help strengthen the understanding of customer satisfaction. According to cognitive models of emotions (Lazarus 1974), consumers’ emotions are suggested to be the outcomes of the cognitive appraisal of an incident. That is, consumers’ cognitive evaluations may help determine their emotional responses. Viewing satisfaction as one type of emotional response, Nyer (1997) concluded that cognitive appraisal components, such as goal congruence, influence consumers’ satisfaction and other types of emotional responses. Goal congruence concerns the extent to which an outcome is congruent with the consumer’s wants or desires (Nyer 1997) and can be linked with the cognitive dimension of service experience evaluation, representing the consumer’s evaluation about how the service meet his or her wants, in this study. Simintiras et al. (1997) also concluded that anticipated satisfaction, regarded as a cognitive evaluation, is related to the affective nature of satisfaction. Thus, cognitive evaluation about the service may impact the emotional dimension of service experience evaluation, as shown in this study.
Furthermore, this finding is consistent with the standard learning hierarchy according to attitude literature (Solomon 2002). According to this hierarchy, the consumer is likely to form beliefs about a product. Next, these beliefs will help shape his or her feelings about the product (affect). Finally, he or she will engage a relevant behavior (e.g., purchasing the product). In this study, the measurement of the cognitive dimension of service experience evaluation included items related to cognitive processing (e.g., my choice to patronize this restaurant was a wise one) while the emotional dimension contained measurement items related to the affective component (e.g., favorable and positive). Even though this study did not consider customers’ repurchase or behavioral intentions as the ultimate variable, the effect of cognitive dimension (belief) of service experience evaluation on the emotional dimension (affect) found in this study mirrors the relationship between beliefs and affect in the standard learning hierarchy. It is noteworthy that, although the emotional dimension of service experience evaluation and affective response to waiting are both affect-related constructs, they are different in that affective response to waiting is more specific and concerns mainly the aspect of waiting. On the other hand, the emotional dimension focuses on an overall, broader evaluation about the service.

More importantly, the fact that the emotional dimension of service experience evaluation was affected by the cognitive dimension indicated that the emotion-based service evaluation is the ultimate variable in the model. That is to say, the essential goal for practitioners in the restaurant industry is to enhance the emotion-based service evaluation. This can be done by enhancing the cognition-based service evaluation
through predicted functional and conditional value or by promoting more positive affective response to waiting through predicted epistemic value.

**Summary of the Role of Predicted Value**

In general, the three types of predicted value not only play an antecedent role in explaining consumer service evaluation through wait disconfirmation but also have direct effects on the outcome variables. That is, predicted epistemic value has a positive effect on consumers’ affective responses to waiting and both predicted functional and conditional values have positive relationships with the cognitive dimension of service experience evaluation. While predicted functional and conditional value may be more utilitarian, predicted epistemic value is deemed to be hedonic in nature (Holbrook and Hirschman 1982). These findings indicated that both utilitarian and hedonic values may exist in consumers’ minds prior to their consumption at restaurants and those value predictions are critical in enhancing consumers’ ultimate service evaluations, indirectly and directly.

**Additional thoughts**

First, this study shows that various types of predicted value affect zone of wait tolerance, affective response to waiting, and service experience evaluation. As predicted functional and conditional values were found to influence the cognitive dimension of service experience evaluation, it is noted that the emotional dimension was mainly affected by affective response to waiting, actions of the service provider (e.g., apology), and the cognitive dimension of service experience evaluation. No predicted value was found to directly influence the emotion-based evaluation. The fact that perceived value is
a post-consumption construct reveals that customers who have already experienced the service, as compared to those who only anticipated value prior to consumption, may evaluate the service with stronger preferences. For instance, a consumer may anticipate going to a nice restaurant to be a good choice, but he or she may not be able to evaluate the service emotionally until he or she has experienced the service. Several questions still remain. Does predicted value mainly influence the cognitive dimension of service evaluation, while perceived value has its sole impact on the emotional dimension of evaluation? Future research is needed to determine the dynamics of the emotional and cognitive dimensions of service experience evaluation and their influential factors, including certain types of predicted and perceived value.

Second, the final structural model of this study included the construct of wait disconfirmation as a function of consumer zone of wait tolerance (a type of expectation) and perceived wait duration (a type of perception of performance). Even though the two relationships (consumer zone of wait tolerance → wait disconfirmation and perceived wait duration → wait disconfirmation) were not hypothesized in this study, the significant relationships are worthy of discussion. Results showed that both perceived wait duration and consumer zone of wait tolerance had positive effects on wait disconfirmation ($\beta = .89, p < .01$; $\beta = .19, p < .01$, respectively). The strong, positive coefficient of perceived wait duration as compared to the somewhat weaker, positive coefficient of consumer zone of wait tolerance should be noted. This confirms past literature indicating that perception of performance tends to have a stronger impact on
disconfirmations than expectations (e.g., Anderson and Sullivan 1993; Churchill and Surprenant 1982; Patterson 1993).

In addition to the direct effect, perceived wait duration had an indirect effect on affective response to waiting through wait disconfirmation ($\gamma = .89 \times .30 = .27$). The positive, indirect effect of perceived wait duration on affective response to waiting as compared to the negative, direct effect draws our attention. According to disconfirmation literature, performance has a positive effect on disconfirmation (e.g., Anderson and Sullivan 1993; Oliver, 1997; Patterson 1993). As disconfirmation becomes more positive, this may influence consumers’ feelings in a positive manner (e.g., Pruyn and Smidts 1998; Woodruff et al. 1983). Wait literature further suggests that delays of services tend to provoke negative emotions from consumers (e.g., Gardner 1985; Taylor 1994). That is, there is a negative relationship between perceived wait duration and affective response to waiting. Therefore, based on the findings from past literature, it is not unreasonable to uncover the positive, indirect effect of perceived wait duration on affective response to waiting through wait disconfirmation in addition to the negative, direct effect. Nevertheless, the total effect of perceived wait duration on affective response to waiting is still negative ($\beta = -.51 + .27 = -.24$).

Third, this study utilized the concept of predicted value, instead of value perception after consumption, to examine consumers’ wait tolerance. As past literature suggested that prior experience may affect consumers’ formation of expectations (Zeithaml et al. 1993), this study utilized it as a covariate in the relationships between
various types of predicted value and consumer zone of wait tolerance in the structural model via structural equation modeling. However, the effect was nonsignificant.

However, one possibility may be that customers who visited the restaurant the first time would not be able to predict value of service as well as those who have visited the restaurant before as a result of lack of actual experience. Therefore, further analyses via dummy regression were conducted to examine the role of prior experience in shaping consumers’ predicted values and to determine if its effect on consumer zone of wait tolerance would vary when prior experience was dummy coded (the first time visiting the restaurant as 0 and otherwise 1) instead of being treated as a continuous variable. Results showed that prior experience had significant effects on predicted overall and functional values. Customers who had visited the restaurant before tended to predict higher overall and functional value ($\beta = .10, p < .05; \beta = .17, p < .01$, respectively) as compared to those who visited the restaurant the first time. Moreover, prior experience was found significant as a covariate in explaining consumer zone of wait tolerance along with other six types of predicted value. Those who have visited the restaurant before actually showed less tolerance for waiting than those who visited the restaurant the first time ($\beta = -.12, p < .05$). The negative relationship is consistent with Walker and Baker’s (2000) findings suggesting that the more experience, the narrower the zone of tolerance. While the focus of this study is not on consumers’ past experiences with the service provider, results of these analyses imply that customers’ frequent experiences with the restaurant may help establish their overall and functional value predictions.
Conclusions

Drawing upon perceived value literature, service expectation literature, expectancy disconfirmation paradigm, and social exchange theory, the predicted value-wait disconfirmation-service evaluation model developed and empirically tested in this study represented an effort to examine the effects of predicted value, zone of wait tolerance, wait disconfirmation, and perceived wait duration on affective response to waiting and service experience evaluation. This study suggests that predicted functional, epistemic, and conditional value of service, perceived wait duration, affective response to waiting, and actions of the service provider are antecedents of customers’ service evaluations. Thus, these factors are important to the competitive advantage of a company.

Three major theoretical implications emerge from this study. First, the model highlights the wait expectation-affect-service evaluation relationship and establishes two novel concepts (i.e., zone of wait tolerance and wait disconfirmation) by incorporating more solid theoretical foundations based on the service expectation literature and expectancy disconfirmation paradigm. In addition to confirming the direct impact of perceived wait duration on consumer affective response to waiting, this study suggests that perceived wait duration, in addition to wait disconfirmation, indirectly influences service experience evaluation through affective response to waiting, which is an expansion of the existing wait expectation-affect-service evaluation relationship. Second, this research, integrating perceived value literature, uncovers, to some degree, the effect of predicted value on consumer tolerance for waiting and additional effects on affective
response to waiting and service experience evaluation in the context of restaurant services. Third, utilizing social exchange theory, this study advances the understanding of justice in modifying the relationship between consumers’ affective responses to waiting and subsequent service experience evaluations through actions of the service provider (i.e., apology and compensation).

In this investigation, a value and perception management approach to waiting was presented. Consumers’ service evaluations at restaurants may be enhanced by marketers with influential waiting factors. Three main implications for management emerge. First, the findings encourage restaurant owners/managers to develop and understand consumers’ anticipation about value of service. Of particular importance is the establishment of functional, epistemic, and conditional value in that these types of predicted value can be powerful factors in determining consumers’ affective responses to waiting and their subsequent service evaluations. A second implication relates to the perceived wait duration and wait disconfirmation-affective response to waiting-service experience evaluation relationship. Managing customers’ perceptions about waiting and understanding customers’ wait disconfirmation through measuring their zones of wait tolerance may help not only to reduce the possibility for customers to experience negative emotions about waiting but also to enhance their evaluations of the service. Finally, despite the potential negative impact of apology in some situations, this study suggests that provision of an apology can help enhance customers’ emotion-based service experience evaluations even when they experience negative feelings about waiting. This study promotes the careful practice of particular actions of service providers in the
service context, especially in the restaurant industry, in the hope that service evaluations may be restored even after service failures (e.g., waiting).

**Limitations and Avenues for Future Research**

While this study provides some insightful information for academic research and practitioners, it has certain limitations. Therefore, interpretation of its findings needs to be undertaken with caution. First, the study involved only pre-process waits in the restaurant industry. Although it is expected that the supported relationships in the model would generalize to other types of waits, this needs to be verified through future research. For instance, this study showed that compensation (e.g., free drinks, appetizers, or discounts) has very limited impact on consumers’ evaluations about the service. However, it may perform differently in an in-process wait. In-process waits are considered as one dimension of outcome quality of service (Brady and Cronin 2001). Therefore, compensation may have a more noticeable effect on customers’ evaluations of the service when waiting occurs as an in-process service failure (e.g., failure of serving food in time).

Another area that can be considered in future research is to investigate how compensation dispensed during, but not after the wait, influences consumers’ wait experiences. Distributing food samples, small drinks to customers when they are waiting may in fact act as a distraction during waiting, and, therefore, influence their perceptions of waiting time and affective responses to waiting. Additionally, customers may have different wait expectations and perceived wait duration during in-process waits. As past research suggests that in-process waits are not as unpleasant as pre-process waits, it is
worthy of research efforts to further examine whether these constructs may perform differently across different stages of waits.

Furthermore, this study was conducted in the restaurant industry. Relevant findings may only be applied in this specific industry. Due to the characteristics of intangibility, perishability, and simultaneous production and consumption (Zeithaml and Bitner 2003), services tend to vary across industries. Research suggests that photo processing services and restaurants are different from customization, customer contact, and employee involvement while hotel services are different from auto repair services in terms of customization and social factors (Stafford and Day 1995). Thus, waiting experiences may depend on the nature of service. Further research investigating the conceptual framework in different service industries (e.g., theme parks, hair salons) might be promising.

Second, this study collected data from a field setting with real waiting experience evaluated by consumers; however, this arrangement may pose certain issues. While most consumers who were waiting at the restaurant showed willingness to participate in the survey when being approached by the researcher, other customers who decided to leave upon knowing how long they had to wait to be seated were not included in the survey. Therefore, the opportunity to understand these consumers’ predicted value of the service and zones of wait tolerance was not possible. In addition, the adoption of field research in the restaurant industry limits the responses regarding apology or compensation given to customers who were waiting possibly because, as is customary, the service providers were given latitude as to when these would be allocated. Thus, the findings of this study
may be further examined in an experimental setting. For instance, scenarios of restaurants or other types of service may be shown to participants with corresponding questions measuring their predicted value about the service and their desired and adequate expectations for waiting. Actions of the service provider may also be manipulated so that appropriate frequency can be guaranteed.

Third, the sample size and its composition need to be considered. The sample size in this study has posed some challenges when conducting analysis on different wait disconfirmation groups. In addition, the sample composition was limited to a specific geographic area in the Southwest of the United States. These consumers may not be representative of the whole population. Further research may be conducted in different areas with samples that reflect diverse demographic compositions.

Fourth, measurement of wait disconfirmation in this study was based on the objective subtraction approach. Future research may simultaneously employ the approach used in this study with subjective method by asking respondents to rate if the wait is longer or shorter than expected. The comparison of approaches may shed more light on how wait disconfirmation plays a role in consumer wait behavior from both analytical and conceptual perspectives.

Fifth, while this study includes the covariate of perceived attractiveness of service environment as part of the investigation of service experience evaluation, no other questions regarding specific environmental characteristics were posed in the questionnaire. It is likely that the environment where customers are waiting to be seated may affect their perceived wait duration and, thus, affective response to waiting. For
example, kitchens designed to be visible to customers or the comfort provided in the wait area may help either distract customers from paying attention to the time they have been waiting or prolong their zone of wait tolerance. Incorporation of environmental psychology into wait research has the potential to broaden the existing knowledge.

Last, but not least, future research in wait behavior should incorporate other constructs. For instance, individual factors, such as personality (e.g., need for control and time orientation), social influence, and cultural differences may be of interest. Moreover, there are three types of justice variables (i.e., distributive, procedural, and interactional). Only two of these constructs were examined in this study. Future research may build on the current study’s findings and examine how procedural justice influences consumers’ service experience evaluations when considering their emotional reactions to waiting. Also, research efforts can be directed to investigate which type of justice, among the three justice variables, is more likely to have effects on emotion- or cognition-based evaluation.
Figure 1.1. The Wait Experience Model (Taylor 1994)

Figure 1.2. An Integrative Model of Waiting Information and Service Evaluation (Hui and Tse 1996)
Figure 1.3. A Model of Customer’s Reactions to Waiting (Pruyn and Smidts 1998)

- Objective Waiting Time
- Perceived Waiting Duration
- Acceptability of the Wait
- Appraisal of the Wait:
  - Cognitive Component
  - Affective Component
- Service Evaluation

Perceived Attractiveness of the Waiting Environment
Figure 2. A Model of Waiting Experience Focusing on Predicted Value-Wait Disconfirmation-Service Evaluation Relationship

- Predicted Value of Service
  - overall (a)
  - functional (b)
  - social (c)
  - emotional (d)
  - epistemic (e)
  - conditional (f)

- Wait Disconfirmation
  - Consumer Zone of Wait Tolerance
  - Perceived Wait Duration

- Affective Response to Waiting

- Actions of the Service Provider
  - The Presence of Apology
  - The presence of compensation

- Service Experience Evaluation
  - H5a
  - H5b, H5c

- H1
  - H2
  - H3
  - H4
  - H5a
Figure 2.1. The Relationship between Predicted Value of Service and Consumer Zone of Wait Tolerance

Predicted Value of Service
- overall (a)
- functional (b)
- social (c)
- emotional (d)
- epistemic (e)
- conditional (f)

Desired Wait Expectation

Consumer Zone of Wait Tolerance

Adequate Wait Expectation

H1
Figure 2.2. The Relationship between Positive, Negative, and Zero Wait Disconfirmation, and Affective Response to Waiting
Figure 2.3. The Relationship between Perceived Wait Duration and Affective Response to Waiting
Figure 2.4. The Comparative Effects of Wait Disconfirmation and Perceived Wait Duration on Affective Response to Waiting
Figure 2.5. The Relationship between Affective Response to Waiting and Service Experience Evaluation and the Moderating Role of Actions of the Service Provider

- The Presence of Apology
- The presence of compensation
Figure 3. The Research Model for Analysis for Entire Sample (Used for Testing of H1a-1f, H3, H4, and H5a)

Overall Value
Functional Value
Social Value
Emotional Value
Epistemic Value
Conditional Value

H1a
H1b
H1c
H1d
H1e
H1f

Consumer Zone of Wait Tolerance

Wait Disconfirmation

Perceived Wait Duration

Affective Response to Waiting

Emotional Dimension of Service Evaluation
Cognitive Dimension of Service Evaluation
Actions of the Service Provider

H2
H3
H4

H5a

a Not hypothesized.
b Tested using multigroup analysis.
c Tested via MANCOVA.
Figure 3-1. The Research Model Estimated (standardized coefficients, $t$-values in brackets).
Figure 4. The Revised Research Model (standardized coefficients, \( t \)-values in brackets).

- Overall Value
- Functional Value
- Social Value
- Emotional Value
- Epistemic Value
- Conditional Value
- Consumer Zone of Wait Tolerance
- Wait Disconfirmation
- Affective Response to Waiting
- Cognitive Dimension of Service Evaluation
- Emotional Dimension of Service Evaluation

\[ \chi^2/df = 537.61/339 \]

- GFI = .92
- CFI = .99
- PNFI = .81
- RMSEA = .036

* \( p < .05 \), ** \( p < .01 \)
Figure 5: The Value-Free Model (standardized coefficients, *t*-values in brackets).

\[
\begin{align*}
\text{Consumer Zone of Wait Tolerance} & \rightarrow \text{Wait Disconfirmation} & \rightarrow \text{Affective Response to Waiting} & \rightarrow \text{Emotional Dimension of Service Evaluation} \\
& & & \text{Cognitive Dimension of Service Evaluation} \\
\text{Perceived Wait Duration} \rightarrow \text{Wait Disconfirmation} & \rightarrow & \text{Affective Response to Waiting} & \rightarrow \text{Emotional Dimension of Service Evaluation} \\
& & & \text{Cognitive Dimension of Service Evaluation} \\
\chi^2/df = 643.52/341 \\
\text{GFI} = .90 \\
\text{CFI} = .98 \\
\text{PNFI} = .81 \\
\text{RMSEA} = .044
\end{align*}
\]

\* \text{p < .05, } \quad \text{\^p < .01}
Figure 6: The Value-Evaluation Model (standardized coefficients, $t$-values in brackets).

![Diagram of the Value-Evaluation Model](image-url)
Figure 7: The Value-Affect Model (standardized coefficients, $t$-values in brackets).

- Epistemic Value
  - Consumer Zone of Wait Tolerance
    - Wait Disconfirmation
      - Affective Response to Waiting
        - Emotional Dimension of Service Evaluation
          - Cognitive Dimension of Service Evaluation
            - Perceived Wait Duration
              - .19 (3.39)**

- $\chi^2$/df = 631.88/340
- GFI = .90
- CFI = .98
- PNFI = .81
- RMSEA = .044

* $p < .05$, ** $p < .01$
Figure 8: Effects of Wait Disconfirmation on Affective Response to Waiting Across Wait Disconfirmation Groups (standardized coefficients, $t$-values in brackets).

- Positive wait disconfirmation group
- Zero wait disconfirmation group
- Negative wait disconfirmation group

$p < .05$, $** p < .01$

$\chi^2/df = 1552.21/1179$
GFI = .84$^a$; .81$^b$; .64$^c$
CFI = .97
PNFI = .87
RMSEA = .043
Table 1. A Summary of Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adapted From</th>
<th>Example</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted Overall Value of Service</td>
<td>Brady et al. (2000)</td>
<td>To me, the value of this restaurant will be high.</td>
<td>1=strongly disagree 7=strongly agree</td>
</tr>
<tr>
<td>Predicted Functional Value of Service</td>
<td>Albaum et al. (2002); Sheth et al. (1991a, 1991b)</td>
<td>I anticipate that this restaurant will provide good monetary value for what I want.</td>
<td>1=strongly disagree 7=strongly agree</td>
</tr>
<tr>
<td>Predicted Social Value of Service</td>
<td>Sheth et al. (1991a, 1991b); Sweeney and Soutar (2001)</td>
<td>I anticipate that this restaurant will allow me to obtain warm relationships with others.</td>
<td>1=strongly disagree 7=strongly agree</td>
</tr>
<tr>
<td>Predicted Emotional Value of Service</td>
<td>Babin et al. (1994); Richins (1997); Sheth et al. (1991a, 1991b); Sweeney and Soutar (2001)</td>
<td>I anticipate that my experience at this restaurant will make me feel pleased.</td>
<td>1=strongly disagree 7=strongly agree</td>
</tr>
<tr>
<td>Predicted Epistemic Value of Service</td>
<td>Babin et al. (1994); Sheth et al. (1991a, 1991b)</td>
<td>I anticipate that this restaurant will provide me with a unique experience.</td>
<td>1=strongly disagree 7=strongly agree</td>
</tr>
<tr>
<td>Predicted Conditional Value of Service</td>
<td>Belk (1975)</td>
<td>I anticipate that this restaurant will be a good choice for special occasions.</td>
<td>1=strongly disagree 7=strongly agree</td>
</tr>
<tr>
<td>Desired Wait Expectation</td>
<td>Dion et al. (1998); Parasuraman et al. 1991; Walker and Baker (2000)</td>
<td>Please indicate how long you hope waiting to be seated today will be.</td>
<td>In hours and minutes</td>
</tr>
<tr>
<td>Adequate Wait Expectation</td>
<td>Antonides et al. (2002); Dion et al. (1998); Pruyn and Smidts (1998)</td>
<td>Please indicate the longest time you find acceptable to wait to be seated at the restaurant today.</td>
<td>In hours and minutes</td>
</tr>
<tr>
<td>Perceived Wait Duration</td>
<td>Diaz and Ruiz (2002); Houston et al. (1998); Pruyn and Smidts (1998)</td>
<td>Please indicate how long the wait to be seated at this restaurant today felt to you.</td>
<td>In hours and minutes</td>
</tr>
<tr>
<td>Affective Response to Waiting</td>
<td>Houston et al. (1998); Hui and Tse (1996); Richins (1997)</td>
<td>Annoyed/Pleased; Irritated/Calm</td>
<td>Semantic Differential Scale from 1 to 7</td>
</tr>
<tr>
<td>Actions of the Service Provider</td>
<td>Houston et al. (1998)</td>
<td>Before receiving the service, did you receive an apology from the service provider for your wait today?</td>
<td>1=No 2=Yes</td>
</tr>
</tbody>
</table>
| Service Experience Evaluation                | Cronin et al. (2000); Hui et al. (1998)                                     | 1) Emotional dimension: unfavorable/favorable  
2) Cognitive dimension: My choice to patronize this restaurant was a wise one. | Semantic Differential Scale from 1 to 7                              |
Table 2. A Summary of Covariate Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Adapted From</th>
<th>Example</th>
<th>Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Experience with the Service Provider</td>
<td>Focus group information</td>
<td>Approximately how often have you visited this restaurant in the past six months?</td>
<td>1=never until today 7=more than once a week</td>
</tr>
<tr>
<td>Solo waits</td>
<td></td>
<td>How many people were waiting with you today for service at this restaurant?</td>
<td>Number of people</td>
</tr>
<tr>
<td>Importance of Actions of the Service Provider</td>
<td></td>
<td>Please indicate how important it is for you to receive an apology from the service provider for your wait today?</td>
<td>1=not important at all 7=extremely important</td>
</tr>
<tr>
<td>Service Environment Perception</td>
<td>Brady and Cronin (2001)</td>
<td>The physical environment at this restaurant was one of the best in the industry.</td>
<td>1=strongly disagree 7=strongly agree</td>
</tr>
</tbody>
</table>
Table 3. Data Analysis Procedures for Hypotheses Testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Preliminary Analysis</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1a</strong>: The greater the consumer’s predicted overall value of service, the</td>
<td>- Factor analysis for “predicted value”</td>
<td>Structural equation modeling based on the entire sample</td>
</tr>
<tr>
<td>wider the zone of wait tolerance.</td>
<td>- Test for multicollinearity through regression analysis</td>
<td>IV: Six types of predicted value</td>
</tr>
<tr>
<td></td>
<td>- Creation of ZOWT score (adequate wait expectation minus desired wait expectation)</td>
<td>DV: ZOWT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post hoc regression analysis</td>
</tr>
</tbody>
</table>
|                                                                           |                                                                                      | *H1a:* D1: If perceived wait duration is shorter than desired wait expectation,
|                                                                           |                                                                                      | D1 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D2: If perceived wait duration is longer than adequate wait expectation,   |
|                                                                           |                                                                                      | D2 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D3: If perceived wait duration is longer than desired wait expectation but |
|                                                                           |                                                                                      | shorter than adequate wait expectation, D3 = 1, otherwise 0.             |
| **H1b**: The greater the consumer’s predicted functional value of service, | Same as H1a                                                                            | Post hoc regression analysis                                             |
| the wider the zone of wait tolerance.                                     |                                                                                      | *H1a:* D1: If perceived wait duration is shorter than desired wait       |
|                                                                           |                                                                                      | expectation, D1 = 1, otherwise 0.                                       |
|                                                                           |                                                                                      | D2: If perceived wait duration is longer than adequate wait expectation,  |
|                                                                           |                                                                                      | D2 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D3: If perceived wait duration is longer than desired wait expectation but |
|                                                                           |                                                                                      | shorter than adequate wait expectation, D3 = 1, otherwise 0.             |
| **H1c**: The greater the consumer’s predicted social value of service,    | Same as H1a                                                                            | Post hoc regression analysis                                             |
| the wider the zone of wait tolerance.                                     |                                                                                      | *H1a:* D1: If perceived wait duration is shorter than desired wait       |
|                                                                           |                                                                                      | expectation, D1 = 1, otherwise 0.                                       |
|                                                                           |                                                                                      | D2: If perceived wait duration is longer than adequate wait expectation,  |
|                                                                           |                                                                                      | D2 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D3: If perceived wait duration is longer than desired wait expectation but |
|                                                                           |                                                                                      | shorter than adequate wait expectation, D3 = 1, otherwise 0.             |
| **H1d**: The greater the consumer’s predicted emotional value of service, | Same as H1a                                                                            | Post hoc regression analysis                                             |
| the wider the zone of wait tolerance.                                     |                                                                                      | *H1a:* D1: If perceived wait duration is shorter than desired wait       |
|                                                                           |                                                                                      | expectation, D1 = 1, otherwise 0.                                       |
|                                                                           |                                                                                      | D2: If perceived wait duration is longer than adequate wait expectation,  |
|                                                                           |                                                                                      | D2 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D3: If perceived wait duration is longer than desired wait expectation but |
|                                                                           |                                                                                      | shorter than adequate wait expectation, D3 = 1, otherwise 0.             |
| **H1e**: The greater the consumer’s predicted epistemic value of service, | Same as H1a                                                                            | Post hoc regression analysis                                             |
| the wider the zone of wait tolerance.                                     |                                                                                      | *H1a:* D1: If perceived wait duration is shorter than desired wait       |
|                                                                           |                                                                                      | expectation, D1 = 1, otherwise 0.                                       |
|                                                                           |                                                                                      | D2: If perceived wait duration is longer than adequate wait expectation,  |
|                                                                           |                                                                                      | D2 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D3: If perceived wait duration is longer than desired wait expectation but |
|                                                                           |                                                                                      | shorter than adequate wait expectation, D3 = 1, otherwise 0.             |
| **H1f**: The greater the consumer’s predicted conditional value of service,| Same as H1a                                                                            | Post hoc regression analysis                                             |
| the wider the zone of wait tolerance.                                     |                                                                                      | *H1a:* D1: If perceived wait duration is shorter than desired wait       |
|                                                                           |                                                                                      | expectation, D1 = 1, otherwise 0.                                       |
|                                                                           |                                                                                      | D2: If perceived wait duration is longer than adequate wait expectation,  |
|                                                                           |                                                                                      | D2 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D3: If perceived wait duration is longer than desired wait expectation but |
|                                                                           |                                                                                      | shorter than adequate wait expectation, D3 = 1, otherwise 0.             |
| **H2**: For consumers who experience positive wait disconfirmation, there  | - Factor analysis for “affective response”                                             | Structural equation modeling via multigroup analysis technique across the three wait disconfirmation groups |
| is a positive relationship between wait disconfirmation and their affective| - Creation of wait disconfirmation (absolute value of the difference between perceived wait duration and ZOWT) |
| responses to waiting. For consumers who experience negative wait           | - Creation of three wait disconfirmation groups                                        |
| disconfirmation, there is a positive relationship between wait              | - Creation of dummy variables (D1, D2, and D3) for post hoc analysis                   |
| disconfirmation and their affective responses to waiting. For consumers    |                                                                                      | *H2:* D1: If perceived wait duration is shorter than desired wait         |
| who experience zero wait disconfirmation, there is a weaker relationship   |                                                                                      | expectation, D1 = 1, otherwise 0.                                       |
| between wait disconfirmation and their affective responses to waiting      |                                                                                      | D2: If perceived wait duration is longer than adequate wait expectation,  |
| compared with the aforementioned relationships.                            |                                                                                      | D2 = 1, otherwise 0.                                                     |
|                                                                           |                                                                                      | D3: If perceived wait duration is longer than desired wait expectation but |
|                                                                           |                                                                                      | shorter than adequate wait expectation, D3 = 1, otherwise 0.             |
Table 3. Data Analysis Procedures for Hypotheses Testing (cont.)

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Preliminary Analysis</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H3</strong>: As perceived wait duration increases, consumers’ affective responses to waiting tend to become more negative.</td>
<td>- Factor analysis for “affective response”</td>
<td>Structural equation modeling based on the entire sample IV: Perceived wait duration DV: Affective response to waiting</td>
</tr>
<tr>
<td><strong>H4</strong>: Wait disconfirmation (i.e., positive and negative disconfirmation) has a stronger effect on affective response to waiting than perceived wait duration.</td>
<td>- Factor analysis for “affective response” - Creation of three wait disconfirmation groups - Creation of wait disconfirmation (absolute value of the difference between perceived wait duration and ZOWT)</td>
<td>Structural equation modeling based on the entire sample IV: Perceived wait duration and wait disconfirmation DV: Affective response to waiting</td>
</tr>
<tr>
<td><strong>H5a</strong>: When affective response to waiting is positive, service experience evaluation will be more positive than when affective response to waiting is negative.</td>
<td>- Factor analysis for “service experience evaluation” - Test for multicollinearity through regression analysis</td>
<td>Structural equation modeling based on the entire sample IV: Affective response to waiting DV: Dimensions of service experience evaluation</td>
</tr>
<tr>
<td><strong>H5b</strong>: Affective response to waiting will have a stronger effect on service experience evaluation when an apology or compensation is present than when an apology or compensation is absent.</td>
<td>- Sample split for “affective response to waiting” - Factor analysis for “service experience evaluation”</td>
<td>Two-way MANCOVA IV: Affective response to waiting (low vs. high) and apology (no vs. yes)/compensation (no vs. yes) DV: Dimensions of service experience evaluation Covariate: perceived attractiveness of service environment</td>
</tr>
<tr>
<td><strong>H5c</strong>: Service experience evaluation is dependent on a three-way interaction involving affective response to waiting, the presence of apology, and the presence of compensation.</td>
<td>Same as H5b</td>
<td>Three-way MANCOVA IV: Affective response to waiting (low vs. high), apology (no vs. yes), and compensation (no vs. yes) DV: Dimensions of service experience evaluation Covariate: perceived attractiveness of service environment</td>
</tr>
</tbody>
</table>

Note: Instead of being tested with originally proposed statistical plan using MANCOVA, H5a stating the direct, positive relationship between affective response to waiting and service experience evaluation was tested as part of the Revised Research Model via structural equation modeling.
Table 4. Demographic Characteristics of the Respondents (N=393)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sample Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>47.41</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>52.44</td>
</tr>
<tr>
<td>Male</td>
<td>47.56</td>
</tr>
<tr>
<td>Family Income</td>
<td></td>
</tr>
<tr>
<td>Less than 10,000</td>
<td>3.94</td>
</tr>
<tr>
<td>Between 10,000 and 24,999</td>
<td>4.79</td>
</tr>
<tr>
<td>Between 25,000 and 39,999</td>
<td>8.17</td>
</tr>
<tr>
<td>Between 40,000 and 54,999</td>
<td>12.39</td>
</tr>
<tr>
<td>Between 55,000 and 69,999</td>
<td>12.96</td>
</tr>
<tr>
<td>More than 70,000</td>
<td>57.75</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Caucasian or White</td>
<td>84.11</td>
</tr>
<tr>
<td>American Indian, Alaskan, or Hawaiian Native</td>
<td>1.30</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1.04</td>
</tr>
<tr>
<td>Asian</td>
<td>2.86</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9.11</td>
</tr>
<tr>
<td>Other</td>
<td>1.56</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Some high school, no diploma</td>
<td>0.78</td>
</tr>
<tr>
<td>High school diploma</td>
<td>7.03</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>27.08</td>
</tr>
<tr>
<td>Associate’s degree</td>
<td>5.99</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>34.11</td>
</tr>
<tr>
<td>Master’s or doctoral degree</td>
<td>25.00</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>8.57</td>
</tr>
<tr>
<td>Managerial or professional</td>
<td>39.22</td>
</tr>
<tr>
<td>Technical, sales, or administrative support</td>
<td>10.91</td>
</tr>
<tr>
<td>Government position</td>
<td>6.75</td>
</tr>
<tr>
<td>Retired</td>
<td>20.00</td>
</tr>
<tr>
<td>Other</td>
<td>14.55</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
</tr>
<tr>
<td>Never married</td>
<td>19.28</td>
</tr>
<tr>
<td>Married</td>
<td>65.81</td>
</tr>
<tr>
<td>Divorced</td>
<td>6.94</td>
</tr>
<tr>
<td>Widowed</td>
<td>7.20</td>
</tr>
<tr>
<td>Other</td>
<td>0.77</td>
</tr>
</tbody>
</table>
Table 5. Wait-related Information at the Restaurants (N=393)

<table>
<thead>
<tr>
<th>Wait-Related Construct</th>
<th>Restaurant A</th>
<th>Restaurant B</th>
<th>Restaurant C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived wait duration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Across Restaurants</td>
<td>14.41</td>
<td>13.09</td>
<td>20.68</td>
</tr>
<tr>
<td>Restaurant A</td>
<td>13.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant B</td>
<td>12.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant C</td>
<td>20.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Desired wait expectation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Across Restaurants</td>
<td>15.94</td>
<td>16.82</td>
<td>17.38</td>
</tr>
<tr>
<td>Restaurant A</td>
<td>16.82</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant B</td>
<td>14.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant C</td>
<td>17.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Adequate wait expectation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Across Restaurants</td>
<td>27.54</td>
<td>29.21</td>
<td>28.43</td>
</tr>
<tr>
<td>Restaurant A</td>
<td>29.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant B</td>
<td>25.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant C</td>
<td>28.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Zone of wait tolerance (adequate wait expectation-desired wait expectation)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Across Restaurants</td>
<td>11.63</td>
<td>12.38</td>
<td>11.03</td>
</tr>
<tr>
<td>Restaurant A</td>
<td>12.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant B</td>
<td>11.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurant C</td>
<td>11.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 6: A Priori Exploratory Factor Analysis ($N = 393$)

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor Loading</th>
<th>Reliability</th>
<th>Variance Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predicted Overall Value</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>.85</td>
<td>.87</td>
</tr>
<tr>
<td>To me, the value of this restaurant will be high.</td>
<td></td>
<td>.93</td>
<td></td>
</tr>
<tr>
<td>Compared to what I am going to pay, the overall ability of this restaurant to satisfy my wants and needs will be high.</td>
<td></td>
<td>.93</td>
<td></td>
</tr>
<tr>
<td><strong>Predicted Functional Value</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>.83</td>
<td>.60</td>
</tr>
<tr>
<td>I anticipate that this restaurant…</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>will provide good monetary value for what I want.</td>
<td></td>
<td>.82</td>
<td></td>
</tr>
<tr>
<td>will provide fast service.</td>
<td></td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>will be necessary for what I need.</td>
<td></td>
<td>.69</td>
<td></td>
</tr>
<tr>
<td>will provide good service.</td>
<td></td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>will provide quality food.</td>
<td></td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td><strong>Predicted Social Value</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>.84</td>
<td>.68</td>
</tr>
<tr>
<td>I anticipate that this restaurant…</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>will help my social relationships.</td>
<td></td>
<td>.83</td>
<td></td>
</tr>
<tr>
<td>will allow me to obtain warm relationships with others.</td>
<td></td>
<td>.88</td>
<td></td>
</tr>
<tr>
<td>will be a place where I can socialize with people.</td>
<td></td>
<td>.74</td>
<td></td>
</tr>
<tr>
<td>will help bring me closer relationships with people I like.</td>
<td></td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td><strong>Predicted Emotional Value</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>.88</td>
<td>.63</td>
</tr>
<tr>
<td>I anticipate my experience today at this restaurant will make me feel…</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>joyful.</td>
<td></td>
<td>.76</td>
<td></td>
</tr>
<tr>
<td>happy.</td>
<td></td>
<td>.73</td>
<td></td>
</tr>
<tr>
<td>excited.</td>
<td></td>
<td>.79</td>
<td></td>
</tr>
<tr>
<td>respected.</td>
<td></td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td>cool.</td>
<td></td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>special.</td>
<td></td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td><strong>Predicted Epistemic Value</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>.79</td>
<td>.71</td>
</tr>
<tr>
<td>I anticipate that this restaurant…</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>will provide variety that I would not find</td>
<td></td>
<td>.81</td>
<td></td>
</tr>
</tbody>
</table>
elsewhere.
cannot be found elsewhere. .86
will provide me with a unique experience. .85

Predicted Conditional Valuea .49 .65
I anticipate that this restaurant…
    will be a good choice for special occasions. .80
    will be a good choice for the time I have available.

Affective Response to Waitingb .97 .90
I felt… about waiting to be seated at this restaurant.
    pleased .93
    happy .96
    relaxed .95
    calm .96
    optimistic .94

Emotional Dimension of Evaluationb .97 .85
Overall, this restaurant visit was…
    favorable. .83
    good. .96
    positive. .96

Cognitive Dimension of Evaluationb .98 .98
My choice to patronize this restaurant was a wise one. .99
I think that I did the right thing by coming to this restaurant.

a items are measured on a seven-point Likert scale from 1=strongly disagree to 7=strongly agree.
b items are measured on a seven-point differential semantic scale.
Table 7: Measurement Model Results for Entire Sample

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Standardized Factor Loading</th>
<th>Standard Error</th>
<th>t-Value</th>
<th>Construct Reliability</th>
<th>Proportion of Variance Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall value</td>
<td>.85</td>
<td>74%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high value</td>
<td>.86</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x1 (satisfy my wants and needs)</td>
<td>.87</td>
<td>.05</td>
<td>19.72</td>
<td>.82</td>
<td>61%</td>
</tr>
<tr>
<td>Functional value</td>
<td>.82</td>
<td>61%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x3 (good monetary value)</td>
<td>.70</td>
<td>-</td>
<td>-</td>
<td>.87</td>
<td>63%</td>
</tr>
<tr>
<td>x4 (good service)</td>
<td>.82</td>
<td>.08</td>
<td>14.62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x5 (quality food)</td>
<td>.81</td>
<td>.08</td>
<td>14.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional value</td>
<td>.87</td>
<td>63%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x6 (make me feel cool)</td>
<td>.82</td>
<td>-</td>
<td>-</td>
<td>.88</td>
<td>70%</td>
</tr>
<tr>
<td>x7 (make me feel excited)</td>
<td>.68</td>
<td>.06</td>
<td>14.36</td>
<td>.78</td>
<td>55%</td>
</tr>
<tr>
<td>x8 (make me feel respected)</td>
<td>.76</td>
<td>.06</td>
<td>15.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x9 (make me feel special)</td>
<td>.90</td>
<td>.06</td>
<td>19.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social value</td>
<td>.88</td>
<td>70%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x10 (warm relationships)</td>
<td>.81</td>
<td>-</td>
<td>-</td>
<td>.95</td>
<td>90%</td>
</tr>
<tr>
<td>x11 (closer relationships)</td>
<td>.90</td>
<td>.07</td>
<td>16.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x12 (help social relationships)</td>
<td>.80</td>
<td>.07</td>
<td>14.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x13 (cannot be found elsewhere)</td>
<td>.71</td>
<td>-</td>
<td>-</td>
<td>.95</td>
<td>90%</td>
</tr>
<tr>
<td>x14 (unique experience)</td>
<td>.83</td>
<td>.09</td>
<td>13.93</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x15 (variety)</td>
<td>.67</td>
<td>.08</td>
<td>11.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditional value</td>
<td>.95</td>
<td>90%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x16 (time availability)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>x17 (special occasion)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Zone of Wait Tolerance
The difference between desired wait duration and adequate wait duration

η₁ (Wait tolerance)
y₁ (tolerance) .95 - -

Perceived Wait Duration
Please indicate how long the wait to be seated felt to you.

η₂ (Perceived wait duration)
y₂ (feel) .95 - -

Wait Disconfirmation
The difference between consumer zone of wait tolerance and perceived wait duration

η₃ (Wait disconfirmation)
y₃ (disconfirmation) .95 - -
Affective Response to Waiting
Please circle the number that is closest to how you felt about waiting to be seated at this restaurant today.

\[ \eta_4 (\text{Affective response to waiting}) \]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.96</td>
<td>83%</td>
</tr>
<tr>
<td>( y_4 ) (calm)</td>
<td>.93</td>
<td>-</td>
</tr>
<tr>
<td>( y_5 ) (pleased)</td>
<td>.85</td>
<td>.04</td>
</tr>
<tr>
<td>( y_6 ) (happy)</td>
<td>.93</td>
<td>.03</td>
</tr>
<tr>
<td>( y_7 ) (relaxed)</td>
<td>.94</td>
<td>.03</td>
</tr>
<tr>
<td>( y_8 ) (optimistic)</td>
<td>.91</td>
<td>.02</td>
</tr>
</tbody>
</table>

Service Experience Evaluation
Please indicate the extent to which you agree or disagree with the following statements about today’s visit to this restaurant. (1 = Strongly Disagree, 7 = Strongly Agree)

\[ \eta_5 (\text{Emotional dimension}) \]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.93</td>
<td>86%</td>
</tr>
<tr>
<td>( y_9 ) (good)</td>
<td>.91</td>
<td>-</td>
</tr>
<tr>
<td>( y_{10} ) (positive)</td>
<td>.95</td>
<td>.03</td>
</tr>
</tbody>
</table>

\[ \eta_6 (\text{Cognitive dimension}) \]

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.91</td>
<td>95%</td>
</tr>
<tr>
<td>( y_{11} ) (I did the right thing)</td>
<td>.98</td>
<td>-</td>
</tr>
<tr>
<td>( y_{12} ) (My choice was wise)</td>
<td>.97</td>
<td>.02</td>
</tr>
</tbody>
</table>

\[ \chi^2(310) = 500.72 \quad \text{GFI} = .92 \quad \text{AGFI} = .89 \quad \text{CFI} = .99 \quad \text{RMSEA} = .037 \]

Notes:

a. The first \( \lambda \) path for each construct was set to 1; therefore, no SEs or t-values are provided.

b. \[ \frac{\left(\sum \text{Std. Loadings}^2\right)^2}{\left(\sum \text{Std. Loadings}^2\right)^2 + \sum \xi_j^2} \]

c. \[ \frac{\sum \text{Std. Loadings}^2}{\sum \text{Std. Loadings}^2 + \sum \xi_j^2} \]
Table 8: Measurement Model Results for the Positive Wait Disconfirmation Group

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Standardized Factor Loading</th>
<th>Standard Error</th>
<th>t-Value</th>
<th>Construct Reliability°</th>
<th>Proportion of Variance Extracted°</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predicted Values</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please indicate the extent to which you agree or disagree with each of the following statements regarding your decision to visit this restaurant today. (1 = Strongly Disagree, 7 = Strongly Agree)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_1$ (Overall value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_1$ (high value)</td>
<td>.86</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_2$ (satisfy my wants and needs)</td>
<td>.84</td>
<td>.07</td>
<td>13.64</td>
<td></td>
<td>72%</td>
</tr>
<tr>
<td>$\xi_2$ (Functional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_3$ (good monetary value)</td>
<td>.71</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_4$ (good service)</td>
<td>.78</td>
<td>.11</td>
<td>10.31</td>
<td></td>
<td>61%</td>
</tr>
<tr>
<td>$x_5$ (quality food)</td>
<td>.86</td>
<td>.11</td>
<td>11.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_3$ (Emotional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_6$ (make me feel cool)</td>
<td>.85</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_7$ (make me feel excited)</td>
<td>.66</td>
<td>.07</td>
<td>10.50</td>
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<td></td>
</tr>
<tr>
<td>$x_8$ (make me feel respected)</td>
<td>.81</td>
<td>.07</td>
<td>13.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_9$ (make me feel special)</td>
<td>.92</td>
<td>.07</td>
<td>15.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_4$ (Social value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{10}$ (warm relationships)</td>
<td>.81</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{11}$ (closer relationships)</td>
<td>.89</td>
<td>.09</td>
<td>11.92</td>
<td></td>
<td>70%</td>
</tr>
<tr>
<td>$x_{12}$ (help social relationships)</td>
<td>.81</td>
<td>.09</td>
<td>10.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_5$ (Epistemic value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{13}$ (cannot be found elsewhere)</td>
<td>.65</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{14}$ (unique experience)</td>
<td>.86</td>
<td>.16</td>
<td>8.35</td>
<td></td>
<td>59%</td>
</tr>
<tr>
<td>$x_{15}$ (variety)</td>
<td>.78</td>
<td>.15</td>
<td>7.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_6$ (Conditional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{16}$ (time availability)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>$x_{17}$ (occasion)</td>
<td>.95</td>
<td>.07</td>
<td>14.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Zone of Wait Tolerance</strong></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>The difference between desired wait duration and adequate wait duration</td>
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<td></td>
</tr>
<tr>
<td>$\eta_1$ (Wait tolerance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y_1$ (tolerance)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived Wait Duration</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Please indicate how long the wait to be seated felt to you.</td>
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<td></td>
</tr>
<tr>
<td>$\eta_2$ (Perceived wait duration)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y_2$ (feel)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wait Disconfirmation</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The difference between consumer zone of wait tolerance and perceived wait duration</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\eta_3$ (Wait disconfirmation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y_3$ (disconfirmation)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Affective Response to Waiting

Please circle the number that is closest to how you felt about waiting to be seated at this restaurant today.

\( \eta_1 \) (Affective response to waiting)

- \( y_4 \) (calm): 0.95
- \( y_5 \) (pleased): 0.82
- \( y_6 \) (happy): 0.95
- \( y_7 \) (relaxed): 0.96
- \( y_8 \) (optimistic): 0.93

Service Experience Evaluation

Please indicate the extent to which you agree or disagree with the following statements about today’s visit to this restaurant. (1 = Strongly Disagree, 7 = Strongly Agree)

\( \eta_3 \) (Emotional dimension)

- \( y_9 \) (good): 0.93
- \( y_{10} \) (positive): 0.95

\( \eta_6 \) (Cognitive dimension)

- \( y_{11} \) (I did the right thing): 0.97
- \( y_{12} \) (My choice was wise): 0.95

\( \chi^2 \)(309) = 441.46   GFI = .88   AGFI = .83   CFI = .98   RMSEA = .040

Notes:

a. The first \( \lambda \) path for each construct was set to 1; therefore, no SEs or t-values are provided.

b. \( \frac{(\sum \text{Std. Loadings})^2}{(\sum \text{Std. Loadings})^2 + \sum \xi_j} \)

c. \( \frac{\sum \text{Std. Loadings}^2}{\sum \text{Std. Loadings}^2 + \sum \xi_j} \)
Table 9: Measurement Model Results for the Zero Wait Disconfirmation Group

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Standardized Factor Loading</th>
<th>Standard Error</th>
<th>t-Value</th>
<th>Construct Reliability</th>
<th>Proportion of Variance Extracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted Values</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please indicate the extent to which you agree or disagree with each of the following statements regarding your decision to visit this restaurant today. (1 = Strongly Disagree, 7 = Strongly Agree)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_1$ (Overall value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_1$ (high value)</td>
<td>.87</td>
<td>-</td>
<td>-</td>
<td>.86</td>
<td>75%</td>
</tr>
<tr>
<td>$x_2$ (satisfy my wants and needs)</td>
<td>.87</td>
<td>.08</td>
<td>12.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_2$ (Functional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_3$ (good monetary value)</td>
<td>.66</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_4$ (good service)</td>
<td>.85</td>
<td>.14</td>
<td>9.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_5$ (quality food)</td>
<td>.77</td>
<td>.16</td>
<td>7.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_3$ (Emotional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_6$ (make me feel cool)</td>
<td>.77</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_7$ (make me feel excited)</td>
<td>.74</td>
<td>.11</td>
<td>8.84</td>
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<td></td>
</tr>
<tr>
<td>$x_8$ (make me feel respected)</td>
<td>.66</td>
<td>.11</td>
<td>7.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_9$ (make me feel special)</td>
<td>.85</td>
<td>.11</td>
<td>10.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_4$ (Social value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{10}$ (warm relationships)</td>
<td>.85</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{11}$ (closer relationships)</td>
<td>.93</td>
<td>.09</td>
<td>12.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{12}$ (help social relationships)</td>
<td>.79</td>
<td>.10</td>
<td>9.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_5$ (Epistemic value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{13}$ (cannot be found elsewhere)</td>
<td>.67</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{14}$ (unique experience)</td>
<td>.94</td>
<td>.18</td>
<td>7.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{15}$ (variety)</td>
<td>.75</td>
<td>.17</td>
<td>6.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\xi_6$ (Conditional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{16}$ (time availability)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_{17}$ (special occasion)</td>
<td>.85</td>
<td>.08</td>
<td>12.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone of Wait Tolerance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The difference between desired wait duration and adequate wait duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\eta_1$ (Wait tolerance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y_1$ (tolerance)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Wait Duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please indicate how long the wait to be seated felt to you.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\eta_2$ (Perceived wait duration)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y_2$ (feel)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wait Disconfirmation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The difference between consumer zone of wait tolerance and perceived wait duration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\eta_3$ (Wait disconfirmation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y_3$ (disconfirmation)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Affective Response to Waiting

Please circle the number that is closest to how you felt about waiting to be seated at this restaurant today.

$\eta_4$ (Affective response to waiting)  
$y_4$ (calm)  
.93  
$y_5$ (pleased)  
.88 .06 16.83  
$y_6$ (happy)  
.95 .05 21.33  
$y_7$ (relaxed)  
.92 .05 19.89  
$y_8$ (optimistic)  
.88 .04 23.36

Service Experience Evaluation

Please indicate the extent to which you agree or disagree with the following statements about today’s visit to this restaurant. (1 = Strongly Disagree, 7 = Strongly Agree)

$\eta_8$ (Emotional dimension)  
$y_9$ (good)  
.88  
$y_{10}$ (positive)  
.95 .05 24.03  

$\eta_6$ (Cognitive dimension)  
$y_{11}$ (I did the right thing)  
.94  
$y_{12}$ (My choice was wise)  
.95 .04 28.56

$\chi^2(306) = 362.13$  
GFI = .86  
AGFI = .80  
CFI = .99  
RMSEA = .027

Notes:

a. The first $\lambda$ path for each construct was set to 1; therefore, no SEs or t-values are provided.

b. \( \frac{(\Sigma \text{Std. Loadings})^2}{(\Sigma \text{Std. Loadings})^2 + \Sigma \xi_j} \)

c. \( \frac{\Sigma \text{Std. Loadings}^2}{\Sigma \text{Std. Loadings}^2 + \Sigma \xi_j} \)
Table 10: Measurement Model Results for the Negative Wait Disconfirmation Group

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Standardized Factor Loading</th>
<th>Standard Error</th>
<th>t-Value</th>
<th>Construct Reliability (b)</th>
<th>Proportion of Variance Extracted (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Predicted Values</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please indicate the extent to which you agree or disagree with each of the following statements regarding your decision to visit this restaurant today. (1 = Strongly Disagree, 7 = Strongly Agree)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\xi_1) (Overall value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_1) (high value)</td>
<td>.83</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_2) (satisfy my wants and needs)</td>
<td>.90</td>
<td>.17</td>
<td>6.42</td>
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<td></td>
</tr>
<tr>
<td>(\xi_2) (Functional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_3) (good monetary value)</td>
<td>.69</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_4) (good service)</td>
<td>.69</td>
<td>.24</td>
<td>4.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_5) (quality food)</td>
<td></td>
<td>.25</td>
<td>4.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\xi_3) (Emotional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_6) (make me feel cool)</td>
<td>.80</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_7) (make me feel excited)</td>
<td>.48</td>
<td>.19</td>
<td>3.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_8) (make me feel respected)</td>
<td>.86</td>
<td>.27</td>
<td>3.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_9) (make me feel special)</td>
<td>.89</td>
<td>.20</td>
<td>5.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\xi_4) (Social value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{10}) (warm relationships)</td>
<td>.58</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{11}) (closer relationships)</td>
<td>.93</td>
<td>.47</td>
<td>3.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{12}) (help social relationships)</td>
<td>.59</td>
<td>.39</td>
<td>2.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\xi_5) (Epistemic value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{13}) (cannot be found elsewhere)</td>
<td>.81</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{14}) (unique experience)</td>
<td>.79</td>
<td>.19</td>
<td>5.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{15}) (variety)</td>
<td>.63</td>
<td>.19</td>
<td>4.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\xi_6) (Conditional value)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{16}) (time availability)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(x_{17}) (special occasion)</td>
<td>.95</td>
<td>.16</td>
<td>6.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Zone of Wait Tolerance</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The difference between desired wait duration and adequate wait duration</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(\eta_1) (Wait tolerance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(y_1) (tolerance)</td>
<td>.95</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceived Wait Duration</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please indicate how long the wait to be seated felt to you.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\eta_2) (Perceived wait duration)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(y_2) (feel)</td>
<td>.95</td>
<td>-</td>
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<tr>
<td><strong>Wait Disconfirmation</strong></td>
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<tr>
<td>The difference between consumer zone of wait tolerance and perceived wait duration</td>
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<tr>
<td>(\eta_3) (Wait disconfirmation)</td>
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<tr>
<td>(y_3) (disconfirmation)</td>
<td>.95</td>
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</table>
Affective Response to Waiting
Please circle the number that is closest to how you felt about waiting to be seated at this restaurant today.

\[ \eta_2 \text{(Affective response to waiting)} \]
\[ y_4 \text{(calm)} = .86 \]
\[ y_5 \text{(pleased)} = .62 \]
\[ y_6 \text{(happy)} = .78 \]
\[ y_7 \text{(relaxed)} = .85 \]
\[ y_8 \text{(optimistic)} = .92 \]

Service Experience Evaluation
Please indicate the extent to which you agree or disagree with the following statements about today’s visit to this restaurant. (1 = Strongly Disagree, 7 = Strongly Agree)

\[ \eta_3 \text{(Emotional dimension)} \]
\[ y_9 \text{(good)} = .88 \]
\[ y_{10} \text{(positive)} = .95 \]

\[ \eta_4 \text{(Cognitive dimension)} \]
\[ y_{11} \text{(I did the right thing)} = .82 \]
\[ y_{12} \text{(My choice was wise)} = .95 \]

\[ \chi^2(306) = 271.77 \quad \text{GFI} = .73 \quad \text{AGFI} = .61 \quad \text{CFI} = 1.00 \quad \text{RMSEA} = .000 \]

Notes:

a. The first \( \lambda \) path for each construct was set to 1; therefore, no SEs or t-values are provided.

b. \( \frac{(\Sigma \text{Std. Loadings})^2}{(\Sigma \text{Std. Loadings})^2 + \Sigma \xi_j} \)

c. \( \frac{\Sigma \text{Std. Loadings}^2}{\Sigma \text{Std. Loadings}^2 + \Sigma \xi_j} \)
Table 11: Correlation Coefficients among Latent Constructs for the Entire Sample (Measurement Model 1)

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<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<td>3.84 (1.47)</td>
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<td>.34</td>
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<td>9. Wait disconfirmation</td>
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Table 13: Correlation Coefficients among Latent Constructs for the Zero Wait Disconfirmation Group (Measurement Model 3)

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<th>10</th>
<th>11</th>
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<tr>
<td>3. Social value</td>
<td>4.00 (1.54)</td>
<td>.89</td>
<td>.29</td>
<td>.74</td>
<td>1.00</td>
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<tr>
<td>4. Epistemic value</td>
<td>4.36 (1.25)</td>
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<td>.59</td>
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Table 14: Correlation Coefficients among Latent Constructs for the Negative Wait Disconfirmation Group (Measurement Model 4)

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<td>6. Overall value</td>
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<td>.87</td>
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<td>7. ZOWT</td>
<td>9.35 (9.90)</td>
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<td>.05</td>
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<td>8. Perceived wait duration</td>
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<td>-.22</td>
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<td></td>
</tr>
<tr>
<td>9. Wait disconfirmation</td>
<td>43.92 (39.75)</td>
<td>---</td>
<td>-.00</td>
<td>.11</td>
<td>-.19</td>
<td>-.21</td>
<td>-.03</td>
<td>.01</td>
<td>.20</td>
<td>.79</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Affect</td>
<td>4.38 (1.43)</td>
<td>.90</td>
<td>-.00</td>
<td>.03</td>
<td>.21</td>
<td>.11</td>
<td>.13</td>
<td>.16</td>
<td>-.02</td>
<td>-.24</td>
<td>-.16</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Emotional evaluation</td>
<td>5.48 (1.27)</td>
<td>.91</td>
<td>.21</td>
<td>.44</td>
<td>.43</td>
<td>.09</td>
<td>.22</td>
<td>.38</td>
<td>.10</td>
<td>.11</td>
<td>.22</td>
<td>.44</td>
<td>1.00</td>
<td></td>
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<tr>
<td>12. Cognitive evaluation</td>
<td>5.07 (1.21)</td>
<td>.88</td>
<td>.40</td>
<td>.32</td>
<td>.40</td>
<td>.26</td>
<td>.29</td>
<td>.49</td>
<td>.17</td>
<td>.18</td>
<td>.36</td>
<td>.28</td>
<td>.54</td>
<td>1.00</td>
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</table>
Table 15: Model Comparisons of Estimated Research Model and Its Rivals

<table>
<thead>
<tr>
<th>Fit/Path b</th>
<th>The Estimated Research Model (Figure 3-1)</th>
<th>The Revised Research Model (Figure 4)</th>
<th>The Value-Free Model (Figure 5)</th>
<th>The Value-Evaluation Model (Figure 6)</th>
<th>The Value-Affect Model (Figure 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$/df</td>
<td>633.68/341</td>
<td>537.61/339</td>
<td>643.52/341</td>
<td>546.84/339</td>
<td>631.88/340</td>
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<tr>
<td>GFI</td>
<td>.90</td>
<td>.92</td>
<td>.90</td>
<td>.92</td>
<td>.90</td>
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<td>CFI</td>
<td>.98</td>
<td>.99</td>
<td>.98</td>
<td>.99</td>
<td>.98</td>
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<td>PNFI</td>
<td>.81</td>
<td>.81</td>
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<td>.81</td>
<td>.81</td>
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<tr>
<td>RMSEA</td>
<td>.044</td>
<td>.036</td>
<td>.044</td>
<td>.037</td>
<td>.044</td>
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<tr>
<td>Overall Value $\rightarrow$ ZOWT</td>
<td>.05 (ns)</td>
<td>.03 (ns)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Functional Value $\rightarrow$ ZOWT</td>
<td>-.07 (ns)</td>
<td>-.03 (ns)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Emotional Value $\rightarrow$ ZOWT</td>
<td>.11 (ns)</td>
<td>.12 (ns)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Social Value $\rightarrow$ ZOWT</td>
<td>-.00 (ns)</td>
<td>.00 (ns)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Epistemic Value $\rightarrow$ ZOWT</td>
<td>-.13 (ns)</td>
<td>-.13 (ns)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Conditional Value $\rightarrow$ ZOWT</td>
<td>.18 (3.14)</td>
<td>.16 (2.83)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>ZOWT $\rightarrow$ Wait Disconfirmation</td>
<td>.19 (5.85)</td>
<td>.19 (5.85)</td>
<td>.18 (5.57)</td>
<td>.18 (5.57)</td>
<td>.18 (5.57)</td>
</tr>
<tr>
<td>PWD $\rightarrow$ Wait Disconfirmation</td>
<td>.89 (26.96)</td>
<td>.89 (26.96)</td>
<td>.88 (26.84)</td>
<td>.88 (26.84)</td>
<td>.88 (26.84)</td>
</tr>
<tr>
<td>Wait Disconfirmation $\rightarrow$ AF</td>
<td>.30 (2.01)</td>
<td>.30 (2.01)</td>
<td>.34 (2.20)</td>
<td>.34 (2.20)</td>
<td>.31 (2.04)</td>
</tr>
<tr>
<td>PWD $\rightarrow$ AF</td>
<td>-.51 (-3.39)</td>
<td>-.51 (-3.39)</td>
<td>-.57 (-3.66)</td>
<td>-.57 (-3.66)</td>
<td>-.52 (-3.36)</td>
</tr>
<tr>
<td>Epistemic Value $\rightarrow$ AF</td>
<td>.19 (3.40)</td>
<td>.18 (3.30)</td>
<td>---</td>
<td>---</td>
<td>.19 (3.39)</td>
</tr>
<tr>
<td>Fit/Path (^b)</td>
<td>The Research Model</td>
<td>The Revised Research Model</td>
<td>The Value-Free Evaluation Model</td>
<td>The Value-Affect Model</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------</td>
<td>---------------------------</td>
<td>-------------------------------</td>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>AF → Emotional Evaluation</td>
<td>.44 (10.05)</td>
<td>.44 (10.06)</td>
<td>.44 (10.05)</td>
<td>.45 (10.18)</td>
<td></td>
</tr>
<tr>
<td>AF → Cognitive Evaluation</td>
<td>.30 (5.94)</td>
<td>.23 (5.13)</td>
<td>.30 (5.88)</td>
<td>.23 (5.18)</td>
<td></td>
</tr>
<tr>
<td>Cognitive → Emotional Evaluation</td>
<td>.46 (10.59)</td>
<td>.46 (10.63)</td>
<td>.46 (10.63)</td>
<td>.46 (10.67)</td>
<td></td>
</tr>
<tr>
<td>Functional Value → Cognitive Evaluation</td>
<td>---</td>
<td>.35 (5.62)</td>
<td>---</td>
<td>.35 (5.67)</td>
<td></td>
</tr>
<tr>
<td>Conditional Value → Cognitive Evaluation</td>
<td>---</td>
<td>.15 (3.18)</td>
<td>---</td>
<td>.15 (3.18)</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Chi-square \((\chi^2)\) values were calculated for comparison between the proposed model and the other nested models. These values were tested for significance using the difference in estimated parameters as the appropriate degrees of freedom (Cronin, Brady, and Hult 2000).

\(^b\) A dashed line (---) indicates that the path is not specified in that model.
Table 16: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Apology on Service Experience Evaluation for Entire Sample

<table>
<thead>
<tr>
<th></th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.47 vs. 6.08 (41.07)***</td>
<td>5.31 vs. 5.79 (1.74)</td>
</tr>
<tr>
<td>Apology (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.80 vs. 5.85 (1.82)</td>
<td>5.67 vs. 5.87 (0.20)</td>
</tr>
<tr>
<td><strong>Interaction Effect:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X A</td>
<td>(2.01)</td>
<td>(0.12)</td>
</tr>
<tr>
<td>Low (R) No (A) vs. Low (R) Yes (A)</td>
<td>4.34 vs. 4.87 (2.44)</td>
<td>5.32 vs. 5.29 (0.00)</td>
</tr>
<tr>
<td>High (R) No (A) vs. High (R) Yes (A)</td>
<td>6.06 vs. 6.15 (0.01)</td>
<td>5.74 vs. 6.04 (0.72)</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
Table 17: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Compensation on Service Experience Evaluation for Entire Sample

<table>
<thead>
<tr>
<th>Main Effects:</th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.43 vs. 6.10 (12.96)***</td>
<td>5.32 vs. 5.83 (0.08)</td>
</tr>
<tr>
<td>Compensation (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.79 vs. 6.38 (0.43)</td>
<td>5.73 vs. 6.23 (0.12)</td>
</tr>
<tr>
<td>Interaction Effect:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X C</td>
<td>(1.43)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Low (R) No (C) vs. Low (R) Yes (C)</td>
<td>4.46 vs. 3.00 (0.92)</td>
<td>5.32 vs. 5.00 (---)</td>
</tr>
<tr>
<td>High (R) No (C) vs. High (R) Yes (C)</td>
<td>6.07 vs. 6.62 (0.15)</td>
<td>5.81 vs. 6.32 (---)</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
Table 18: Three-way MANCOVA Cell Means (F-values) for Affective Response to Waiting, Apology, and Compensation on Service Experience Evaluation for Entire Sample

<table>
<thead>
<tr>
<th>Main Effects:</th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.43 vs. 6.07 (14.41)***</td>
<td>5.32 vs. 5.81 (0.26)</td>
</tr>
<tr>
<td>Apology (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.78 vs. 5.85 (1.17)</td>
<td>5.69 vs. 5.87 (0.47)</td>
</tr>
<tr>
<td>Compensation (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.77 vs. 6.33 (0.89)</td>
<td>5.70 vs. 6.19 (0.05)</td>
</tr>
<tr>
<td>Three-way Interaction Effect:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X A X C</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
--- indicated no statistical information available due to zero degree of freedom
Table 19: Post Hoc Analysis: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Apology on Service Experience Evaluation for the Positive Wait Disconfirmation Group

<table>
<thead>
<tr>
<th></th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Effects:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.28 vs. 6.25 (20.62) ***</td>
<td>5.73 vs. 6.08 (0.03)</td>
</tr>
<tr>
<td>Apology (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.97 vs. 6.13 (7.14) **</td>
<td>5.99 vs. 6.26 (2.25)</td>
</tr>
<tr>
<td><strong>Interaction Effect:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X A</td>
<td>(7.91) **</td>
<td>(0.61)</td>
</tr>
<tr>
<td>Low (R) No (A) vs. Low (R) Yes (A)</td>
<td>3.92 vs. 5.65 (8.88) **</td>
<td>5.58 vs. 6.30 (1.53)</td>
</tr>
<tr>
<td>High (R) No (A) vs. High (R) Yes (A)</td>
<td>6.25 vs. 6.23 (0.03)</td>
<td>6.04 vs. 6.25 (0.84)</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
Table 20: Post Hoc Analysis: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Compensation on Service Experience Evaluation for the Positive Wait Disconfirmation Group

<table>
<thead>
<tr>
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<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
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</thead>
<tbody>
<tr>
<td><strong>Main Effects:</strong></td>
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<td></td>
</tr>
<tr>
<td>Affective Response to Waiting (R)</td>
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<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.28 vs. 6.26 (15.54)***</td>
<td>5.73 vs. 6.11 (0.45)</td>
</tr>
<tr>
<td>Compensation (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.98 vs. 6.34 (0.38)</td>
<td>6.03 vs. 6.55 (0.01)</td>
</tr>
<tr>
<td><strong>Interaction Effect:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X C</td>
<td>(0.96)</td>
<td>(0.11)</td>
</tr>
<tr>
<td>Low (R) No (C) vs. Low (R) Yes (C)</td>
<td>4.34 vs. 3.00 (0.71)</td>
<td>5.76 vs. 5.00 (0.02)</td>
</tr>
<tr>
<td>High (R) No (C) vs. High (R) Yes (C)</td>
<td>6.23 vs. 6.71 (0.34)</td>
<td>6.08 vs. 6.72 (0.45)</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
Table 21: Post Hoc Analysis: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Apology on Service Experience Evaluation for the Zero Wait Disconfirmation Group

<table>
<thead>
<tr>
<th></th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
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</thead>
<tbody>
<tr>
<td><strong>Main Effects:</strong></td>
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<td></td>
</tr>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.43 vs. 5.93 (11.79)***</td>
<td>5.07 vs. 5.54 (1.87)</td>
</tr>
<tr>
<td>Apology (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.62 vs. 5.86 (2.67)</td>
<td>5.42 vs. 5.64 (0.16)</td>
</tr>
<tr>
<td><strong>Interaction Effect:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X A</td>
<td>(3.52)(^a)</td>
<td>(0.26)</td>
</tr>
<tr>
<td>Low (R) No (A) vs. Low (R) Yes (A)</td>
<td>4.12 vs. 5.31 (4.11)(^*)</td>
<td>5.12 vs. 4.92 (0.27)</td>
</tr>
<tr>
<td>High (R) No (A) vs. High (R) Yes (A)</td>
<td>5.90 vs. 6.06 (0.06)</td>
<td>5.48 vs. 5.91 (0.01)</td>
</tr>
</tbody>
</table>

\(^*\) p < .05, \(^*\) p < .01, \(^***\) p < .001
\(^a\) significant at .10 level
Table 22: Post Hoc Analysis: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Compensation on Service Experience Evaluation for the Zero Wait Disconfirmation Group

<table>
<thead>
<tr>
<th></th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
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</thead>
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<tr>
<td><strong>Main Effects:</strong></td>
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<td></td>
</tr>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.34 vs. 5.96 (29.96)***</td>
<td>5.07 vs. 5.58 (1.93)</td>
</tr>
<tr>
<td>Compensation (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.66 vs. 6.67 (0.79)</td>
<td>5.49 vs. 5.67 (0.02)</td>
</tr>
<tr>
<td><strong>Interaction Effect:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X C</td>
<td>(---)</td>
<td>(---)</td>
</tr>
<tr>
<td>Low (R) No (C) vs. Low (R) Yes (C)</td>
<td>4.34 vs. --- (---)</td>
<td>5.07 vs. --- (---)</td>
</tr>
<tr>
<td>High (R) No (C) vs. High (R) Yes (C)</td>
<td>5.94 vs. 6.67 (---)</td>
<td>5.58 vs. 5.67 (---)</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
--- indicated no statistical information available due to zero degree of freedom
Table 23: Post Hoc Analysis: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Apology on Service Experience Evaluation for the Negative Wait Disconfirmation Group

<table>
<thead>
<tr>
<th></th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
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</thead>
<tbody>
<tr>
<td><strong>Main Effects:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.91 vs. 5.63 (7.93)**</td>
<td>4.96 vs. 4.98 (0.37)</td>
</tr>
<tr>
<td>Apology (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.60 vs. 4.55 (7.81)**</td>
<td>5.00 vs. 4.86 (0.02)</td>
</tr>
<tr>
<td><strong>Interaction Effect:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X A</td>
<td>(11.98)**</td>
<td>(0.21)</td>
</tr>
<tr>
<td>Low (R) No (A) vs. Low (R) Yes (A)</td>
<td>5.66 vs. 2.67 (15.95)***</td>
<td>5.17 vs. 4.33 (0.14)</td>
</tr>
<tr>
<td>High (R) No (A) vs. High (R) Yes (A)</td>
<td>5.57 vs. 5.97 (0.35)</td>
<td>4.93 vs. 5.25 (0.07)</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001
Table 24: Post Hoc Analysis: Two-way MANCOVA Cell Means (F-values) for Affective Response to Waiting and Compensation on Service Experience Evaluation for the Negative Wait Disconfirmation Group

<table>
<thead>
<tr>
<th>Main Effects:</th>
<th>Emotional Dimension of Service Experience Evaluation</th>
<th>Cognitive Dimension of Service Experience Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Response to Waiting (R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low vs. High</td>
<td>4.91 vs. 5.64 (0.45)</td>
<td>4.96 vs. 5.18 (0.59)</td>
</tr>
<tr>
<td>Compensation (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No vs. Yes</td>
<td>5.36 vs. 6.19 (0.59)</td>
<td>5.09 vs. 5.50 (0.39)</td>
</tr>
<tr>
<td>Interaction Effect:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R X C</td>
<td>(---)</td>
<td>(---)</td>
</tr>
<tr>
<td>Low (R) No (C) vs. Low (R) Yes (C)</td>
<td>4.91 vs. --- (---)</td>
<td>4.96 vs. --- (---)</td>
</tr>
<tr>
<td>High (R) No (C) vs. High (R) Yes (C)</td>
<td>5.59 vs. 6.19 (---)</td>
<td>5.15 vs. 5.50 (---)</td>
</tr>
</tbody>
</table>

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

--- indicated no statistical information available due to zero degree of freedom
APPENDIX A

QUESTIONNAIRE
Dear Guest,

As a doctoral student in Retailing and Consumer Sciences at The University of Arizona, I am interested in your dining experiences at (restaurant name). With the permission of (restaurant name), your help is requested to participate in a research study designed to provide a better understanding of how guests evaluate their waiting experiences at restaurants. You are eligible to participate because you are over 18 years old and a customer at this restaurant. There are no risks associated with your participation. The results of this study will benefit current and future customers of (restaurant name).

Please take the next few moments to complete this questionnaire pertaining to your personal feelings about this restaurant. Please answer the items in the questionnaire according to the instructions. In exchange for your time and assistance, you will obtain a $3 off coupon from (restaurant name) when you complete the questionnaire and return it to the researcher before you leave.

There are no right or wrong answers to the questions. We are only interested in your opinions. Your participation in this study is voluntary, and the information you provide will be kept strictly confidential. By completing the questionnaire, you are giving us permission to use the information you provide. You may choose not to answer some or all of the questions. Also, you may stop at any time should you decide that you do not want to participate in the study.

If you have any questions about this study, or if you would like a copy of the aggregate results, please do not hesitate to contact Terry Yan or my graduate advisor, Dr. Sherry Lotz, at 520.621.1295. Additionally, if you have questions concerning your rights as a research subject, you may call the Human Subjects Committee Office at 520.626.6721.

Thank you, in advance, for your valuable assistance!

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Part One – Before Waiting

Please indicate the extent to which you agree or disagree with the following statements regarding your decision to visit this restaurant today.

I anticipate that this restaurant …

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. will provide good monetary value for what I want.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>2. will help my social relationships.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>3. will provide variety that I would not find elsewhere.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>4. will provide fast service.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>5. will be necessary for what I need.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>6. will help me to obtain warm relationships with others.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>7. will be a good choice for special occasions.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>8. will provide good service.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>9. will be a place where I can socialize with people.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>10. cannot be found elsewhere.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>11. will provide me with a unique experience.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>12. is new in town.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>13. will provide quality food.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>14. will provide me a sense of adventure.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>15. will help bring me closer relationships with people I like.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>16. will be a good choice for the time I have available.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>17. will not be a good option for this occasion.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>18. will provide me with a fun experience.</td>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
</tbody>
</table>
Please indicate the extent to which you agree or disagree with the following statements regarding your feelings about your decision to visit this restaurant today.

I anticipate that my experience today at this restaurant will make me feel…

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 Strongly Disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. pleased.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. joyful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. relaxed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. sad.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. happy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. nervous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. excited.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8. respected.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9. cool.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10. special.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

In general,

1. To me, the value of this restaurant will be high.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 Strongly Disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

2. Compared to what I am going to pay, the overall ability of this restaurant to satisfy my wants and needs will be high.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 Strongly Disagree</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

3. Please indicate the extent to which you are willing to spend time waiting to be seated at this restaurant today.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 Not Willing At all</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Extremely Willing</th>
</tr>
</thead>
</table>

4. Please indicate the extent to which you accept the wait to be seated at this restaurant today.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1 Not Acceptable At All</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Extremely Acceptable</th>
</tr>
</thead>
</table>
5. Please indicate how long you hope waiting to be seated today will be [in hour(s) and minute(s)]?

_______ hour(s) ______ minute(s)

6. Please indicate the longest time you find acceptable to wait to be seated at this restaurant today [in hour(s) and minute(s)].

_______ hour(s) ______ minute(s)
Part Two

Please tell us about yourself.

Your sex: 1. Female ______ 2. Male ______

Your age: ______

Your ethnicity:
_____ 1. Caucasian or White
_____ 2. American Indian, Alaskan, or Hawaiian Native
_____ 3. Black or African American
_____ 4. Asian
_____ 5. Hispanic
_____ 6. Other

Your education (check highest level attained):
_____ 1. Some high school, no diploma  ______ 2. High school diploma
_____ 3. Some college, no degree  ______ 4. Associate’s degree
_____ 5. Bachelor’s degree  ______ 6. Master’s or Doctoral degree

Your occupation:
_____ 1. student
_____ 2. managerial or professional
_____ 3. technical, sales or administrative support
_____ 4. government position
_____ 5. retired
_____ 6. Other

Your annual household income:
_____ 1. less than $10,000  ______ 2. $10,000 to $24,999
_____ 3. $25,000 to $39,999  ______ 4. $40,000 to $54,999
_____ 5. $55,000 to $69,999  ______ 6. more than $70,000

Your marital status:
_____ 1. never married
_____ 2. married
_____ 3. divorced
_____ 4. widowed
Approximately how often have you visited this restaurant in the past six months?

_____ 1. never until today
_____ 2. less than twice
_____ 3. once every three months
_____ 4. once every other month
_____ 5. once a month
_____ 6. once a week
_____ 7. more than once a week

When was the last time you visited this restaurant?

_____ 1. more than nine months ago
_____ 2. seven to nine months ago
_____ 3. four to six months ago
_____ 4. one to three months ago
_____ 5. during the last 30 days
_____ 6. two to three weeks ago
_____ 7. sometime this week

How long has it been since you first visited this restaurant?

_____ 1. this is the first time
_____ 2. for a week
_____ 3. for a month
_____ 4. for more than 3 months
_____ 5. for more than half a year
_____ 6. for more than a year
_____ 7. for more than 2 years

*Please stop here, open the seal, and continue the rest of the questionnaire after you finish your meal!*
Part Three – About Your Waiting

The following section asks for your opinions about waiting to receive service at this restaurant.

1. Waiting for the service at this restaurant today was longer than expected.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

2. Please indicate how long the wait to be seated at this restaurant felt to you today.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

3. Please indicate how long the actual wait to be seated was at this restaurant today [in hour(s) and minute(s)].

   ______ hour(s) ______ minute(s)

4. Please indicate how long the wait to be seated at this restaurant today felt to you [in hour(s) and minute(s)].

   ______ hour(s) ______ minute(s)

5. Please circle the number that is closest to how you felt about waiting to be seated at this restaurant today.

   | Dissatisfied | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Satisfied |
   | Annoyed     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Pleased   |
   | Unhappy     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Happy    |
   | Bored       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Relaxed  |
   | Irritated   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Calm     |
   | Pessimistic | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Optimistic|

6. How many people were waiting with you today for service at this restaurant?

   ______ (number of people aged 12 and above)

   ______ (number of children aged 11 and below)
7. Did you make a reservation for your visit at this restaurant today?

______ NO  ______ YES

8. How long did the receptionist inform you that the wait would be today when you arrived at the restaurant [in hour(s) and minute(s)].

______ N/A

______ hour(s) ______ minute(s)
Part Four – About the Restaurant

This section asks for your overall opinions about your waiting experience regarding today’s visit at the restaurant.

1. Before receiving the service, did you receive an apology from the service provider for your wait today? (If you answer “NO”, please skip to Question 3)
   
   ______ NO ________ YES

2. If you answered YES for the above question, please indicate how sincere the apology for your wait seemed to you?

   
   Not Sincere At All 1 2 3 4 5 6 7

3. Before receiving the service, did you receive compensation (e.g., a free drink or appetizer) from the service provider for your wait today?

   ______ NO ________ YES

4. Please indicate how important it is for you to receive an apology from the service provider for your wait today?

   
   Not important at all 1 2 3 4 5 6 7

5. Please indicate how important it is for you to receive compensation (e.g., a free drink) from the service provider for your wait today?

   
   Not important at all 1 2 3 4 5 6 7

Please indicate the extent to which you agree or disagree with the following statements regarding today’s visit at this restaurant.

   Strongly Disagree Strongly Agree

1. I enjoyed the food served at this restaurant. 1 2 3 4 5 6 7
2. The service provided at this restaurant was excellent. 

3. The physical environment at this restaurant was appealing. 

4. The physical environment at this restaurant was one of the best in the industry. 

Considering all aspects of your visit today to this restaurant, overall, this restaurant visit was…

Unfavorable 1 2 3 4 5 6 7 Favorable
Bad 1 2 3 4 5 6 7 Good
Negative 1 2 3 4 5 6 7 Positive

Please indicate the extent to which you agree or disagree with the following statements about today’s visit to this restaurant.

Strongly Disagree Strongly Agree

1. My choice to patronize this service was a wise one. 1 2 3 4 5 6 7
2. I think that I did the right thing by coming to this restaurant. 1 2 3 4 5 6 7

Again, thank you very much for completing this survey! Please return the questionnaire to the researcher.
REFERENCES


Michalos, Alex C. (1985), “Multiple Discrepancies Theory (MDT),” *Social indicators Research*, 16 (May), 347-413.


Zuckerman, Marvin (1979), *Sensation Seeking: Beyond the Optimal Level of Arousal*, Lawrence Erlbaum Associates, Hillsdale, NJ.