WAITING FOR SERVICE:

CONSUMER VIEWS OF THE AVERSIVENESS AND DURATION OF WAITING, AND RESULTING IMPACT ON SPECIFIC AND GLOBAL SERVICE EVALUATIONS.

by

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ABSTRACT

Waiting for service is common in many purchase situations. As such, it is important to understand how consumers react to waiting. Only then can appropriate actions be taken to reduce any aversive aspects of waiting and alleviate any negative consequences that may result from the wait.

This research focused on how consumers react to waiting for service. Specifically, three reactions were examined: (1) consumers' perceptions of wait aversiveness, and the circumstances under which consumers found waiting aversive or unpleasant, (2) consumers' perceptions of felt duration, and the circumstances under which waits were felt to be longer than they actually were, and (3) the resulting service evaluations, in particular, the extent to which, and the circumstances under which waits impacted on consumers' evaluations of: (a) punctuality of service, (b) overall service quality and (c) other service attributes.

A model of a consumer's wait experience was proposed and used as a framework to examine these three issues. A quasi-experimental setting involving delays in passenger airline travel was chosen for the empirical study. Delayed passengers were questioned regarding their perceptions of wait aversiveness and duration. In addition, their pre-boarding feelings and responses on flight service evaluations were compared to those of nondelayed passengers.

The results of the empirical test suggest that perceptions of wait aversiveness were associated with: perceived airline control over the wait, higher perceived consequences of waiting, such as inconvenience and financial costs, and higher levels of affective costs

such as annoyance, anger, frustration, uncertainty, boredom, uneasiness and helplessness. Many of these costs increased as the actual wait duration and time pressures increased, and as the degree to which time was "filled" decreased. Longer felt duration was associated with longer actual durations and increased wait aversivenness.

The results also suggest that waiting did affect consumers' overall evaluations of service, their evaluations of specific service attributes and the relative importance of these attributes in predicting the overall evaluation.

Implications for management and directions for further research were then discussed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 - INTRODUCTION

Waiting is a pervasive element of many purchase situations. Consumers can wait minutes, hours, days or months. They can wait before, during or after a purchase. They can wait because there is a line-up, because there is a delay, or because they arrived early. How consumers react to these waits - specifically, how they feel about the wait, how they perceive the duration of the wait, and how the wait affects their evaluations of the service received is the focus of this research.

Because of the relatively high frequency of waiting situations, it is important to understand how consumers react to waiting. Only then can appropriate actions be taken to reduce the aversive aspects of waiting and alleviate any negative consequences that may result.

This research focuses on consumers' waiting experiences with respect to the following three central issues:

(1) Wait Aversiveness: In general, this issue concerns how consumers feel about a wait. More specifically, under what circumstances do consumers find waiting aversive or unpleasant?

(2) Felt Duration: In general, this issue concerns how accurately consumers perceive the duration of a wait. More specifically, under what circumstances do waits seem longer than they actually are?

(3) Service Evaluations: In general, this issue concerns the impact of waiting on consumers' evaluations of the service received. More specifically, under what circumstances and to what extent do waits impact on the consumer's evaluation of:

(a) punctuality or promptness of service
(b) global evaluation of service quality, and
(c) other service attributes.

In addition to these issues, the current research offers the potential to consider the managerial actions that might be taken to reduce or eliminate negative effects of waiting.

While there is little prior research that directly addresses these waiting issues, there are many studies of related concerns that help form a conceptual base for the present research. Psychological studies on anxiety, frustration, boredom, uncertainty, perceived loss of control and mood help understand and predict affective reactions to the wait. A large number of psychophysical studies are useful to address issues regarding perceptions of wait duration. The commonly used multi-cue models of quality evaluation suggest that the punctuality attribute can directly affect evaluations of overall quality. Further, research from areas such as cognitive dissonance, equity, mood and halo effects offer a number of different explanations and predictions regarding the effects of waiting on the consumer's evaluations of other service attributes as well as evaluations of overall quality.

In this paper a model of the consumer's pre-service wait experience is proposed and used as a framework to examine the three central issues outlined earlier. Figure 1 shows this model in its simplest form. It proposes that consumer perceptions and feelings about a wait are influenced by a number of antecedent and situational factors, and that these perceptions and feelings will in turn influence evaluations of the service received. This simple intuitive interpretation of the wait experience can be elaborated upon further to examine the complex interrelationships between wait experience variables. A more detailed version of the Wait Experience Model will be presented later.

Also included in this paper are details of an empirical test designed to test many aspects of this model and examine the three central issues. The empirical test, conducted in a quasi-experimental setting, focuses on actual waits in a real service setting. Passengers from delayed airline flights were questioned regarding their perceptions of wait duration and aversiveness. In addition, their responses on flight service evaluations and pre-boarding feelings were compared to those of non-delayed passengers.

The discussion of the conceptual and empirical components of this research are as follows. Chapter 2 defines and outlines the different types of waits found in service transactions. Chapter 3 reviews past research on the waiting experience and introduces a general model of the consumer's waiting experience. Chapters 4, 5 and 6 address each of the three central issues: wait aversivenss, felt duration, and service evaluations. This is followed in Chapter 7, by an outline of the detailed version of the Wait Experience Model and a discussion of how management can intervene to alleviate any negative effects of waiting. Chapter 8 outlines the hypotheses and empirical test designed to study these three issues, followed by the results of this test in Chapter 9. In Chapter 10, these results are discussed and implications for both further theory development and testing, and for managers are presented.

CHAPTER 2 - WHAT IS A WAIT?

2.1 Waiting Defined

What is "waiting"? Webster's 3rd New International Dictionary defines waiting as: to stay in one place or remain inactive in expectation of; to linger expectantly at or near a place; to be in readiness. In other words, waiting involves a state of readiness in anticipation of an event. While the term wait is used to refer to this experience of readiness, it is also commonly used to refer to the time during which this state of readiness occurs. Thus a service wait will be defined for this research as the state of readiness which the consumer experiences during the time from which he/she is ready to receive the service until the time the service commences.

2.2 Types of Service Waits

There are a large number of different types of service waits. Consumers may wait at any time before, during or after a transaction, that is, pre-process, in-process and post-process waits. For example, in a restaurant situation, pre-process waits would be any waits which occur prior to being seated; in-process waits would be any waits involved in order taking and meal service; and post-process waits would be any waits involved in receiving and paying the bill. Thus the term event discussed in the Webster definition may refer either to the start of the service or the next step in the service.

It has been suggested that pre-process waits should be viewed differently than those during the service (Venkatesan and Anderson 1985, Maister 1985, Dube-Rioux, Schmitt and Leclerc 1988). Pre-process waits are suspected of being more salient and perceived

as longer than in-process waits, resulting in a higher level of anxiety and discomfort for the consumer. Accordingly, Venkateson and Anderson suggest pre-process waits should be the focus of marketing management concern. Pre-process waits are the focus of the research presented here.

2.2.1 Pre-Process Waits. It is useful to further categorize pre-process waits into three general types: pre-schedule, post-schedule and queue waits. Pre-schedule waits include those in which the consumer waits because he/she has arrived early for a scheduled event. For example, the patient who arrives at 1:45 p.m. for a 2:00 p.m. dental appointment will experience a pre-schedule wait. However, if that patient does not get in to see the dentist until 2:25 p.m., then he/she will have to experience a 25 minute post-schedule wait. The third type of pre-process wait, the queue wait, occurs in situations where appointments or scheduled commencement times are not used. In this case, service is usually provided on a first-come first-serve basis, where consumers lineup in order to receive the desired service.

2.3 Importance of the Waiting Typology

As indicated above, waits can be broken down into three categories based on the timing of the wait: pre-process, in-process and post-process. Pre-process waits can be further broken down into three types: pre-schedule, post-schedule and queue waits. This typology has not previously been used in the literature. However, its advantage is that it can prove useful in the investigation of how consumers experience their waits. As will be discussed later, the Wait Experience Model which provides the framework for the

presented research, identifies a set of factors that may differ across wait types, and may influence consumer reactions to the waits. The three types of pre-process waits differ in a number of ways. For example, a queue wait may be less aversive to a consumer than a pre-schedule wait since the amount of uncertainty that he/she feels about the length of the wait will be less.

Given the operational definition and classification of waiting provided above, the next chapter will examine previous research dealing with waiting.

CHAPTER 3 - PRIOR RESEARCH ON WAITING

3.1 Introduction

Prior research of interest to the present research is of two types. The first deals directly with waiting and waiting experiences. The second deals with factors (such as mood) which are suspected to influence the wait experience, but have not yet been examined empirically with respect to waits. This chapter will focus on the first set of research; the second set will be discussed in Chapters 4, 5 and 6.

Despite the high incidence of waiting situations and their potential importance, the experience of waiting has not received a great deal of conceptual or empirical attention. Although analytical models of queues and queue management techniques have focused on waiting (for example, Paul 1972), they do not address consumers' wait experiences and possible wait consequences. The limited research that has been done is found in the economics, psychology and marketing literatures, and are discussed next.

3.2 Waiting in The Economics, Psychology and Marketing Literatures When waiting has been considered in economic models, it has been included as part of the time cost of acquiring goods and services. Jacoby, Szybillo and Berning (1981), summarized the treatment of the time variable in the economics literature and concluded that time has been considered as part of the price of a product. Time has been given a monetary value, the opportunity cost of time, operationalized as foregone income (Becker 1965). Based on this type of conceptualization, Nichols, Smolensky and Tideman (1971) suggested that individuals who valued their time differently faced different prices when

waiting to receive a product. Thus waiting as a financial cost has been the predominant conceptualization in economic models; however as will be discussed later in this paper, waiting may involve more than just monetary costs.

The waiting experience has been discussed in the psychology and marketing literatures but it has received little empirical attention. What empirical work has been done has focused predominantly on consumer perceptions of the length of queues and waiting time. For example, researchers have investigated people's ability to judge the number of people ahead of them in a lineup, (Mann and Taylor 1969, Konecni and Ebbesen 1976). Extending this, Hornik (1984) studied consumers' ability to perceive the length of their waits in different kinds of queues and found that people tend to overestimate waiting times. Similar suggestions have since been made by other authors (Venkatesan and Anderson 1985, Maister 1985). Empirical research dealing with consumer experiences during a wait has been almost nonexistent. Numerous authors have suggested that waiting is unpleasant and often costly, however empirical support for these claims has not been provided (Back, Wilson, Bogdonoff and Troyer 1967, Mentzer and Cook 1979, Venkatesan and Anderson 1985, Maister 1985). Osuna (1985) proposed an analytical model to assess subjective costs of waiting. He examined stress and anxiety associated with a wait and showed conceptually that the "psychological cost of waiting is a marginal increasing function of waiting time". However his model also has not been tested empirically.

Maister (1985) also argued that waiting involves stress and anxiety. He speculated that a number of factors are likely to affect a consumer's wait. Specifically he proposed that:

(1) Unoccupied time feels longer than occupied time,
(2) Preprocess waits feel longer than in-process waits,
(3) Anxiety makes the wait feel longer,
(4) Uncertain waits feel longer than known, finite waits,
(5) Unexplained waits feel longer than explained waits,
(6) Unfair waits feel longer than equitable waits,
(7) The more valuable the service, the longer the customer will wait, and
(8) Solo waits feel longer than group waits.

Maister also suggested that waiting to receive a service could cause the consumer to lower his/her evaluation of the service quality. While his propositions are intuitively plausible, Maister did not provide empirical support for them. However, Dube-Rioux, Schmitt and Leclerc (1988) have since tested several of these propositions in a restaurant context. They hypothesized that:

(1) Pre-process and post-process delays will be perceived as more inconvenient, frustrating, and inappropriate than in-process delays... the quality of the service will be rated lower and the consumer will be less likely to return to the restaurant for another visit.

(2) Under conditions of high uncertainty about the length of the delay, the delay will be perceived as more negative than under conditions of low uncertainty.

(3) Individuals will perceive a delay as more negative if they are in a high need state (very hungry) than in a low need state (p.6).

These authors had student subjects read scenarios of different restaurant experiences, each with different types of delays in service and levels of uncertainty in the wait. They were then asked to indicate their probable feelings as a result of the delay scenario. Measures of frustration, inconvenience, appropriateness, likelihood of returning to the restaurant, and quality ratings were combined to form one "overall evaluation of service" measure. Subjects were found to react less to in-process waits than to pre and

post-process waits. Subjects who were told that they were supposed to be hungrier were more likely to evaluate the service lower when the wait occurred before service delivery. Subjects who were told they were not hungry rated service lower when the delay occurred post-process as they waited to receive their food bill. Significant uncertainty effects, whether or not subjects were given information as to the length of their delay, did not influence service evaluations. However, the authors noted that the conditions of their design may have created this lack of effect because the scenarios may not have been effective in putting subjects into a state of high uncertainty.

In summary, research dealing directly with the three central issues (1) wait aversiveness, (2) felt duration, and (3) impact on perceived service quality, has been limited. Nevertheless, some studies provide preliminary guidance. Hornik's (1984) finding that consumers tend to overestimate the length of their waits suggests a need to find the factors which lead to this overestimation. Maister (1985) proposed that the aversiveness of the wait can lead to overestimation. Factors leading to an aversive wait have also been suggested. Conceptually, it has been proposed that waiting is unpleasant and involves a number of costs, such as stress, anxiety and financial costs. The question of whether or not waiting affects evaluations of service quality has also been raised, but not adequately addressed.

Despite the limited nature of previous research, a number of possible relationships among wait experience variables have been suggested. In particular, it appears that the actual duration of the wait may not be sufficient to explain how people react to waits. In addition to actual duration, factors prior to the wait and factors during the wait, may affect how the wait is experienced and reacted to. Some of these factors have been

suggested above, namely the monetary costs of the wait, uncertainty in the wait, waiting alone versus with others, and the type of service waited for. Other factors, such as mood, nonmonetary costs, what occurs during the wait, time pressures, and attribution for the wait also need further attention. Research from a variety of other areas in marketing and psychology can be drawn upon to investigate these other factors, and will be discussed in subsequent chapters.

3.3 A General Form of the Wait Experience Model

Figure 1 illustrates the relationships between consumer reactions to waiting, and factors expected to influence these reactions. This figure includes the factors suggested by the research reviewed in this chapter and also includes a number of factors which are suggested by other areas of research. Specifically, Figure 1 identifies the three reactions to service waits that are of current interest, namely:

(1) wait aversiveness
(2) felt duration
(3) service evaluations.

Figure 1 also indicates the factors expected to influence these reactions to service waits, namely:

(1) antecedent factors, such wait expectations, time orientation, time pressures, and the value of the service,
(2) the actual duration of the wait, and
(3) situational factors, such as the amount of activity during the wait (filled time), the attribution of cause of the wait, and the costs of the wait, including the consumer's mood during the wait.

Examining the specific relationships among these factors will be the focus of the next three chapters. In these chapters, the three consumer reactions will be discussed, first, wait aversiveness, second, felt duration, and third, service evaluations. For each of these, prior direct and indirect research will be considered as an aid to building links between service wait reactions and various antecedent and situational factors.

CHAPTER 4 - WAIT AVERSIVENESS

4.1 Introduction

The suggestion that waits may be aversive is not a new one. Waits have previously been described as disagreeable, distasteful (Gardner 1985), "frustrating, demoralizing, aggravating, annoying, (and) time consuming" (Maister 1985, p.113). Geist (1984) reported that some consumers find waiting so unpleasant that they are even willing to pay others to stand in line for them.

Wait aversiveness refers to the unpleasantness of a wait. It is the consumer's resultant negative evaluation of a waiting experience. It should be emphasized that wait aversiveness as it is referred to here is a subjective concept; in other words, the interest of this research is consumer feelings about the unpleasantness of the wait.

Prior research results suggest that waiting may be aversive for a number of reasons. First, the wait may involve a number of costs, both financial and psychological, for the consumer. These costs can be affected by a number of antecedent factors, such as the length of the wait, the degree to which the wait time is filled, and the consumer's time pressures, thus all of which may indirectly affect the wait's aversiveness. Second, waits that are expected may seem less aversive, or conversely, waits that are longer than expected may seem aversive. Finally, where the blame for the wait is placed may also influence how aversive it seems. In particular, a wait that is blamed on the service provider may seem more aversive. These relationships are outlined in Figure 2 and will be discussed in turn.

4.2 The Costs of Waiting

When consumers wait, they may incur a number of costs. Waiting as a cost has been the predominant conceptualization used in economic models, however, this cost has generally been considered strictly financial (Becker 1965). Osuna (1985) and Maister (1985) have both suggested that waiting involves costs other than just financial costs, in particular, psychological costs such as stress and anxiety. Thus the affective state created by the wait may also affect the wait's aversiveness.

It is useful, therefore, to categorize waiting costs into two categories: costs incurred as a consequence of the wait such as financial costs and inconvenience, and costs incurred during the wait, namely affective reactions to the wait such as uncertainty, boredom, frustration, anger, powerlessness and anxiety.

4.2.1 Costs Incurred as a Consequence of the Wait.

When consumers wait for service, they may incur a number of costs as a consequence of the wait. The opportunity costs included in economic models are just one of these types of costs. There are also other possible financial costs. In addition, many consumers will find the wait inconvenient.

Time spent waiting is often not used in a productive fashion. Thus there is an opportunity cost for that time. For example, a consumer could have spent more time at work or with his/her family instead of waiting at a doctor's office. The opportunity costs may not be strictly financial; the consumer could have spent the time waiting doing other activities for which he/she had a higher utility or preference.

For both post-schedule and queue waits, not only is the service commencement time delayed, but service completion time is also delayed. This means that the consumer may

incur financial costs other than opportunity costs, or some degree of inconvenience. For example, a delayed airline flight might mean that the passenger misses an important business meeting or a connecting flight. Making alternative arrangements when dealing with delays may also be seen as inconvenient, regardless of their financial consequences. Proposition P1 follows from this discussion.

P1: As the financial costs and/or inconvenience of waiting increase, the wait aversiveness increases.

4.2.2 Affective Costs Incurred During the Wait. In addition to the costs incurred as a result of a wait, a consumer may incur a number of psychological costs during the wait. These psychological costs are primarily affective reactions to the wait. As the following discussion will suggest, there are a large number of affective reactions to waiting situations.

Recall that waiting involves a state of readiness or expectation. Being in this state over a period of time can create feelings of anxiety (Osuna 1985). This anxiety arises from a number of sources including uncertainty, frustration and boredom, all of which can be aversive (Blackman 1974).

Much of the aversiveness of the wait may be created from the uncertainty involved in waiting (Osuna 1985, Maister 1985). With the exception of pre-schedule waits (where the consumer arrives early), consumers often do not know how long they will have to wait, and as a result, what the consequences of their delay will be. The uncertainty involved in waiting in queues may be less than that involved in post-schedule waits since consumers may be able to estimate their waiting time by using the number of people ahead of them in line (Konneci and Ebbesen 1976).

Uncertainty regarding the length of the delay in queue and post-schedule waits is compounded by the uncertainty regarding the consequences of the delay. Consumers who are unsure of the length of their wait may also be unsure about how their own plans might be affected by the wait. For example, a delayed airline passenger may worry about a connecting flight, or a delayed businessman may worry about losing an important account if he/she arrives late for his/her meeting.

Waiting may also be frustrating. Waits act as obstacles to service, and when an obstacle blocks satisfaction of a need, frustration will occur (Lawson 1965). Sawrey and Telford (1971) cite many empirical examples showing that delays produce frustration.

Frustration in waiting may also be due in part to a perceived lack of control in many waits. If a consumer's appointment is delayed or if he/she faces a long queue, the only way to receive the service at that time and place is to wait. He/she may also lack control over the consequences of his/her delay. If the consumer is prevented from doing anything about what will happen after the service, then his/her frustration will be compounded. Perceived lack of control has been shown to result in a lower tolerance for frustration and increased anger from the loss of freedom (Fiske and Taylor 1984). This lack of control, real or perceived, over the decision to wait, the length of the wait or the consequences, may contribute to a more aversive wait.

Since waiting usually involves relative idleness or inactivity with respect to the anticipated service, there is also a possibility for the consumer to become bored during the wait. Boredom is usually thought to arise when an individual "does not get enough interesting information" (Klapp 1986, p.35). Presumably, the fewer stimuli in the consumer's environment for him to interact with, or focus attention on, the more bored

he/she will become. This relates to the notion of filled versus unfilled time (discussed in more detail in the next chapter). Filled time should result in less boredom than unfilled. Thus, waiting alone is likely to be more boring than waiting with friends; reading a newspaper while waiting is likely to be less boring, and so on. Boredom has many associated feelings which may result in an aversive wait. The monotony and tedium characteristic of boredom may result in a sense of restlessness and tension for the individual (Klapp 1986), which in itself is anxiety producing (Levitt 1980). Boredom and its resultant anxiety may occur in all three types of waits, although it may be less likely in pre-schedule waits. This is because the consumer is more likely to anticipate pre-schedule waits and arrange for something to fill his/her time.

All of these negative affective reactions can result in a bad mood for the waiting consumer. As the above discussion implies, a consumer's mood during the wait may change from the mood he/she was in when he/she began the wait. The anxiety, frustration, uncertainty, and boredom created from many sources involved in a wait can translate into a negative overall affective state, that is, a bad mood.

Thus if waiting does induce all of these negative affective reactions and thus a bad mood as Gardner (1985) suggests, then it is expected that waiting consumers will have more negative moods just prior to service commencement than non-waiting consumers.

P2: Consumers who have to wait for a service will be in a more negative mood just prior to service than those who do not have to wait. That is, waiting consumers will feel more frustrated, anxious, bored, powerless and uncertain than non-waiting consumers.

Do these costs and the resulting negative affective state (bad mood) affect the aversiveness of the wait? The suggestion that mood might affect aversiveness follows

from a series of findings that mood tends to bias perceptions and evaluations in mood congruent directions. Mood, as it is treated in the literature, is a general and pervasive affective state. It can "suffuse all one's experiences, even though directed at none in particular" (Fiske 1981, p.231). An individual may or may not be aware of his/her mood (Gardner 1983), yet it has been found to affect a wide variety of judgements and behaviour (Clark and Isen 1984). As Clark and Isen state:

> According to the evidence, people who are in positive feeling states seem to make judgements and to behave as if they view the world through rose coloured glasses - everything seems slightly better than usual - and they behave in ways that reflect this and suggest that they are trying to maintain that mood. Likewise, on the other side of the coin, negative feeling states sometimes seem to have the opposite, but parallel effect on people. People in negative states may tend to see the negative side of things and be more pessimistic than usual, and their behaviour may reflect these negative expectations and may serve to keep them in the negative feeling state (p.78).

One's mood during a wait may affect how the wait is perceived. Even mild positive and negative moods have been found to bias people's evaluations of stimuli. For example, Isen and Shalker (1982) had people rate slides after either finding a dime, succeeding on a task or failing a task. Subjects in the good mood (both success and dime conditions) rated the slides higher than those in the bad mood. Similarly, Srull (1983) found that people rated products more favourably when they were in a good mood while viewing the ad for the product. If the world is indeed viewed through rose-coloured glasses then when a consumer is in a good mood, he/she may not perceive the events of the wait to be as aversive or unpleasant as the consumer who is in a bad mood.

These mood-congruent biases are generally found regardless of the relationship between the mood inducer and the stimuli to be evaluated. That is, if someone is in a

"bad mood", no matter what is evaluated, it will be rated lower than if the person was in a "good mood". It does not appear to matter that the cause of the bad mood and the stimuli to be evaluated are not related.

The fact that moods have consistently been shown to bias judgements in mood congruent directions is often explained by the "accessibility hypothesis" (Clark and Isen., 1982). This states that affect is stored in memory along with other thoughts. Thus mood congruent thoughts will be more accessible for retrieval in memory than mood incongruent thoughts. For example, if asked to rate car performance when in a good mood, it will be rated higher than if in a bad or neutral mood because positive thoughts about the car come to mind more easily than negative thoughts (Isen, Shalker, Clark and Karp 1978).

If mood affects the accessibility of information in memory, it may also be possible that it affects the accessibility of mood congruent information in the individual's external environment. In other words, it may be possible that a consumer would be more likely to pay attention to certain stimuli in his/her environment that are congruent with his/her mood. For example, if in a bad mood when served a meal on board an airplane, would the fact that broccoli (which is hated) was served be more salient than the fact that chocolate pudding (which is loved) was served? Would this be reversed if in a good mood? Although intuitively plausible, Isen and Shalker (1982) argue that this is not the case. They claim that affect does not "result in defensive inattention to certain stimuli" (p.61) and thus negative material is not ignored when in a positive mood and vice versa.

However, Srull's (1983) results where products were rated in directions congruent with one's moods when viewing an ad for that product, are consistent with this mood congruent bias argument.

Although explanations for the mood congruent evaluations have not been agreed upon, the findings that people's behaviour and judgements tend to be biased in mood congruent directions have generally been consistent. Thus it is likely that a wait will be evaluated as aversive, congruent with the expected negative affective state.

P3: As the affective costs of waiting increase, such as frustration, anxiety, boredom, powerlessness and uncertainty, and thus the mood becomes more negative, wait aversiveness increases.

In summary, waiting may create a number of costs for the consumer. The occurrence of inconvenience and financial consequences may make a wait aversive. In addition, psychological costs such frustration, anxiety, boredom, powerlessness and uncertainty, may generate a more negative affective state (bad mood), creating a more aversive wait.

4.2.3 Factors Affecting the Costs of Waiting. There are a number of factors expected to affect the costs of waiting, and thus, indirectly, the wait aversiveness. Longer waits are expected to be associated with more aversive waits. This relationship is expected to hold because of the actual duration's impact on the costs of the wait; the longer the wait, the more time there is to accumulate costs. Thus, boredom, uncertainty, frustration and so on are all expected to increase with longer wait durations.

P4: As the actual duration of a wait increases, affective costs of the wait, such as frustration, anxiety, boredom, powerlessness and uncertainty increase.

In addition, there are other factors thought to affect the costs of the wait. As was mentioned above, the degree to which time is filled is likely to affect the level of boredom experienced during the wait. It may also affect the levels of frustration, annoyance, anxiety and powerlessness.

Other antecedent conditions may affect the costs associated with waiting. For example, consumers' time pressures or general sense of time urgency may affect their level of frustration, annoyance, anxiety or inconvenience. (Time pressures and time urgency will be discussed in more detail in the next chapter).

From this discussion, it can be proposed that:

P5: As the degree of filled waiting time increases, boredom, frustration, annoyance, anxiety and powerlessness decreases.

P6: As consumers's time pressures and time urgency increase, frustration, annoyance, anxiety, monetary costs and inconvenience increase.

4.3 Actual and Expected Duration Discrepancy

A wait that turns out to be longer than expected can be annoying because of its impact on the costs mentioned above. However, longer than expected waits can also be unpleasant simply because they are longer than the comparison standard. On the other hand, if waits are shorter than expected, this may have the effect of making the wait less aversive. Maister (1985) cites the example of restaurants telling customers that their wait will be longer than they actually think it will be so that by setting the customers' expectations and then seating them earlier than these expectations, the customers will be happy that they got served so quickly.

This comparison process between actual and expected duration is similar to the paradigm set forth in most satisfaction - dissatisfaction models. In this literature, if perceived product performance is not as good as expected, then the customer is dissatisfied. If actual is better than expected, then the customer is satisfied. In the wait context, if the wait is longer than expected, the waiting time is expected to be evaluated less favourably than if the wait was shorter than expected. Thus,

P7: As actual wait duration increases over expected wait duration, wait aversiveness increases. Conversely, as expected wait duration increases over actual wait duration, wait aversiveness decreases.

4.4 Attribution of Cause

Does where the consumer place blame for the wait affect its aversiveness? The attribution literature suggests that how the consumer attributes a cause-effect relationship can affect how he/she reacts to it. Specifically, who or what is blamed, and how stable and controllable the wait occurrence is perceived to be will influence reactions to the wait. The fact that people make causal attributions (linking events to their causes) has been well documented in the psychology literature (see Ross and Fletcher 1985 for a review). Causal attributions are made because of a need for prediction and control of a person's environment (Ross and Fletcher 1985, Wrightsman and Deaux 1981, Harvey and Weary 1984). Attribution research has focused on two aspects of the attributional process: the antecedents-attribution link and the attribution-consequences link (Kelley and Michela 1980). The former aspect concerns "the factors that lead the subject to attribute a particular event to one cause rather than another" (p.459). The latter focuses on the effects of an attribution on behaviour, affect and expectancies. It is this latter area of attribution research that is the concern in the

present research.

What happens as a result of attributions? Does the attribution affect the aversiveness of the wait? Research has found that these consequences depend on three independent factors: locus of the attribution, the stability of the cause-event linkage and the controllability of the cause and event.

Locus concerns who or what is blamed. Typically a distinction is made between internal (attributed to the individual) and external (attributed to anything in the environment). In consumer research, buyer-related and seller-related causes have been distinguished (Folkes 1984); however, more than two categories have been used in the literature. For example, when Folkes et al. (1988) asked airline passengers for their beliefs about why their airplane was late, typical responses included: mechanical problems, airline personnel problems, previous flight departure delayed, delayed because of other passengers, and weather.

In addition to locus, two other causal dimensions have been used in attributional research: stability and controllability. Stability refers to the degree to which a cause is seen as being relatively permanent and stable, or temporary and fluctuating (Folkes 1988). For example, a delayed airline flight might be due to a freak storm which would be perceived as being relatively temporary or infrequent, or it could be due to scheduling problems which seem to occur frequently, and thus would be stable.

Controllability refers to the degree to which the cause was under volitional control or choice. An airline has no control over a delay in flight departure if it is caused by a storm, but it has control if the delay occurs because the airline holds a flight to sell more tickets (Folkes 1988). Folkes (1984) and Folkes et al. (1987) have found that

controllability and stability influence consumers' repurchase intentions and propensity to complain about product failures.

The locus, controllability and stability of the cause of the wait are expected to influence how aversive the wait seems for the consumer. Specifically, waits that are attributed to sources other than the consumer are expected to be more aversive than those attributed internally. For example, a wait at the airport caused by the consumer showing up early is expected to be less aversive than if there is a delay due to fog or mechanical problems. When the service provider is perceived to have some control over the cause of the wait, the wait is expected to be more aversive. Even two apparently airline caused waits could have different degrees of perceived airline control. Folkes et al. (1987) found that passengers of delayed airline flights thought airline personnel problems were more controllable by the airline than mechanical problems. This would suggest that a delay because of the latter would be less aversive for the consumer. The effects of stability are not as clear. The stability of the cause may affect the consumer's expectations about the wait, thereby suggesting that causes perceived as stable were expected and therefore not as aversive. However, some consumers may find stable causes more aversive, especially when the service provider is believed to have control over the wait cause. For example, if a bank consistently has long lineups due to an insufficient number of tellers, the consumer may find it frustrating that the bank has not done anything to rectify the problem, making the wait more aversive. The following propositions follow from this discussion:

P8a: Waits will be more aversive when attributed to sources other than the consumer.

P8b: The more the wait cause is perceived to be controllable by the service provider, the more aversive the wait will be.

P8c: When the cause of the wait is perceived to be controlled by the service provider, the more the wait cause is perceived to be stable the more aversive the wait.

In sum, the consumer's perception of the cause of the wait, the extent to which he/she believes the service provider had control over the cause, and his/her perception of how stable or frequent the cause for the wait is, are all expected to influence how aversive the wait is.

4.5 Summary of Wait Aversiveness

In sum, a wait may be aversive due to the perceived costs, including financial costs, inconvenience and affective costs of the wait, (which may increase as the wait duration increases, filled time decreases, and time pressures increase), the discrepancy between actual and expected duration, and the consumer's attribution regarding the wait. These relationships are illustrated in Figure 2.

CHAPTER 5 - FELT DURATION

5.1 Introduction

Do consumers perceive accurately the duration of service waits? Time duration, as measured objectively in clock time, will likely differ from consumers' perception of the time duration. Hornik (1984) provided evidence of this when he found that when consumers were asked about a variety of queue waits, they consistently overstated their actual waiting times. Thus a distinction between objective and perceived time must be made. *Perceived wait duration* is how long the wait *seemed* to the individual.

The relationship between clock time and people's perception of time has been studied for many years. Many psychophysical studies have shown that perceived time and actual time are not equivalent. (see Allan 1979 for a review). The search for factors affecting time perception has generated a long list. For example, Hawes (1979) has suggested that the perception of duration may be affected by: "emotions, attitudes, sex, marital status, personality characteristics, age, social class position, education, income, the extent of attention to the interval, the way in which the interval is occupied, the pleasantness of the interval-occupying activities, the number of stimuli filling the interval, forgetfulness and whether the interval is seen as being bounded" (p.291). It has also been suggested that the familiarity of the interval-occupying activity might influence time perception (Allan 1979, Hornik 1984), and that unoccupied, unfair, uncertain, unexplained and solo waits may be perceived as longer (Maister 1985).

The explanatory power of many of these variables is unknown. However, Hornik (1984) did test some of Hawes's suggestions and found that sex, age, occupation,

employment, and education did not explain any of the variance in time perception.

What do these factors have in common such that they potentially lead to biases in the perception of time? The results of many psychophysical studies suggest that perhaps one of the most important determinants of perceived time duration, in addition to the actual duration, is *how much attention the individual pays to the passage of time* (Curton and Lordahl 1974). This implies that how much an individual thinks about the passing of time will affect how long he/she thinks the time duration seems. If the waiting individual does not attend to the passage of time, then time will seem to pass more quickly. However, if something makes a wait very salient, the waiting individual will pay closer attention to the passage of time, helping to explain overestimation of the wait duration. Many of the factors mentioned earlier in this chapter would be expected to affect the salience of the wait and the amount of attention paid to the passage of time.

The suggestion from these psychophysical studies that overestimation is due to closer attention being paid to the passage of time is based primarily on very short time intervals (ranging from fractions of a second to a few seconds), where subjects had no access to objective measures of time. In service situations where consumers have to wait for long periods of time, they often have access to wait duration information from clocks or watches. In these cases, if a consumer pays close attention to the passage of time, he/she is very likely to pay close attention to these objective measures of time, resulting in a more accurate estimate of the time duration (as opposed to overestimation). In these circumstances, how long the consumer thought the time duration was and how long it seemed or felt may not be identical. For example, a consumer may know a wait

was 45 minutes because he/she checked his/her watch, yet the wait may have felt like it was an hour.

This discussion implies that a distinction should be made between cognitive and affective perceptions of the wait duration; that is, a distinction is made between how long the consumer thinks the wait duration was and how long the wait duration seemed or felt. In cases where the consumer does not have access to a clock, these two would be expected to be the same constructs. However, when a clock is referred to, these two constructs would be expected to differ. For the context of this research, how long the wait duration *seemed or felt* to the consumer is the central focus. This is the same type of operationalization used by London and Monello (1974) when they were defining psychological time. How long the wait seemed is expected to be equivalent to how long the consumer thought it was only if he/she had no access to objective measures of time.

It follows from this discussion that the more the consumer pays attention to the wait, the longer the wait will seem. Factors suspected of affecting a consumer's felt wait duration in service situations are shown in Figure 3. These include actual duration, consumer expectations about wait duration, importance of not having to wait, the extent to which the interval is filled or unfilled, and how aversive the wait is. These will be discussed in turn.

5.2 Actual Duration:

There has been a considerable amount of evidence in the psychophysics literature which shows a positive linear relationship between perceived time and objectively measured time (Allan 1979). As objectively measured time increases, so does perceived time. Hornik (1984) found the same relationship when he investigated time perception while waiting. Since, as discussed above, the psychophysics work equated "felt" and "perceived" time duration, the same result is expected to hold for waiting situations where felt duration is the primary focus.

P9: As actual time duration increases, felt duration increases.

5.3 Expectations about the Wait

If a wait appears to differ from what is expected, it is likely that the wait will become more salient to the consumer. Expectations about the possibility of a wait and its potential length can be based on past experience, word of mouth and other sources of information. In some services, delays are so frequent that waits are expected. Few consumers expect to get in to see their doctor at the scheduled appointment time, and airline flights leaving major airports at certain times of day are often delayed (Rose 1988).

The effect of expectations on felt duration has not previously been considered in the literature. However it seems intuitively plausible that the expectation may serve as a benchmark from which the wait becomes salient. If wait turns out to be longer than expected, then the wait will likely then become more salient. Thus the passage of time

following the expected duration may receive more attention from the consumer than the time included in his/her expectation. Conversely, if a wait is shorter than expected, it is less likely that the occurrence of the wait would become salient, except until after the wait is over. Thus the consumer would probably not even have paid attention to the actual passing of time during the wait. Proposition 10 follows from this discussion.

P10: As actual wait duration increases over expected duration, the felt duration increases. Conversely, as expected wait duration increases over actual duration, felt duration decreases.

5.4 The Importance of Not Waiting

A third factor suspected of influencing how much attention is paid to wait is the importance that a consumer places on not having to wait. Although implied by some researchers (Maister 1985, Dube-Rioux et al 1988), there has been no prior explicit treatment of the importance of not waiting in the literature.

If a consumer feels that it is very important that he/she not have to wait, he/she will likely pay close attention to the occurrence of a wait. Just how much a wait matters to the consumer can depend on a number of factors. For example, the consumer may have important commitments following the service, necessitating quick service. He/she may also just dislike waiting in general. A strong need for the service would also necessitate quick service. For example, a hungry consumer would find it important that he/she doesn't have to wait for service at a restaurant.

Several factors are expected to affect how important it is to consumers that they don't have to wait for the service to commence. These include: consumers' time orientation, situational time pressures, and the value of the service they are waiting for.

5.4.1 Time Orientation. When required to wait, some people consistently seem to get really upset, while others never seem to mind waiting. Individual differences in reactions to waiting may stem from peoples' disposition regarding time. How people perceive and deal with time has been investigated under the rubric of time orientation or temporics - the "predispositions related to time in the psychological makeup of the individual as durable personality traits" (Settle, Belch and Alreck 1981, p.1).

Although the term "time orientation" has been used primarily to refer to a future versus past orientation (Platt and Eisenman 1968, Platt and Darbes 1969, Platt, Eisenman, DeLisser and Darbes 1971, DeVolder and Lens 1982), Settle and his colleagues (Settle and Alreck 1977, Settle et al. 1977, Settle, Belch and Alreck 1981) have extended it to include four dimensions: activity - dealing with the perceived supply of time; structure - whether time is viewed as continuous and flowing or discrete; tenacity - the willingness to delay gratification; as well as focus - the future versus past orientation. It is the activity dimension which intuitively appears most likely to affect a consumer's wait experience. Some people perceive that there is plenty of time to do things and others perceive there to be not enough time. Those who perceive there to be little time may react to a wait differently than those who feel there is plenty of time. The activity dimension is closely related to the sense of time urgency characteristic of Type A behaviour (Friedman and Rosenman 1974) and also resembles the "harassed lack of control" dimension of the Ricks-Epsly-Wessman Temporal Experience Questionnaire (Wessman 1973). All of these are characterized by a sense of chronic time urgency - insufficient time to complete activities; often trying to do several things at

once; restless when things go slowly; and a distaste for waiting in lines.

It is expected that a consumer who is characterized by a strong sense of time urgency will experience a wait differently than someone who isn't.

5.4.2 Situational Time Pressures. Regardless of whether or not people feel a general sense of time urgency, there are situations in which anyone is likely to feel a sense of immediate time pressure. These include times when consumers have to complete the service within a certain length of time and situations in which the consumer feels a strong need for the service.

Often commitments following the service require that it be completed "on time". For example, a person may have an important business meeting to attend or a flight to catch after the service. Delays in service may make the consumer late for subsequent engagements.

Dube-Rioux et al. (1988) also suggested that different levels of need can create different levels of pressure towards a goal. In their study, different levels of hunger while waiting for a restaurant meal were used to operationalize this aspect of pressure. Thus the stronger the need for the service, the more important it is that the consumer not wait. An extreme example would be an injured person waiting in the emergency room at a hospital.

Consequently, consumers who feel an immediate sense of time pressure due to events which will follow the service or due to a very strong need for the service are expected to find it very important that they not wait, and subsequently are expected to perceive a wait as feeling longer.

5.4.3 Value of the Service. The importance of not waiting may also depend on what the service is that the consumer is waiting for. Maister (1985) suggested that consumers would be more willing to wait for services of higher value. For example, some people may be more willing to wait for a meal at a fancy restaurant than they would for a local diner. People may also be less willing to wait thirty minutes for a one hour airline flight than they would thirty minutes for an eight hour flight, since they may perceive the longer flight as containing more value. Thus it is suspected that consumers would be more willing to wait for services of higher value.

5.4.4 Importance of Not Waiting Summary. In summary, the more important it is for the consumer that he/she does not have to wait, the more attention he/she is expected to pay to its duration. The more attention paid to the wait, the longer the wait is likely to seem. Factors which are suspected of affecting the importance of not waiting include: the consumer's time orientation, situational time pressures, and the value of the service that he/she is waiting for. Proposition P11 follows from this discussion.

P11: The more importance placed on not waiting, due to time orientation, time pressures and/or the value of the service, the longer the felt duration of the wait.

5.5 Filled Versus Unfilled Time

While the importance of the wait may make the duration seem longer, the filling of time may make the duration seem shorter (Allan 1979). What the consumer does or how much he/she has to pay attention to during the wait may affect how he/she perceives the wait. By filling time, the consumer's mental or physical activity during the

wait is increased so that less attention is paid to the wait itself (Gilliland, Hofeld and Eckstrand 1946). The results of filling time in many psychophysical studies are contradictory - some claim filling time decreases time estimates while others do not find this effect. Much of this inconsistency has been blamed on the inability of researchers to distinguish whether the filled time is in the mind of the experimenter or the subject (Hicks, Miller and Kinsbourne 1976). These authors point out that what is presented to the subjects to fill their time may not be processed by the subjects. Thus filled time will decrease someone's perception of time duration only if the individual perceives his/her time to be filled - in other words, he/she must be attending to the filler and processing information.

Customers may fill their own time during a wait. For example, they may read, knit, people watch, daydream or talk with others while they wait.

Filling the time preceding service commencement is also often done by the service provider. For example, restaurants sometimes invite customers to use their bar area while waiting for a table. Taped music or information may be played when put on hold on the telephone. The magazines supplied in doctors' waiting rooms also act as potential "fillers". Fillers can be related or unrelated to the service. Related fillers may serve not only to fill the time but may also benefit the client, perhaps by shortening the time needed for the service (Maister 1985). For example, giving menus to waiting restaurant patrons may fill their time as well as shorten the length of time needed after seating before being ready to order. Dentists' offices sometimes fill waiting times with videos for children explaining what will happen once they are in the dentist's chair.

Proposition 12 follows from this discussion:

P12: The more filled a consumer perceives his/her time to be, the shorter the felt duration.

5.6 Wait Aversiveness

Aversive stimuli are unpleasant, so people seek to avoid or limit interaction with them. If a wait is perceived to be aversive, it is expected that consumers would want to avoid or limit the duration of their waits. Because of this, they are likely to pay attention to the duration of an aversive wait hoping it will end soon.

Aversive waits are expected to be perceived as long. Maister (1985) suggested this when he proposed that uncertainty, unfairness, and anxiety can make waits seem longer. However, he never tested these empirically. As was discussed in the previous chapter, there are a number of factors which are expected to contribute to an aversive wait. Thus, these factors also indirectly contribute to a longer felt wait duration.

P13: The more aversive the wait, the longer the felt duration of the wait.

It should be noted here that in all practicality, felt duration and wait aversiveness may occur simultaneously, and thus the causal direction of their relationship may not be easily determined. It is argued here that more aversive waits are felt to be longer. However, it could also be argued that longer felt waits seem more aversive. The intuitive strength of the first relationship was deemed stronger than that of the latter, and thus was the relationship proposed and investigated in this research. This issue is discussed further in Sections 9.6 and 10.3.

5.7 Summary of Felt Duration

In summary, the question of what makes some waits feel longer than they actually are may be examined by looking to see what factors affect the amount of attention the consumer pays to the wait duration. They include the consumer's expectations about the wait, the importance of the wait, the degree to which the time is filled, and the aversiveness of the wait. These relationships are outlined in Figure 3.

The relationships between felt duration, wait aversiveness, actual duration, the costs of the wait, wait attribution and the many variables discussed in this chapter are shown in Figure 4. From the figure, it can be seen that the actual duration of the wait is expected to directly affect the felt duration and the costs associated with the wait. As the actual duration increases, so do the costs. As was discussed in the previous chapter, some of the factors expected to affect the felt time duration, namely filled time, time pressures and time orientation, are also expected to be related to some of the costs. These costs combined with attribution for the wait are expected to affect the wait aversiveness. Wait aversiveness, in turn is expected to affect the felt time duration.

CHAPTER 6 - SERVICE EVALUATIONS

6.1 Introduction

Does waiting affect consumers' evaluations of the service received? If so, to what extent does this occur? These are the issues which will be discussed in this chapter. Specifically, this discussion will look to other areas of research in an attempt to understand and predict if and how consumers' service evaluations will be affected by a wait. Three evaluations in particular will be examined, namely the consumer's evaluation of:

(a) "punctuality" or "promptness"
(b) overall service quality, and
(c) other service attributes.

Maister (1985) and Gardner (1985) both suggested that waiting prior to a service may affect the consumer's perception of service quality. Dube-Rioux et al. (1988) attempted to support this assertion in their empirical tests. They found that a combined rating of quality, inconvenience, frustration, appropriateness and likelihood of repurchasing was affected by whether waits were reported to occur pre-process or in-process. They did not, however, compare this to a control group with no wait. Although Dube-Rioux et al.'s results were generated using contrived scenarios, their results should alert marketers to the importance of the possible effects of waiting on quality perceptions. However, whether or not these effects will hold in actual wait situations, and the process by which these effects occur still needs to be investigated.

While there is only limited previous research directly dealing with the impact of waits on service evaluations, this does not mean there is no basis for prediction. Research, conceptual models and theories from other areas offer explanations and predictions regarding the effects of waiting on evaluations of service quality. These predict changes not only to punctuality, but also changes to other service attributes. Associative theories such as mood and halo effects suggest that both overall quality and other attribute evaluations may decrease after a wait. Conversely, cognitive dissonance and equity theory suggest that quality evaluations may actually increase after waiting. Each of these explanations will be examined and discussed in turn.

6.2 Punctuality/Promptness Evaluations

A consumer's evaluation of punctuality or promptness refers to the extent to which the service is perceived to be performed readily or immediately. When a scheduled commencement time is used by a service, the terms punctuality and promptness may be used interchangeably. However, when no scheduled commencement time is used, the term punctuality is not applicable. It follows intuitively that the perceived punctuality or promptness of the service would be affected by the felt duration of the wait, suggesting:

P14a: The longer the felt duration of a wait, the lower the evaluation of punctuality/promptness.

However, the role of aversiveness in this evaluation is not as clear. It is expected that the aversiveness of the wait might also directly influence the consumer's evaluation of punctuality. This suggests that an unpleasant wait of fifteen minutes would be perceived as less punctual than a wait of this duration that was not unpleasant. This

issue leads to the following proposition:

P14b: The more aversive the wait, the lower the evaluation of punctuality/promptness.

Also unclear in the evaluation of punctuality is the direct influence of a consumer's attribution of the cause of a wait. That is, would the rating of service punctuality be affected by who or what the consumer blames for the delay (in addition to attribution's effect on aversiveness)? For example, would consumers rate the punctuality higher for an airline flight delayed by weather versus if it was delayed because of airline employee ineptitude? Would they rate punctuality as higher if the wait was self-imposed (e.g., a pre-schedule wait) versus if it appears to be forced upon them (e.g., a post-schedule delay)? Although intuitively plausible, these questions still remain to be investigated empirically, and suggest the following propositions:

P14c: Waits attributed to sources other than the self will be evaluated lower in punctuality/promptness than waits attributed to the self.

P14d: The more waits are perceived to be controllable by the service provider, the lower the evaluations of punctuality/promptness.

These proposed relationships between punctuality and felt duration, wait aversiveness and attribution are illustrated in Figure 5.

6.3 Overall Service Evaluations

Does waiting for a service affect the consumer's overall evaluation of the service? Specifically, will the wait affect the consumer's evaluation of the service quality for that particular service situation? According to the commonly used multi-cue or

multi-attribute models of quality, a consumer's perception of service punctuality may affect his/her perception of overall service quality. In these models, overall quality is conceptualized as a function of all of the salient attributes of the service with more important attributes weighted more heavily. Overall quality is operationalized as a weighted average of evaluations of all service characteristics (Maynes 1985). Thus, low ratings on any one attribute will affect the overall evaluation of the service.

According to this interpretation, customers who rate punctuality lower will have lower ratings of overall quality, other things being equal. Overall quality ratings may also differ between consumers because of the importance they place on punctuality. This relationship between waiting duration and perception, punctuality, and overall service quality as suggested by the multi-attribute model is shown in Figure 6.

Other areas of research also offer predictions of how a wait affects overall evaluations of service. In this chapter, three areas of research which offer predictions and explanations regarding this question will be discussed. Research involving mood would predict a relationship in the same direction as that predicted by the basic multi-cue models; that is, longer waits will result in lower ratings of service quality. On the other hand, two other theories, cognitive dissonance and equity theory, predict a positive relationship between waiting and service quality evaluations (longer waits result in higher ratings of service quality). The rationale and conditions necessary for each of these interpretations will be discussed in turn.

6.3.1 Mood. Many consumers have been in waiting situations where the wait was so aversive that it made them angry and frustrated. As discussed in Chapter 4, waiting can

generate negative affective reactions resulting in more negative moods. If this occurs, it is possible that the bad mood may make consumers perceive the rest of the service encounter less positively than if they had not waited.

The possibility of waiting affecting one's mood and persisting throughout a service encounter was raised by Gardner (1983). She claimed that mood would bias evaluations in directions congruent with one's mood. If the wait was disagreeable, evaluations of events occurring during and after the wait would be perceived more negatively. As discussed earlier in this paper, mood has consistently been shown to bias evaluations in mood-congruent directions (Clark and Isen 1982), occurring regardless of how the mood was induced. This implies that waits can make consumers perceive quality to be lower regardless of who or what they attribute as the cause of the wait. Thus even if an airline flight was delayed because of fog, evaluations of service quality would be expected to be affected the same as if it was delayed because of airline personnel problems. Although most of the mood research has dealt with mood during retrieval of information, there has been a limited number of studies suggesting similar effects with mood when encoding information (Srull 1983).

From this discussion, it follows that if waiting induces a negative mood, then any judgements that follow will be more negative. Therefore, it is expected that ratings of service quality as well as any other judgements would be lower after waiting if the wait induced a negative mood. This is illustrated in Figure 7. However, it must be noted that mood is transitory and may dissipate after a period of time. Isen et al.(1976) found that the propensity to help others after the induction of a positive mood lasted only twenty minutes, leading them to suggest that the mood intensity may influence how long

the mood effects last. Because of mood's dissipation over time, services that are short in duration may be more likely to be affected by waits than services long in duration, since the negative mood would persist through a larger part of the service.

6.3.2 Cognitive Dissonance. Is it possible for a consumer's evaluation of service quality to go up after a wait? Two theories suggest that this would be the case. One of these theories, cognitive dissonance, would predict that under certain conditions, namely when the consumer has little external justification for waiting, he/she will likely have a higher evaluation of the service quality than he/she might have with no wait.

Festinger's (1957) theory of cognitive dissonance states that if an individual holds two cognitions (ideas, beliefs, opinions) that are psychologically inconsistent with one another, then that individual will experience dissonance. This dissonance or inconsistency is unpleasant for the individual and results in "psychological discomfort". Dissonance is presumed to be negative enough to induce the individual to strive to reduce the dissonance by either adding consistent or "consonant" cognitions, or by altering one of the cognitions so that they are no longer inconsistent.

A subset of research within the dissonance theory paradigm focuses on the "insufficient justification effect". Here, dissonance theory has been used to explain why individuals who engage in an unpleasant or costly activity in pursuit of a reward, would evaluate the reward more positively than individuals who do not engage in these activities (Aronson and Mills 1959). Dissonance theory suggests that to justify participation in the costly activity, the individual will distort his/her perception of the reward upwards. Thus the cognition of "I went to a lot of effort to attain this reward"

and the cognition of "This reward is not as good as I expected" are inconsistent with one another. To reduce dissonance, the individual may distort his/her perception of the reward upward such that it now follows from the first cognition. Here dissonance is aroused because "an expectation about what will be observed is disconfirmed" (Bramel 1968). Although the insufficient justification argument suggests it is usually the perception of the reward that will be distorted, cognitive dissonance theory allows for either of the cognitions to be distorted. Which will be distorted depends on the "degree of cognitive overlap" of each cognition with others (Festinger, 1957), thus the cognition with the smaller amount of other cognitions or thoughts similar to it in memory (low cognitive overlap) will be distorted. The cognition that is consistent with the most other cognitions will not be distorted.

Applying the insufficient justification framework to waiting situations, the wait could be ascribed the role of the cost or effort involved in attaining the reward; the reward could be viewed as the service received. Thus, if an individual had to wait a long time to receive a service, then he/she might evaluate the resulting service quality as higher than another individual who didn't have to wait. This assertion rests on the assumption that waiting is a cost or effort, and that the individual will hold the cognition that the more effort he/she puts into attaining the service, the better the service should be.

Dissonance theory prescribes a number of conditions which are necessary for dissonance to occur. Dissonance is more likely to occur when the individual has a high degree of perceived choice to perform a behaviour. Also dissonance has a higher chance of being aroused if an individual is in pursuit of a low value reward as opposed to a high value reward. These two conditions conform to the suggestion that the less

external justification an individual has for his/her actions, the more likely he/she is to experience dissonance. Thus, the possibility of dissonance occurring is very situation specific. For example, dissonance may not occur if a consumer was forced to wait at a restaurant where this particular restaurant was the only one in town that served a particular dish. But if there were a number of restaurants nearby that served comparable dishes at comparable prices in similar conditions, then the consumer might experience dissonance.

In an empirical test dealing with effort and dissonance reduction, Cardozo (1965) tested the hypothesis that consumers who expend high effort to attain a product will rate it higher than those who expend little effort. He found that consumers who engaged in a shopping task requiring an hour to complete in uncomfortable surroundings, evaluated products higher than those consumers who engaged in a 15 minute shopping task in comfortable surroundings. These results support the dissonance explanation, however, it is not known if the time (1 hour vs 15 minutes) required to complete the task or the setting (comfortable or uncomfortable) of the task acted to arouse dissonance. Regardless, they do suggest that product evaluations may be biased upwards after effort is exerted to attain the product. If waiting is construed as effort, then service evaluations may be biased upwards after a wait if there is little external justification for the wait.

6.3.3 Equity Theory. Equity theory is quite similar to dissonance theory and suggests results similar to those suggested by cognitive dissonance. In fact, it has been suggested that equity theory is just a "particular interpretation of cognitive dissonance" (Huppertz,

Arenson & Evans 1978 p.250). Equity theory is also a consistency-based theory, suggesting that people seek equity in social relationships, such that all participants in a relationship are receiving equal outcomes. If inequity exists, then an individual feels distress and will seek to restore equity to the relationship. It is suggested that an individual compares his/her relative inputs and outcomes of a relationship to those of others in the relationship and if they are not equal, then that individual will do something to make them equal. He/she can do this by changing either his/her own inputs or outcomes, or changing another person's inputs or outputs. If these cannot be changed, then the individual may change his/her perceptions of either his/her inputs and outcomes or the inputs and outcomes of the comparison other. Although conceptually quite similar, equity and dissonance theory have traditionally focused on different relationships. Dissonance theory has focused on the relationship between a person and an expectation, whereas equity theory has focused on the relationship between people - i.e., equity theory was based on a social or within-group comparison whereas dissonance theory was based on a within-individual comparison.

More recently however, some researchers have suggested that equity theory can be extended to incorporate within-individual comparison. Seta and Seta (1982) claim that "personal equity may result from the operation of an intrapersonal comparison system. One type of information feeding into this process is a reward criterion that is developed from a person's expectation of what should be received, given his/her or her cost investment"(p.223). According to this personal equity framework, the higher the cost expended in pursuit of a goal, the more individuals believe that they should receive a higher valued outcome. Unlike dissonance theory though, equity theory does not require

there to be insufficient justification for the perception of inequity and the resulting attempts to reduce it. Thus, cost incurrence would be expected to affect the reward value regardless of whether there was internal or external justification for pursuit of the reward.

Under this interpretation, if a consumer perceived that the reward value was not as expected from the amount of costs he/she incurred in pursuing that reward, then he/she would either try to change the costs or reward received or his/her perception of them. If a wait is perceived as a cost, then a longer wait should result in a higher expected service quality. If the consumer cannot change the wait, which, in most cases, we assume he/she cannot, he/she may decide to change the reward and ask for more from the service than he/she would have received without the wait. He/she may also distort his/her perceptions of either the wait or the quality of the service received.

Huppertz et al. (1978) was one of only a few researchers who applied equity theory to a marketing context. They found that in situations where there was no price inequity, defined as price being the same or different from prices in another location, consumers rated high service inequity situations as less fair. High service inequity was defined as a situation which involved an incident that would clearly be related to a store's lack of personnel, and thus inadequate service; the item was not on the shelf; only one clerk was working; and it took a long time for the clerk to get the item for the shopper. When asked what actions they would take to reduce these inequities, consumers usually chose simply to leave the store and not buy there. Complaining to the manager was chosen only by frequent consumers of that retail outlet. Satisfaction or quality perceptions were not examined.

The Huppertz study used hypothetical shopping situations, and did not assess the degree to which perceptual distortion of inputs and outcomes might take place. However, it did suggest the importance of familiarity of the service outlet in the choice of equity restoring techniques. While equity theorists suggest that restoration of actual equity is usually attempted before restoration of psychological equity, there has not been any substantial theorizing on which equity restoration techniques are used under different circumstances. Thus the conditions under which service quality evaluations are perceptually distorted are still unknown.

6.3.4 Summary of Overall Quality Evaluation Predictions. While the multi-cue model of quality would suggest that one's overall evaluation is a function of each of the relevant service attributes, it does not suggest reasons as to why this process occurs. Results from three other areas of research suggest that one's overall evaluation of service may be a function of many factors. Three theories were outlined which offered predictions regarding if and how service quality evaluations might be affected by a wait.

According to the mood interpretation, a consumer's overall quality rating could be biased by his/her mood at the time of evaluation. This implies that there would be a positive relationship between mood and overall quality ratings, and a negative relationship between felt time duration and overall evaluations.

According to the cognitive dissonance and equity interpretations, there could be a positive relationship between the felt wait duration and the overall quality rating. Dissonance theory would suggest that this is more likely to occur when the consumer perceives there to be insufficient justification for his/her waiting.

Attribution plays a different role in each of these explanations. In the multi-cue model, the overall quality evaluation is a function of individual attributes; attribution does not play an explicit role in this relationship directly. Attribution's only influence on quality ratings might be through its effect on punctuality ratings. Nor is attribution expected to affect overall quality in the mood interpretation, since mood-congruent biases occur regardless of how the mood was induced. For the cognitive dissonance and equity explanations, attribution does play an important role. Little external justification in the cognitive dissonance theory implies that the consumer has attributed the wait to himself. If there was external justification for the wait, he/she would likely have attributed externally, and therefore felt little sense of cognitive dissonance. In equity theory, an individual seeks to restore equity when he/she perceives that the rewards he/she receives are not commensurate with the costs he/she incurred in pursuing that reward. If he/she perceives that the service provider is to blame for the inequity, then he/she is likely to feel that it is the service provider who is responsible for restoring equity (by increasing the rewards or lowering the costs).

The subtle differences between these explanations may become clearer once we look to see how each predicts how waiting affects the consumer's evaluation of other service attributes. This will be discussed next.

6.4 The Effects of Waiting on Other Service Attribute Evaluations:

Do waits affect consumers' evaluations of other service attributes? For example, if an airline flight is delayed, will passengers rate the courtesy of the flight attendants, the meal served, and the comfort of the seats lower than if the flight is not delayed? The

multi-cue model of quality would not predict this possibility. However, the other three explanations considered in the previous section, as well as a fourth, halo effects, would predict this relationship and offer explanations for the impact of waits on other service attributes. Predictions from mood, cognitive dissonance and equity explanations follow from the discussions in the previous section. As we shall see, halo effects suggest results similar to those by mood interpretations, but under different circumstances.

6.4.1 Mood. Since mood may bias evaluations of stimuli in mood-congruent directions, it is expected that bad moods resulting from a wait may affect not only the consumer's evaluation of overall quality, but also his/her evaluation of other service attributes. In fact, the bad mood may bias evaluations of anything during the mood, regardless of whether there is a connection to the wait or service. So if asked during a wait at the bank to rate car performance, consumers in a bad mood would rate it lower than those in a good mood (Clark & Isen 1982). Therefore, when waiting induces a negative mood, it is expected that attributes evaluated while in that negative mood will be rated lower than if the consumer was in a good mood.

As mentioned in the previous section, the intensity of the mood may affect how long the mood lasts, and as such which attributes are biased by the mood. Attributes of the service delivered early in the service process may be biased more by the wait since the mood intensity would likely be stronger. For example, if a meal was served early into a delayed airline flight, it may be more likely to be rated lower than if it had been served later in the flight, since the bad mood may have dissipated.

6.4.2 Cognitive Dissonance and Equity. Both cognitive dissonance and equity theories suggest a positive relationship between felt wait duration and overall service quality, since consumers may distort their perception of overall service quality upwards. Although these theories have not previously been applied in this context, their reasoning may be extended to infer that if the consumer distorts his/her perception of overall quality upwards, he/she may also distort his/her perception of specific attributes upwards. Which and how many of these attributes will be distorted upwards is unknown, but cognitive dissonance theory would probably suggest that the attributes with the fewest cognitions or thoughts stored in memory would be the most likely to be distorted. This implies that perhaps the least familiar attributes would be distorted the most.

6.4.3 Halo Effects. Maister (1985) suggested that waiting may have a halo effect on service quality. Waiting at the beginning of a service encounter may affect evaluations of other service quality attributes.

Halo effects are the tendency for the ratings of individual attributes to be biased either by the overall perception of an object or person, or by one overriding attribute. This halo effect was first labelled and documented by psychologist Edward L. Thorndike (1920), when he found that people were unable to rate an individual aspect of an aquaintance's personality independently of their overall opinion of that aquaintance. Since then, there have been a number of articles claiming that people's rating of others are biased by a halo effect.

Cooper (1981) argued that there are two kinds of halo: the first is due to behaviours (attributes) actually being correlated - this he called true halo; the second is due to the rater's imposition of correlations among behaviours (attributes) at a rate higher than true halo - this he called illusory halo. It makes sense that some attributes of people or objects are truly correlated (true halo). For example, a person may be fun and extroverted, so if a person rated these similarly, then it would not necessarily suggest illusory halo.

Most of the halo effect literature deals with the problems of halo effects in measuring person attributes - especially in the assessment of employee performance. So the focus has been on the validity of these measurements. What actually causes "halo effects" or "halo error" has generated only limited theorizing and research.

Nisbett and Wilson (1977a) have attempted to discover the cause of halo error. They suggest that people apply pre-existing causal theories about the effects of certain stimuli on certain responses. Cooper (1981) agreed with this conceptualization, suggesting that people have "implicit personality theories" or "implicit covariance theories" that they invoke when they are required to rate others. These are "pre-existing conceptual associations about which categories covary" (p.223). When people rate objects or people, they rely on these pre-existing theories, paying little attention to the actual relationships. Thus halo errors are not random, but tend to be biased in the direction of these pre-existing schemas. As a result, the potential for halo error would increase the greater the time between the rating and the actual occurrence of behaviour (or the waiting situation). Cooper also suggests that haloing is likely to be strong when the rater has very little information on which to base his/her judgements or when the

attributes to be rated are ambiguous.

However, Nisbett and Wilson (1977b) claim that the halo effect may be even more powerful than Cooper suggests. They argue the following: "Global evaluations may be capable of altering perceptions of even relatively unambiguous stimuli about which an individual has sufficient information to render a confident judgement. For example, a person's appearance may be perceived as more attractive if we like the person than if we do not" (p.250). They suggest that the haloing that occurs with ambiguous attributes should be considered a weak form of the halo effect whereas a strong version of the halo effect would occur even when there is sufficient information on the attributes to be rated to allow for independent assessment. Landy and Sigal (1974) found this strong version when they found evaluations of an essay were higher if the essay writer was an attractive women than if she was unattractive. Similarly, Beckwith, Kassarjian and Lehmann (1978) report a study that suggests that "the lower your gas mileage, the more uncomfortable the seats turned out to be"(p.466).

Nisbett and Wilson and others (e.g., Holbrook 1983) suggest that the halo effect may be subconscious. "The halo effect would appear to depend upon a lack of awareness for its existence" (p.252). These authors showed that the manipulated warmth or coldness of a college instructor's personality had a substantial effect on the ratings of his/her appearance, mannerisms and speech. This was despite that fact that many subjects thought the causality went the other way - i.e., they thought that their feelings about the instructor's appearance, mannerisms and speech had influenced their overall liking of him.

As mentioned earlier, the degree of haloing is expected to vary with the ambiguity of the attributes and the length of time between the measuring ratings and the occurrence of the behaviour or situation. Beckwith et al. (1978) suggest a number of other factors more specific to marketing contexts which may influence the amount of haloing. These factors include: familiarity, the importance of the attribute, the relative importance of the product or product class, and personal characteristics. The magnitude of halo is expected to decrease with increasing familiarity, since one would be expected to have more information about the product or service. The more important an attribute, the more it should show evidence of haloing, since it should more strongly influence the overall attitude. This is easier to see if one utilizes an expectancy-value or multi-cue type of attitude model (see Stolz 1978, Johansson, MacLachlan and Yalch 1976, Beckwith and Lehmann 1975, Holbrook 1983). Here the change in belief about one attribute will influence the overall attitude towards the object which in turn would halo to the other attributes. Applying the halo effect theory to the previous waiting example, suggests that a wait at the restaurant would bias our evaluation of the rest of the restaurant services. If the wait is perceived negatively and the overall evaluation of the restaurant is more negative, then the ratings of the food and pleasantness of staff may decrease. Notice that if we frequent this restaurant often, there may not be as strong a halo effect as if it was our first time there, because increasing familiarity should reduce the magnitude of haloing.

6.5 Summary of Waiting's Effects on Service Evaluations

The foregoing theories and research results discussed each make predictions about what may happen to the ratings of service quality following a waiting experience. These predictions are summarized in Table 1.

The multi-cue model of quality would predict a negative relationship between felt wait duration and overall quality evaluations. Overall quality is a function of each of the salient attributes of the service, so if punctuality is salient and evaluations are low, then overall quality will be lower. Other attributes are not expected to be affected by ratings on punctuality. According to the multi-cue model of quality,

P15: (a) The lower the punctuality evaluation, the lower the overall service quality evaluation.

(b) Punctuality evaluations will have no impact on the evaluation of other service attributes.

Both cognitive dissonance theory and equity theory suggest that if a consumer cannot restore actual equity or consistency, then he/she may try to restore psychological equity or consistency by distorting his/her perceptions of either the service quality or the wait. This implies that the consumer may reduce his/her perception of the felt waiting time, the aversiveness of the wait or quality expectations, or he/she may shift his/her perception of the overall or individual attribute quality upwards. The dissonance and equity theories are very similar in their suggestions. However, note that equity theory would predict an increase in quality ratings even when there was sufficient justification for waiting. This leads to the following propositions:

P16: (a) According to the dissonance and equity interpretations, the longer and/or more aversive the wait, the higher the evaluation of overall service quality. Dissonance theory would predict this is more likely to occur only when there is little external justification for the wait.

(b) Evaluations of other unfamiliar service attributes are also expected to increase.

Halo and mood theories both suggest that the perception of service quality should decrease after a waiting experience. Haloing may occur with the wait biasing the perception of quality on the other service attributes. It has been suggested that haloing is more likely to occur when the attributes of quality are more ambiguous, waiting is important, the service is important, and the service is familiar (e.g., a repeat customer). Mood theories suggest that if waiting puts one in a "bad mood" then negative (mood congruent) thoughts are likely to be more accessible in memory and thus more likely to affect evaluations. A negative mood will make the consumer rate both the individual attributes and overall service quality lower than if he/she were in a positive mood. This negative mood should affect evaluations of any stimuli during the negative mood. Thus,

P17: According to the halo interpretation, the lower the evaluation of punctuality, the lower the evaluation of overall quality and of other unfamiliar and ambiguous service attributes.

P18: (a) According to the mood interpretation, the longer and/or more aversive the wait, the lower the evaluations of punctuality, overall quality and all other service attributes.

(b) Evaluations of any stimuli experienced during the bad mood will be lower than stimuli experienced after the mood has dissipated.

Although these various theories and research results each offer a slightly different interpretation of how waiting might affect evaluations of service quality, their distinctions may not be as clear as discussed above. Distinguishing the predictors of a positive (cognitive dissonance and equity) versus negative relationships (multi-cue, mood and halo) between waits and service evaluations should prove easier than the task of sorting out the alternative conceptualizations within the positive or negative relationship explanations. For example, halo and mood interpretations are similar, and may prove difficult to distinguish between if the wait induces a bad mood, yet only transfers the negative effects to unfamiliar attributes. Similarly, higher quality ratings after a wait with no external justification would fit both equity and cognitive dissonance interpretations. The task of ascertaining which of these theories best describes the effect of the wait on evaluations of service is further complicated by the limited research done on mood and encoding of information versus retrieval of information. Although the effects are expected to be similar, research has not yet substantiated this. In sum, the theories and their predictions outlined here will act as an exploratory first step towards understanding the relationships between waiting and evaluations of service quality.

CHAPTER 7 - THE WAIT EXPERIENCE MODEL

7.1 Introduction

Figure 8 illustrates a more detailed version of the Wait Experience Model than has been previously presented. This chapter summarizes this model, emphasizes the perceptual focus of this research, and links the model to marketing management concerns.

7.2 Model Summary

The Wait Experience Model detailed in Figure 8 incorporates and integrates each of the variables and relationships discussed throughout this paper. It includes the antecedent factors, the situational factors and the outcomes of the wait.

The upper left hand section of the figure outlines the antecedent factors, including expectations, time orientation, the value of the service, and situational time pressures. These factors combine to set the stage for how a wait will be experienced.

The upper right hand and middle sections of the figure outline the wait process and its outcomes. During this process, the actual duration of the wait, its aversiveness, the discrepancy between the actual and expected duration and the degree to which this time is filled are expected to influence the felt duration. The costs of the wait, the discrepancy between actual and expected duration, combined with attribution are expected to affect how aversive the wait is.

Felt duration, aversiveness and attribution are all expected to directly influence the consumer's evaluation of punctuality. Overall service quality and individual attribute evaluations are also expected to be affected by the waiting experience. For clarity reasons, the various predictions set forth by the different theories outlined in Chapter 6 are omitted from the figure.

7.3 The Model's Treatment of Consumer Perceptions Versus Actual Events

As the discussion thus far has implied, the Wait Experience Model focuses primarily on consumer perceptions and affective reactions. What occurs during the wait is therefore relevant only to the extent that it affects the consumer's perceptions and feelings. For example, regardless of how much occurs in the consumer's waiting environment, the extent to which the consumer's time is filled depends only on his/her perception of how filled it is. Or if the service organization offers compensation for any delays, the only way this is accounted for in the model is through its effect on the consumer's mood, perceived costs, or aversiveness. For this reason, many more objective variables such as prior experience with the service, situational occurrences or demographic information about the consumer are not modeled. This is because any information that these variables may contain is expected to be captured in the variables already included in the model. For example, consumers may have different levels of time pressures depending on age, occupation or sex. Since time pressure is modeled in this model, age, sex and occupation are not included. Thus objective realities of the wait situation, including not only management actions but also actions or stimuli created from other sources, with the exception of the actual wait duration, are not included in

the model. Only the wait experience from the consumer's point of view is of concern in this research.

7.4 Management of Waiting's Negative Effects

Identifying the conditions under which waiting will affect wait aversiveness, felt duration and service quality evaluations may aid management efforts to influence these conditions. In particular, to alleviate any negative effects of waiting, management can attempt to influence any one of the variables found to be very influential in determining service evaluations. These can be determined by the empirical test. Because of the focus on consumer perceptions in this research, results of the empirical test will not identify what actions marketing managers should take, but instead will indicate areas where management could take actions. For example, if felt duration is found to vary greatly depending on the degree to which time is filled, management can take actions in an attempt to fill waiting consumers' time - perhaps by offering reading materials or entertainment. Many services offer some sort of compensation for the wait, such as giving out free drinks for delayed airline flights; these actions may serve to alter the costs as well as the mood of the waiting consumer.

CHAPTER 8

EMPIRICAL TEST - REACTIONS TO DELAYS IN AIRLINE SERVICE

8.1 Introduction

The Wait Experience Model and the three central issues discussed in this paper were addressed in an empirical study focused on airline travel. This chapter outlines this empirical work and lists hypotheses suggested by the earlier chapters. These hypotheses are framed with specific reference to waits involving airline passenger travel.

8.2 Selecting an Empirical Setting

The selection of a setting to evaluate the Wait Experience Model was guided by 4 primary considerations. First, the desire was to use a natural service setting where waits were common and varied in length and potential aversiveness. This would provide a basis to test the complexities of the model while maintaining external validity. Finding a service which would have allowed manipulation of these variables was considered improbable thus naturally occurring variation in wait lengths and aversiveness was needed. Second, the empirical setting should have allowed for measurement of both consumers who had to wait for the service and consumers who did not have to wait. This would allow for a comparison of mood, expectations and quality evaluations. Third, the setting had to allow for measurements to be collected during the wait and after the service delivery. And finally, because it was expected that consumers who felt

pressed for time would react differently to a wait than those who didn't, it was important to have an empirical setting where consumers pressed for time would not refuse to participate. This meant that the empirical setting had to be such that by participating in the research, consumers would not be further delayed.

8.3 Delays in Airline Travel

A natural service setting which met the requirements listed above was the passenger airline industry. Airline flights are frequently delayed, often due to reasons uncontrollable by the airline itself. In the United States in 1987, 41 percent of flights were delayed at the gate for more than 15 minutes (Air Transport Association, 1987), and the situation is similar in Canada. The overload of traffic in the hub cities such as Toronto and Vancouver, combined with numerous other reasons such as poor weather conditions and mechanical problems, result in a large number of delays in the Canadian air travel industry.

In brief, passenger air travel met all four of the requirements listed earlier. There were a large number of flight delays varying in length. Both delayed and nondelayed passengers could easily be questioned prior to boarding and again at the end of the flight. And in both cases, passengers were to a certain extent "captive", either in the boarding lounges or on board the plane.

Based on the match between air travel and the interests of the current study, contact was made with a major Canadian airline, Canadian Airlines International (CAI). CAI management was concerned about the effects of delays on passenger perceptions and feelings, especially since they felt that they were already trying their best to eliminate or

shorten delays. CAI's concern and the appropriateness of the airline industry for this research culminated in the following empirical study.

8.4 Overview of the Empirical Study

Testing the three central issues with respect to delayed airline flights involved questioning both passengers who had to wait and those who did not have to wait. To test the first two issues, wait aversiveness and felt duration, delayed passengers were questioned near the end of their wait. Investigating the third issue, the effects of waiting on service evaluations, required measurement and comparison of service evaluations and mood between delayed and nondelayed passengers.

In brief, the empirical work involved the following three questionnaires:

(1) The first questionnaire was used with nondelayed passengers, assessing their mood and quality and delay expectations. It was administered just prior to boarding the plane. It will be referred to throughout this paper as Q1.

(2) The second questionnaire was used with passengers delayed prior to boarding. (This did not include those who were delayed taxiing-in, taxiing-out and in-the-air). It included measures of the many variables thought to affect wait aversiveness, and felt duration such as time orientation, quality and delay expectations, importance of not waiting, perception of filled or unfilled time, the costs of the delay including mood and attribution for the delay. This questionnaire was also administered just prior to boarding, however, this was the delayed boarding time, not the scheduled boarding time. It will be referred to throughout this paper as Q2.

(3) The third questionnaire was completed on board the plane towards the end of the flight. This questionnaire consisted only of service evaluation ratings and was completed by both delayed and nondelayed passengers. In other words, each respondent, whether delayed or not, received two questionnaires - one completed prior to boarding and the other completed at the end of the flight. The service evaluation questionnaire will be referred to throughout this paper as Q3.

Passengers on selected CAI flights completed either Q1, if not delayed, or Q2, if delayed, while waiting to board their flights. Each passenger was also given Q3 to be completed at the end of his/her or her flight. Two interviewers collected the Q1's and Q2's prior to passengers boarding the plane. The service evaluation questionnaires (Q3) were collected by CAI flight attendants at the end of each flight and returned to the researcher through CAI company mail. An outline of the survey process is provided in Table 2 and is elaborated on in Section 8.6.

8.5 Hypotheses

A large number of hypotheses were generated by applying the model and propositions suggested earlier in this paper to waiting in the air travel situation. Due to the quasi-experimental nature of the empirical work, it is not possible to investigate each relationship in isolation by holding other variables constant. As a result, the hypothesized relationships were examined with both bivariate case analysis and by developing multivariate models. In addition, a structural model was developed to investigate the interelationships amongst the range of variables defined by the Wait Experience Model.

It should be emphasized that in this research the wait was a post-schedule wait. Questions regarding the felt duration and aversiveness referred specifically to departure delays, not to other waits possibly experienced by the passenger such as arriving early, waiting at checkin, and so on.

8.5.1 Hypotheses Regarding Wait Aversiveness Factors suspected of affecting the passenger's views of the aversiveness or unpleasantness of the wait were discussed in Chapter 4. These factors included: (1) costs incurred as a result of the delay such as monetary costs and inconvenience, and costs incurred during the wait such as frustration, anxiety, boredom, annoyance, uncertainty, and powerlessness, (2) the discrepancy between actual and expected wait duration, and (3) locus, controllability, and stability of attribution. The following hypotheses resulted:

H1 (a): As the monetary costs and inconvenience of the delay increase, wait aversiveness increases.

(b): As the affective costs of the delay increase, such as frustration, anxiety, boredom, annoyance, uncertainty, and powerlessness, wait aversiveness increases.

These costs are all expected to increase as (1) the actual wait duration increases, (2) as the degree of filled time decreases and (3) as time pressures and time urgency increases.

H2 (a): As the actual duration of the wait increases, costs of the delay such as frustration, anxiety, boredom, annoyance, uncertainty, and powerlessness increase.

(b): As the degree of filled time increases, boredom, frustration, annoyance, anxiety and powerlessness decrease.

(c): As passengers' time pressures and time urgency increase, frustration, annoyance, anxiety, monetary costs and inconvenience increase.

The increase in the affective costs as a result of the delay is expected to be reflected in mood differences between delayed and nondelayed passengers. From proposition 2, it can be hypothesized:

H3: Delayed passengers will be in more negative affective states just prior to boarding than nondelayed passengers. That is, delayed passengers will feel more frustrated, powerless, anxious, annoyed, uncertain and bored than nondelayed passengers.

In Chapter 4, it was proposed that waits that are longer than expected will be more aversive, due not only to the impact on the costs mentioned above, but also due to the fact that the service received did not meet expectations.

H4: As actual wait duration increases over expected wait duration, wait aversiveness increases.
As expected wait duration increases over actual wait duration, wait aversiveness decreases.

The passengers' attributions for the delay were also expected to influence its perceived aversiveness, with delays blamed on the airline expected to be more aversive than delays blamed elsewhere.

H5: Waits attributed to the airline will be more aversive than waits attributed to sources other than the airline.

Even amongst airline attributed delays, passengers may perceive some delays to be more controllable by the airline than others, and thus more aversive. For example, Folkes et al. (1988) found that passengers perceived mechanical delays to be less controllable than personnel related delays. Thus,

H6: The more a wait is perceived to be controllable by the airline, the more aversive the wait will be.

How frequent or infrequent the delay is perceived to be was also expected to affect the aversiveness, especially when the airline is perceived to have control over the delay.

H7: When a wait is perceived to be controllable by the airline then, the more the cause of the wait is perceived to be stable, the more aversive the wait.

8.5.2 Hypotheses Regarding Felt Duration The factors expected to influence how long the wait seemed were discussed in Chapter 5. In that chapter, a distinction was made between how long the wait seemed and how long a consumer thought the wait was. The distinction was based on whether or not consumers had access to a clock or a watch. The argument was that consumers who checked a clock would be more accurate in how long they thought the wait was, whereas how long the wait seemed should not be affected by whether or not a clock was consulted. The interest in the present research is on how long the delay seemed to passengers, thus in all hypotheses, "felt duration" refers to how long the wait seemed.

In Chapter 5 it was suggested that waits would seem longer the more consumers paid more attention to the passage of time. A number of factors were expected to influence how much attention was paid to the passage of time. These included: the difference between expected and actual duration, the importance of not waiting - the passengers' time orientation, situational time pressures, and the value of the service, filled vs. unfilled time and wait aversiveness. Specifically, these relationships are as follows:

H8: Waits will seem longer:

(a) as actual wait duration increases.

(b) as actual wait duration increases over expected wait duration. (As expected wait duration increases over actual wait duration, the wait will seem shorter).

(c) as more importance is placed on not waiting, that is:

(i) the more that a passenger's time orientation is characterized by a high degree of time urgency.
(ii) more for short duration flights (Vancouver to Calgary and Edmonton) than long duration flights (Vancouver to Toronto). [Value of service]
(iii) more when the passenger feels pressed for time.

(d) the less a passenger feels his/her time has been filled during the wait.

(e) as wait aversiveness increases.

8.5.3 Hypotheses Regarding Service Evaluations. The theories and research results discussed in Chapter 6 offered a number of different predictions regarding the effects of waiting on evaluations of service quality.

The relationship between the delay and ratings of punctuality are summarized in the following hypotheses:

H9: (a) The longer the felt duration of the wait, the lower the rating of punctuality.
(b) Delayed passengers will rate punctuality lower than nondelayed passengers.

H10: The more aversive the wait, the lower the rating of punctuality.

H11: Waits attributed to the airline will be rated lower in punctuality than waits attributed to sources other than the airline.

H12: The more a wait is perceived to be controllable by the airline, the lower the evaluation of punctuality.

A number of propositions regarding overall quality evaluations were suggested in Chapter 6. The multi-cue model of quality suggested a negative relationship between felt wait duration and quality evaluations. Longer felt duration would lead to lower evaluations of punctuality. Since overall quality is a function of each of the salient attributes of the service, and if punctuality is salient, then overall quality will be lower.

Mood and halo theories both suggested that overall quality ratings and specific attribute ratings may decrease after a wait. However, more ambiguous attributes would be more likely to decrease according to halo theory. Conversely, mood research suggests that all attributes would be biased equally, and that evaluations of anything after the delay, regardless of their relationship to the service, would be biased. This effect may dissipate with time, however, with evaluations during and closely following the delay to being more biased.

Both cognitive dissonance and equity theory research results suggested that if a consumer cannot restore actual equity or consistency, then he/she may try to restore psychological equity or consistency by distorting his/her perceptions of either the service quality or the wait. This implies that the consumer may shift his/her perception of the overall or individual service attribute quality upwards. The dissonance and equity theories are very similar in their suggestions. However, dissonance theory would only predict an increase in quality ratings when there was insufficient justification for waiting, whereas equity theory sets no such restrictions.

Relating these predictions and their conditions to the airline delay situation, it is expected that the mood and halo interpretations may be more applicable than the consistency interpretations. As was found by Folkes et al.(1987) in their airline delay

research, it appears likely that passengers will attribute the delay cause externally and thus there would be little reason for cognitive dissonance. For this reason, hypotheses regarding the effects of the wait on service evaluations will be stated as follows:

Punctuality's effects on overall service quality and other service attribute ratings are summarized in the following hypotheses:

H13: (a) The lower the rating of punctuality, the lower the evaluation of overall service quality.
(b) Delayed passengers will rate overall service quality lower than nondelayed passengers.

H14: (a) The lower the rating of punctuality, the lower the evaluation of other service attributes.
(b) Delayed passengers will rate other service attributes lower than nondelayed passengers will.

H15: Delayed passengers will rate ambiguous attributes lower than unambiguous attributes.

H16: Evaluations of stimuli independent of the airline will not differ between delayed and nondelayed passengers.

Hypotheses 9 through 12 reflect predictions compatible with most of the theories mentioned above. However, multi-cue, halo, mood, equity and dissonance theories each would predict different results for hypotheses 13 through 16. The results from these hypotheses may enable an assessment of which theory best mirrors how the delay affects service evaluations.

8.6 Method of Data Collection

The timing of measurement collection was important. Ideally, measurement of wait aversiveness, felt duration and their associated predictor variables would occur just prior to the wait ending, since the wait experience would still be salient and there would be less potential for memory errors. This is especially pertinent for the mood measures since mood has been shown to be transitory. As a result, data related to wait aversiveness and felt duration of a flight delay were collected just prior to boarding. Since it would be impractical to assume that a large number of respondents could have been approached and questioned just prior to boarding, a "window" of 15 minutes prior to boarding was established in which all measurements (Q1 and Q2) were taken.

Similarly, data on service evaluations (Q3) would ideally be collected just as the service is ending. Ignoring post-flight services such as baggage pickup, data was collected as the flight descended. This was practically much easier than attempting to question passengers after they left the plane, since passengers were "captive" on-board and often had little to do. It also eliminated the problem of losing those passengers who felt the most time pressure since refusal to cooperate on-board would not have saved them any time in reaching their destination.

As mentioned earlier, each respondent responded to one questionnaire (either Q1 or Q2) just prior to boarding the plane and then answered Q3 towards the end of his/her flight. Non-delayed passengers were questioned about their flying experience, mood and expectations. Delayed passengers answered these same questions as well as additional questions regarding their time orientation, perception of the wait duration, delay attribution, wait aversiveness, costs of the wait and the importance of not waiting. Upon

acceptance of the first questionnaire, both delayed and nondelayed respondents received a self-administered questionnaire on service evaluations (Q3) to be filled out towards the end of their flight.

8.6.1 Subjects 675 passengers from Canadian Airlines International flights originating out of Vancouver with destinations of either Calgary, Edmonton or Toronto completed the questionnaires. These included both short (approximately 75 minutes to Calgary or Edmonton) and long flights (250 minutes to Toronto). All of the flights selected were non-stop with meal service. Thus services received on the long flights differed from the shorter flights only in terms of flying time and the availability of a movie.

Data was collected between February 15 and April 30, 1989, from 47 flights: 18 delayed and 21 nondelayed flights. Passengers on 8 flights received the nondelayed questionnaire (Q1) but were subsequently delayed. These passengers were omitted from the analysis. The delays sampled ranged from 36 to 315 minutes.

8.6.2 Data Collection Procedure Data was collected from passengers on the selected CAI flights from approximately 7 a.m. until 7 p.m. on weekdays over data collection period. There were 10 flights per day of the type mentioned above. Selection of flights within this set was based on the occurrence of delays on a particular day and with the intention of sampling both long and short flights across all times of the day. Delayed flights were sampled only if the delay was at least 30 minutes in duration.

Passengers from each selected flight were approached by one of 2 interviewers within the 15 minute window prior to boarding. Care was taken to ensure that subjects

were sampled from all sections of the waiting area, with equal numbers approached in each area. The two interviewers started at opposite ends of the boarding gate soliciting cooperation from all possible passengers waiting for the flight of interest. An attempt was made to approach all passengers who were waiting in the boarding area during the questioning "window". Interviewers identified themselves as graduate students from the University of British Columbia conducting research on peoples' feelings about flying. Respondents were given a folder with the two questionnaires (either Q1 and Q3, or Q2 and Q3) and were told that the questionnaire involved two parts. They were asked to complete the first one while they were waiting and take the second one with them on board the plane. They were then informed that the flight attendant would make an announcement as their flight was descending asking that they fill out the second part of the questionnaire. Respondents were then thanked. Refusals to participate were less than 1%.

The second part of the questionnaire (Q3) was enclosed along with a small pencil in a 8 1/2 by 11 inch brown envelope. Instructions on the envelope asked that passengers not open the envelope until requested to do so by the flight attendant (see Figure 9). Passengers were not told the contents of the envelope except that it contained the second half of the questionnaire. A small number of passengers asked about the contents and were told that it dealt with their feelings at the end of the flight. Four or five passengers were seen to open their envelopes prior to boarding. Interviewers noted the few that did and eliminated their questionnaires later. The interviewers walked around the boarding area and picked up the first part of the questionnaires when they were completed.

The pursers and flight attendants of flights sampled were told the marketing research division was conducting some customer research, a common practice with CAI. The pursers were then given the instruction form in Figure 10 along with a large envelope addressed to the marketing research division of CAI. All pursers on all flights sampled were cooperative and made the announcement just prior to arriving at their destination requesting that passengers fill out the service evaluation questionnaire. The flight attendants then collected the completed questionnaires and put them in the envelope supplied. These envelopes were then returned to the Marketing Research division through company mail and later picked up by the researcher.

8.6.3 Measures Both delayed and nondelayed passengers were questioned about their trip purpose, flying experience, expectations, and mood. Passengers were also asked about their expectations regarding overall service quality, the possibility of a delay and its expected length. Fifteen different mood items made up the mood scale. Items were drawn from a number of different scales (e.g., Batra and Ray 1986, Edell and Burke 1987, Holbrook and Batra 1987) and were measured on a seven point scale anchored by "not at all" and "very" (Holbrook and Batra 1987). Table 3 shows these items as they appeared in the questionnaire.

In addition to the above items, delayed respondents were also asked a number of questions specific to the delay. They were asked how long they guessed the delay to be, and how long it seemed. To assess the relationship between these two measures based on the availability of a watch or clock, passengers were asked how often they checked a watch or clock during their wait. Attribution questions follow closely the work of

Folkes, Koletsky and Graham (1987) as they studied consumers' attributions for delayed airline flights. Passengers were asked in an open ended question what they thought the reason was for their delay. They were also asked the degree to which they thought the airline had control over, and how common or uncommon the reason for the delay was. Cost questions included questions regarding uncertainty related to the length of the delay and the impact of the wait on future plans, the likelihood of the delay costing the passenger money and the degree of inconvenience. The degree to which the passenger's time was filled was also asked. Finally, wait aversiveness was measured by two seven point scales of "not at all unpleasant - very unpleasant", and a "very disagreeable experience - "didn't bother me at all". These items are shown in Table 4. Complete versions of the questionnaires for both the nondelayed (Q1) and delayed passengers (Q2) are in Appendix A and B respectively. Both delayed and nondelayed passengers completed the service evaluation questionnaire (Q3). This questionnaire included one overall quality of service question followed by a list of 24 specific airline attribute ratings, each rated on seven point scales of "very good" - "very bad". Passengers were also asked to rate three attributes independent of the airline; cleanliness of the terminal, variety of shopping facilities and efficiency of security agents. These were used to assess the degree to which a bad mood affects evaluations not directly related to the flight. Q3 is shown in its entirety in Appendix C.

CHAPTER 9 - RESULTS

9.1 Introduction

Results of the data analysis are presented here in four sections. In the first three sections the central issues of wait aversiveness, felt duration and impacts on service evaluations are discussed in turn. For each, the hypothesized bivariate relationships are examined. In addition, analyses were performed to investigate how all of the variables performed as a group in prediction of the three central issues. This is followed by an analysis of a modified version of the Wait Experience Model. Preceding these discussions is a brief description of the data used in the analyses.

9.2 The Data

Data were collected from a total of 675 passengers. The nondelay questionnaire, Q1, was completed by 388 passengers. As discussed earlier, 119 passengers who filled out Q1 were delayed subsequently, so their responses were not used in the analysis. Of the remaining 269 nondelayed passengers, 210 also completed the service evaluation questionnaire, Q3.

The delay questionnaire, Q2, was completed by 287 passengers. Delays ranged from 36 to 315 minutes; however, all but one of the delays were 185 minutes or less. Because of the large difference between the flight delayed 315 minutes and the others, and the resulting discontinuity in flight delay durations, the 25 passengers from this flight were omitted from analysis. Of the resulting 262 completed Q2's, there were 205 completed service evaluation questionnaires, Q3. The resulting data included:

TOTAL FLIGHTS SAMPLED: 47 = 675 passengers

NONDELAYED:	DELAYED:
388 total completed Q1's	287 total completed Q2's
119 subsequently delayed	25 from 315 minute delay
269 completed Q1's	262 completed Q2's
210 completed Q1's with Q3's	205 completed Q2's with Q3's

A concern for the possible occurrence of self-selection biases in the sampling process motivated a series of comparisons between delayed and nondelayed respondents, and those who completed Q3 and those who didn't. Delayed and nondelayed respondents were compared for possible differences in flying experience and trip purpose. There was no significant difference ($t(523) = -0.06$, $p > .05$) between delayed and nondelayed in flying experience. Similarly, as shown in Table 5, trip purpose did not differ between delayed and nondelayed passengers ($X^2(5) = 6.55$, $p > .05$).

Flying experience and trip purpose were also compared between those that completed Q3 and those that didn't. There was no significant difference ($t(522) = -1.63$, $p > .05$) between the two groups in flying experience. And again, there was no difference in trip purpose for those who completed Q3 versus those who did not ($X^2(5) = 1.74$, $p > .05$)(see Table 5). These results suggest that at least on these two measures, there does not appear to be a self-selection bias in the samples.

9.3 Wait Aversiveness

How aversive the wait was perceived to be was expected to be related to: the costs of the wait, the discrepancy between expected wait duration and actual wait duration, and the attribution for the wait.

"Wait aversiveness" was measured by two separate measures: (1) a seven point scale of "not at all unpleasant" - "very unpleasant" and (2) a seven point scale of a "very disagreeable experience" and "didn't bother me at all" (reversed scored). These two measures correlated 0.72 ($p<.001$) and thus were collapsed into one measure for subsequent analyses.

In this section, results from analyses of each of the hypothesized relationships involving wait aversiveness will be discussed. This is followed by the results of both a full and a stepwise multiple regression incorporating all of the variables, examining which of the hypothesized variables serve as the best predictors of wait aversiveness.

Costs of the Wait: Waiting can involve costs which result from the wait, such as inconvenience or financial costs, and costs which occur during the wait, such as affective reactions to the wait.

For this analysis, a principal components analysis was used as the basis in which to reduce the many cost measures. Seven new cost measures were derived from the original sixteen using both the results from this analysis (see Table 6), as well as expected groupings. The component weights for the principal component analysis were derived using both delayed and nondelayed passengers (with the exception of the inconvenience and financial cost measures since nondelayed passengers were not asked

these questions)[1]. The two costs incurred as a result of the wait, namely financial costs and inconvenience, were grouped together on the same factor. The affective reactions to the wait were categorized into six different dimensions. The new cost measures were then created by using the first principal component of the original measures in each group (This was the same as the mean for that group when only two measures made up the construct; see Table 6). This procedure ensured a maximum Cronbach's alpha (reliability) for each of the new measures. The resulting measures were:

Original Measures:	New Measures:	Correlation with Wait Aversiveness:
Powerless Helpless	Perceived Lack of Control	0.374 *
Uncertain Uneasy Unsettled.	Uncertain	0.352 *
Excited Anxious.	Anxious	-0.059
Frustrated Annoyed Irritated Angry.	Annoyed	0.537 *
Bored.	Bored	0.307 *
Relaxed Calm.	Relaxed	-0.351 *
Inconvenience Liklihood of the wait costing the passenger money.	Consequences	0.605 *
		*p < .001

[1]*The same factor structure resulted when only delayed passengers' measures were used*

Zero order correlations for each of these measures with wait aversiveness were significant, with the exception of Anxious, compatible with the hypothesis that waits are more aversive as the costs of the wait increase, H1.

The relationship between the actual duration of the wait and the costs was expected to be positive; that is, as H2(a) suggests - the longer the actual duration of the wait, the more serious the costs. Zero order correlations between how long the wait was and each of the costs are shown in Table 7. Significant are the correlations between wait duration and level of Annoyance, Inconvenience and Perceived Lack of Control. As the wait duration increases, passengers experience more annoyance or anger, greater inconvenience and a greater perceived sense of helplessness or powerlessness. Other costs such as Uncertainty, Boredom, and level of Anxiety or Relaxation did not increase as the wait duration increased. Thus H2(a) is in part consistent with the data in this study; some costs increased as the wait duration increased.

The relationships between the costs of the wait and the degree of filled time, time pressures and time urgency were addressed in hypotheses H2(b) and H2(c) (Table 7). The degree of filled time was significantly related to all of the costs of the wait. The more time was filled during the wait, the less Bored, Uncertain, Excited, Annoyed, and helpless (Perceived Lack of Control) passengers felt. The Consequences (financial costs and inconvenience) of the wait also were lower when time was filled. However, the less time was filled, passengers became less Relaxed. These results are consistent with hypothesis H2(b).

It was also hypothesized that certain costs would increase as the passenger felt more time urgency - both in terms of immediate time pressures and a time urgent time

orientation. All of the costs were significantly correlated with immediate time pressures (Table 7), with the exception of Anxious. As immediate time pressures increased, Perceived Lack of Control, Uncertainty, Annoyance, Boredom, and the Consequences of the wait increased. The level of Relaxation decreased. The data do not however, fit the relationship hypothesized between the costs and a time urgent time orientation. None of the hypothesized relationships were significant. Thus H2(c) is only partially supported; as immediate time pressures increase, passengers experience increased levels of annoyance, inconvenience and monetary costs. These costs do not increase the more time urgent the passenger's time orientation.

Mood Differences Between Delayed and Nondelayed Passengers: Hypothesis 3 suggested that delayed passengers would be in a more negative mood than nondelayed passengers just prior to boarding. Results from a Hotelling's T^2 analysis on the mood measures (Perceived Lack of Control, Uncertain, Anxious, Annoyed, Bored, and Relaxed) derived earlier, were consistent with this hypothesis (see Table 8) $F(6,449)=9.724$, $p<.001$, revealing a significant difference between delayed and nondelayed passengers overall on the mood measures. Univariate tests with a Bonferroni adjusted alpha indicate that the difference was primarily due to differences in the Annoyed, Bored, Perceived Lack of Control and Uncertain measures. The level of Anxiousness and the level of Relaxation did not differ between delayed and nondelayed.

Discrepancy Between Actual and Expected Wait Duration: It was predicted that the longer the difference between actual and expected wait duration, the more aversive the wait would be. Only 175 passengers, 33 % of the total sample expected a departure delay, split almost equally between delayed and nondelayed respondents (94 delayed, 81 nondelayed). Of those who were delayed and expected a delay, the majority expected delays between 5 and 30 minutes (see Table 9).

For many passengers, the difference between the actual delay and the expected delay would be the full duration of the wait, since only 94 delayed passengers expected a departure delay. This discrepancy (actual wait duration minus expected wait duration) correlates $r=0.71$ ($p<.001$) with the actual wait duration.

Hypothesis H4 suggests that as this discrepancy between the actual duration and expected duration increases, the more aversive the wait will become. There was a weak, yet significant, correlation between this discrepancy measure and aversiveness ($r=0.12$ $p<.05$). This correlation very closely resembles the correlation between the actual duration and aversiveness ($r=0.13$, $p<.05$), reflecting the close association between the discrepancy measure and the actual duration.

Attribution: Whom or what passengers blamed for the delay, the degree to which they felt the airline had control over the delay and the degree to which they felt the delay cause was common were all expected to affect the aversiveness of the wait.

Passenger responses to what they thought the reason for their delay was appear in Table 10. Most passengers who responded with a reason believed turnaround problems caused their delay. Turnaround refers to the plane being delayed at a previous location

causing a late arrival at the local airport. Also cited frequently were mechanical problems. A large number of passengers, however, did not know the reason for their delay.

The actual reason for the delays is also shown in Table 10. Most delays were, in fact, turnaround delays.

Locus attribution accuracy for delays was poor. In fact, only 23% of all attributions were correct. This means that 77% of the passengers were wrong in what they thought the reason was for their delay. This rather large number is probably due to a lack of information presented to them. During the sampling period, it was rare for airline agents to announce the reason for the delay. If not informed of the reasons, it appears that many passengers may decide on their own.

The extent to which passengers thought the airline had control over the reason for the delay differed depending on the locus of the attribution. As has been found in other research (Folkes et al., 1987), passengers believed the airline had much less control over weather related delays than mechanical or employee related delays (see Table 10). In addition, mechanical problems were perceived to be under less control by the airline than personnel problems, although both could be seen as airline caused.

Also shown in Table 10 are the mean aversiveness ratings for the perceived delay reasons. When passengers believed the delay was caused by either "personnel problems" or "holding for other passengers", waits were rated to be most aversive. The least aversive rating for the wait was associated with perceived weather related delays. Turnaround delays, which were the predominant type of delays sampled, were associated with relatively low aversiveness ratings. Since the majority of delays were in fact

turnaround, the airline may have been better off informing passengers as to the real reason for the delay, instead of letting them make their own assumptions.

The aversiveness of the delay differed depending on how much control the airline was perceived to have. As was discussed above, passengers perceived the airline to have different degrees of control over the various causes of the delays. Aversiveness and perceived airline control over the delay correlated 0.38 ($p<.001$), suggesting that the more passengers felt the airline had control over the reason for the delay, the more aversive the wait was.

Hypothesis 7 suggested that when the wait cause was perceived to be controllable by the airline, then the more common the wait was, the more aversive it would be. The mean aversiveness rating when the delay is perceived to be airline controlled and uncommon was 3.55 ($s=.93$) on the seven point scale; the mean aversiveness rating when the delay was perceived to be airline controlled and common was 4.38 ($s=1.78$) (See Table 11). This difference is significant in the hypothesized direction at the .05 level, $t(23)=2.2$ [2], suggesting that when the airline is perceived to have control, common waits are more aversive than uncommon waits. Most passengers felt the delay was common regardless of who they felt had control. Interestingly, very few passengers felt that if the airline had control, it was uncommon.

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[2]*Separate variances were used for this test due to nonhomogeniety of variance. In this case, a larger sample was paired with the larger variance resulting in a conservative test.*

9.3.1 Wait Aversiveness: Discussion of Bivariate Relationships A number of relationships were hypothesized to exist between wait aversiveness and costs of the wait, the discrepancy between actual and expected wait duration and attribution for the wait. An examination of the bivariate relationships between these variables and wait aversiveness reveals support for some of these hypothesized relationships.

Hypothesis H1 was consistent with the data in this study: as the monetary costs, inconvenience and affective costs of the wait increased, the wait aversiveness increased. Some of these costs, namely inconvenience, annoyance and a perceived lack of control, all increased as the wait duration increased. This is in part consistent with H2(a).

Hypothesis H2(b) proposed that the degree of filled time would be related to the costs of the wait. Consistent with this hypothesis, the more a passenger's waiting time was filled, the less annoyed, anxious, bored, uncertain, excited and helpless was the passenger.

Immediate time pressures also affected the costs of waiting. As time pressures increased, so did the passenger's inconvenience, monetary costs, uncertainty, perceived lack of control, annoyance, and boredom. A time urgent time orientation, however, was not significantly correlated with any of the costs of waiting. Thus H2(c) was only partially supported; as time pressures increased, so did the costs of waiting.

Hypothesis 3 suggested that there would be significant mood differences between delayed and nondelayed passengers. The data in this study were consistent with this hypothesis. Moods were much more negative for delayed passengers, primarily due to differences in levels of annoyance, boredom, uncertainty and helplessness.

It was also hypothesized that the discrepancy between the actual delay duration and what was expected would affect wait aversiveness (H4). The relationship between this discrepancy measure and aversiveness was significant, however, it is believed that this may be due to the fact that many passengers did not expect a delay and thus the discrepancy measure closely resembled the actual duration measure.

The effect of attribution on aversiveness was addressed in hypotheses H5, H6 and H7, all of which were consistent with the data in this study. Waits attributed to the airline were perceived to be more aversive. In adddition, the more control the airline was perceived to have over the wait, the more aversive it was. And when the airline did have control, common waits were perceived to be more aversive than uncommon waits.

9.3.2 Regression Results The results listed above suggest that aversive waits are associated with increased costs and perceived airline control over the delay. How well all of the above variables perform as a group in predicting wait aversiveness was also examined and is the focus of this section. Results of both a full and a stepwise multiple regression with aversiveness as the dependent variable and all of the above variables as predictor variables are shown in Table 12.[3]

Variables significant in the full regression (regression coefficients significantly different from zero with $p<.05$) are the Consequences of the wait, the Annoyance

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[3] *A large number of passengers (85) answered the controllability question with a "don't know", resulting in a lower sample size for this regression than previous analyses. In essence, this regression is valid only for those who did have some idea as to the controllability of the delay. However, to assess the degree to which these results would hold for the full sample, a regression was run on the full sample with the "don't know"'s recoded as 4's in the 1 to 7 scale of controllability. Results for this regression are almost identical to those reported above.*

generated and the degree to which the airline had Control over the delay. The variables all together account for approximately half of the variance in wait aversiveness ($R_A^2 = 0.48$, $F(14,137) = 10.77$, $p < .001$). The consequences of the wait account for more of the variance in aversiveness than any other predictors, followed by the Annoyance factor, comprised of the first principal component of the "annoyed", "frustrated", "angry" and "irritated" measures. Other costs - Perceived Lack of Control, Uncertainty, Boredom, Relaxation and Arousal, were not significant in the full regression, despite all but Arousal being significant in bivariate analyses. This lack of significance is due in part to strong correlations between the costs. For example, the Annoyance factor correlated $r = 0.68$ ($p < .001$) with Perceived Lack of Control and $r = 0.58$ ($p < .001$) with Uncertainty.

The passengers' attribution for the wait was related to aversiveness through the controllability dimension. Although the dichotomous variable for airline locus/nonairline locus was not significant (H5), the perceived degree of control by the airline was significant in the regression (Recall that the various delay causes are perceived to be under different degrees of airline control). The more the airline was believed to have control over the reason for the delay, the more aversive the wait. The interaction between controllability and stability (H7) (dummy coded into 4 variables) was not significant in the regression.

A stepwise regression with the same variables (with the significance level relaxed to $p < .10$) was also conducted to assess the best set of predictors of wait aversiveness (see Table 12). The Consequences, Annoyance and Airline Control variables were still significant, yet Boredom and the level of Relaxation were also significant ($R_A^2 = 0.49$).

Thus it appears that of the variables included in this analysis, the best set of predictors of wait aversiveness include: the Consequences of the wait, the level of Annoyance created by the wait, the degree to which the airline has Control, the levels of Boredom and Relaxation created by the wait.

9.3.3 Wait Aversiveness Summary Results from both bivariate and multivariate analyses are consistent with the hypotheses that aversive waits are associated with increased costs and perceived airline control.

Waiting can create a number of affective and consequential reactions. All of those measured, with the exception of Anxious and Relaxation increased with the occurrence of a delay, suggesting that waits can invoke anger, irritation, annoyance, frustration, boredom, uneasiness, uncertainty and feelings of helplessness, powerlessness, inconvenience and financial loss. These feelings are all associated with stronger feelings of wait aversiveness. Thus Hypothesis 1 is consistent with the data both when looked at in terms of bivariate relationships and in multivariate relationships; the more serious the affective costs and the financial costs and inconvenience of the wait, the more aversive the wait is.

These affective reactions also increase as the wait duration increases (H2a), as the degree to which time is filled decreases (H2b) and as immediate time pressures increase (H2c). The result is a significant difference in the moods of passengers who have to wait versus those who did not have to wait (H3).

The degree to which the airline has control over the wait is also related to the wait's aversiveness. When the airline is perceived to have control over the wait, the wait is

perceived to be more aversive. This hypothesis (H6) is consistent with the data when examined in both a bivariate and multivariate setting.

9.4 Felt Duration

How long the wait seemed for the delayed passengers was expected to be related to: how long it actually was, how much longer it was than expected, the importance to each passenger of not waiting, how filled the passenger's time was during the wait, and how aversive the wait seemed to the passenger.

"Felt duration" was measured with one question asking how long, in minutes, the wait seemed. In Chapter 5, a distinction was made between how long consumers thought a wait was and how long it seemed. The distinction was based on whether waiting consumers checked a watch or clock during the wait. In this study, passengers were asked both how long they "guessed the delay to be" and how long it "seemed". Correlations between these two measures for people who did check their watches was 0.73 ($p<.001$). For those who did not check a watch or clock (there were only 25) this correlation was 0.89 ($p<.001$). Although both correlations are strong, they are significantly different with $p<.05$. These results are consistent with the argument in Chapter 5, suggesting that when a watch is not consulted, how long passengers thought the wait was and how long it seemed should be more closely related. When a watch is consulted, these two measures may differ. As was discussed in Chapter 5, how long the wait "seemed" was the primary focus of this research and thus was the measure used for all analyses.

In this section, results from analyses of each of the hypothesized relationships involving felt duration will be discussed. This is followed by the results of both a full and a stepwise multiple regression incorporating all of the variables, examining which of the hypothesized variables serve as the best predictors of felt duration.

Actual Duration: The strongest predictor of how long the wait seemed was the "actual duration" of the wait ($r=0.54$ $p<.001$). As has been found in most time perception research (Allan 1979), plots of this data reveal the relationship is linear, yet the prediction is not perfect. In fact, the relationship mirrors other research on waiting (Hornik 1984), finding that passengers had a tendency to overestimate their waiting times. The mean overestimation was 6.83 minutes ($s=31.96$), but it ranged from 93 minutes underestimation to 201 minutes overestimation. As a proportion of the actual wait, this overestimation averaged 1.37; that is, on average, passengers said that their wait seemed 1.37 times the length it actually was ($s=0.87$). The proportion overestimation ranged from 0 to 4.62. The mean proportion overestimation is almost identical to Hornik's results even though his research dealt with shorter time periods.

Wait Duration Expectations: Because most passengers expected no delay, the hypothesized relationship between how long the wait seemed and the discrepancy between "actual" and "expected" duration was relatively strong ($r=0.37$, $p<.001$). This was due primarily to the discrepancy measure being equal to the actual wait for all but the 94 who expected the delay; the correlation between actual duration and the discrepancy between actual and expected was 0.71 ($p<.001$).

The Importance of Not Waiting: How important no wait was to the passenger was expected to be contingent upon: his/her time orientation, how pressed for time he/she felt, and whether the flight was long or short in duration.

Time orientation was assessed with three measures. The first two, the degree to which the passenger had "too many things to do without enough time to do them" and the degree to which he/she was "usually pressed for time", were highly correlated ($r=0.83$ $p<.001$) and were collapsed for all analyses. This combined measure did not relate significantly to how long the wait seemed ($r=-0.12$, $p>.05$). The third measure of time orientation - the degree to which the passenger "usually hates waiting" also did not significantly correlate with how long the wait seemed ($r=0.07$, $p>.10$). This correlation may have been attenuated due to a lack of variance on the time orientation measure. A frequency distribution on this measure revealed a ceiling effect; most passengers claimed that they usually hated waiting (see Table 13).

The degree to which passengers felt "pressed for time" while waiting was significantly related to how long the wait seemed ($r=0.20$, $p<.005$). However, whether the flight was long or short did not affect felt duration of the wait ($r=0.01$, $p>.10$).[4] As discussed in Chapter 5, the value of the service was expected to be higher for a flight of longer duration. The lack of significance for this relationship may be explained by the larger local time differences for longer flights. Flights to Calgary and Edmonton take approximately 75 minutes, but with the one hour time zone difference between Vancouver and these destinations, passengers arrive 135 minutes later local time.

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[4]*Actual delay durations did not differ between short and long duration flights*

Flights to Toronto take 250 minutes, but with the three hour time zone difference, passengers arrive 430 minutes later local time. Thus a flight that is scheduled to depart from Vancouver at 14:30 arrives in Toronto at 21:40 Toronto time. If this flight was delayed for three hours, passengers would then arrive after midnight. A similar delay for a Calgary flight would have passengers arrive at 19:45, still a reasonable hour. It may also be the case that because of these time differences, passengers would not be as likely to have commitments scheduled upon arrival in Toronto. Thus the time differences for these destinations may have counteracted any effects of the flight length on felt duration. This explanation appears reasonable, as interviewers often found passengers referring to the time difference problems when flights were delayed.

Filled Time: The notion that time passes more quickly when it is "filled" is consistent with the data in this study. Filled time seemed shorter than "unfilled time". The correlation between felt duration and the degree of filled time measured -0.13 ($p<.05$). Open ended questions asking what passengers did during the delay revealed that reading best filled the waiting time while doing nothing was the worst method of filling time (see Table 14).

Wait Aversiveness: How unpleasant or disagreeable the wait duration was significantly related to how long the wait seemed ($r=0.30$, $p<.001$), suggesting more aversive waits are associated with longer felt duration.

9.4.1 Felt Duration: Discussion of Bivariate Relationships

It was hypothesized that waiting seemed longer when: the actual duration of the wait was long, the discrepancy between the actual and expected duration increased, the passenger's time orientation was characterized by a high level of time urgency, there was strong immediate time pressures, it was a short (versus long) flight, and when the wait was aversive.

An examination of the bivariate relationships between felt duration and all of the above variables reveals that the data in this study are consistent with several but not all of the hypothesized relationships. H8(a), which suggests that felt duration increases as actual duration increases is strongly supported. The discrepancy between actual and expected duration was also significantly related to felt duration (although it is expected that this occurs because of the strong correlation between the discrepancy measure and actual duration), consistent with H8(b). Passengers' time orientation did not appear to be related to the felt duration - H8(ci), as was the case with length of flight - H8(cii). However, a passenger's immediate sense of time urgency was correlated with felt duration, suggesting that as time pressures increase, so does the felt duration - H8(ciii).

The degree to which the passenger's time was filled was significantly related to the felt duration, with duration seeming shorter when waiting time was filled. This was consistent with hypothesis H8(d).

How long the wait seemed was also significantly related to the wait's aversiveness (H8e), with more aversive waits corresponding to longer felt waits.

9.4.2 Regression Results The results discussed above have, for the most part, been consistent with the relationships discussed in Chapter 5. In this section, how these variables perform as a group in predicting felt duration is discussed. Table 15 shows the results of a full and a stepwise multiple regression analysis with felt duration as the dependent variable and each of the above variables as predictor variables.

Regression coefficients significant at 0.05 or less in the full regression include actual duration and aversiveness of the wait. (R_A^2 =.35, $F(10,200)=10.32$, $p<.001$). How "pressed for time" the passenger was approached but did not reach significance. Lack of significance for the latter may be explained by its relatively strong correlation with aversiveness ($r=0.47$, $p<.001$). How filled the passenger's time was also was not significant in the regression; however, it too had a relatively strong correlation with wait aversiveness ($r=-0.30$)[5]. The dichotomous variable for length of the flight - short versus long, and the discrepancy between actual and expected wait duration were not significant. A stepwise regression analysis to assess the best set of predictors (with the significance level relaxed to $p<.10$) with these variables provided the same results, with actual duration and wait aversiveness only entering the regression equation (see Table 15). Actual wait duration and felt aversiveness together account for 35 percent of the variance in felt duration. Although when considered alone, how pressed for time passengers felt, and how filled their time was are related to felt duration, because of their strong relationships with wait aversiveness, these measures do not add significantly

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[5]*When felt duration was regressed on all of these variables excluding wait aversiveness, significant relationships were found with actual duration, how pressed for time the passenger felt, and the passenger's time orientation. How filled the passenger's time was approached but did not reach significance.*

to the prediction of felt duration. In fact, together they add less than 1 percent to the variance already explained by actual duration and aversiveness.

9.4.3 Felt Duration Summary

Looking back at the hypotheses, it appears clear from both an examination of the bivariate results and the regression results that hypotheses H8(a) and H8(e) are compatible with the data. That is, the actual duration of the wait and the wait aversiveness are strong predictors of how long the wait seemed. Hypotheses H8(d), which suggests that filled time passes more quickly and hypothesis H8(ciii), which suggests that when pressed for time it passes more slowly, are supported in bivariate analyses but these predictors are overridden by the first two predictors in their ability to predict felt duration. Time orientation - H8(ci), and length of the flight - H8(cii) were not significantly related to felt duration in any of the analyses. As expected, because of its strong relationship with actual duration, the discrepancy between actual and expected duration - H8(b) was not significant in the regression analyses.

9.5 Service Evaluations

The departure delay was expected to affect passengers' evaluations of the service received. Specifically, hypotheses suggested the delay would affect ratings of punctuality, overall service and specific service attributes.

Punctuality: As was predicted in Hypothesis 9(b), punctuality ratings differed significantly between delayed and nondelayed respondents (see Table 16), with delayed

ratings averaging over 4 points lower than nondelayed on the 7 point scale.

For delayed passengers, punctuality was hypothesized to be related to both felt wait duration and aversiveness of the wait. Although statistically significant, the zero order correlation between punctuality and how long the wait seemed was only -0.14 ($p <= .05$). The correlation between punctuality and the actual length of the delay was only $r = -.26$, ($p < .001$). Yet, wait aversiveness correlated -0.32 ($p < .001$) with punctuality, suggesting that the felt length or actual length of the wait may not be as important as how aversive the wait felt to the passengers in their assessment of punctuality.

The role of attribution in service evaluations was assessed via Hypotheses 11 and 12. Testing H11, punctuality ratings did not differ between those who blamed the airline and those who did not blame the airline ($t(198) = -0.26$, $p > .05$). Table 17 shows how ratings of punctuality differed between different degrees of perceived airline control. Perceived degree of control by the airline and punctuality correlated only 0.01 ($p > .05$). Neither H11 nor H12 were supported, suggesting that the attribution for the delay, as measured here, is not strongly related to punctuality ratings.

These results suggest that punctuality is indeed affected by the delay, with delayed passengers rating punctuality much lower than nondelayed passengers did. Interestingly, for the delayed passengers, the aversiveness of the wait was more strongly related to the rating of punctuality than felt duration was to punctuality. Perceived airline control was not significantly related to the punctuality rating.

Overall Service Evaluations: How the delay affected overall evaluations of the service was addressed in Hypothesis 13. Overall evaluation of the service was measured with

one measure. Passengers were asked: "Considering all aspects of today's plane trip, would you rate your impression as very bad or very good or somewhere in between?". This was rated on a seven point scale.

It was hypothesized that lower ratings of punctuality would be associated with lower ratings of overall service quality. Ratings of punctuality and overall evaluation correlated 0.47 ($p<.001$), indicating that overall evaluations were lower when punctuality was rated low. This result is consistent with both the multi-cue model of service quality and the mood interpretation presented in Chapter 6. It is opposite to that predicted by the equity and cognitive dissonance theories.

It was also hypothesized, consistent with the multi-cue models and mood research, that overall evaluations would differ between delayed and nondelayed respondents. The data are compatible with this hypothesis ($t(388)=7.62$, $p<.001$) (see Table 16). These results are also in the opposite direction than that predicted by equity or cognitive dissonance theories.

Although not hypothesized, the relationship between attribution and overall evaluations was also investigated. Similar to the results with punctuality, overall evaluations did not differ between those who blamed the airline and those who did not ($t(198)=0.98$, $p>.05$). However, overall evaluations and the degree to which the airline was perceived to have control over the delay correlated -0.16, ($p<.01$) indicating that there was a weak relationship between overall evaluation of the service and perceived airline control over the cause of the delay (see Table 17). The more control over the delay the airline was perceived to have, the lower the overall evaluation of service.

Results from these analyses are consistent with the arguments derived both from the multi-cue models of quality and mood research. First, overall evaluations are higher for nondelayed versus delayed passengers. Second, higher ratings of punctuality are associated with higher ratings of overall evaluations. Third, attribution for the delay plays very little importance in the overall evaluation of the service. (Recall from Chapter 6 that findings from mood research suggest that the attribution for one's mood should not play a role in the effects of that mood).

Other Attribute Evaluations: The effect of the delay on passengers' evaluations of other service attributes was also investigated. Twenty four specific airline attributes were evaluated by passengers. These attributes were collapsed into 7 attribute categories as a result of both judgement and a principle components analysis (see Table 16).

Hypothesis 14a suggested that lower ratings of punctuality will be associated with lower ratings on other attributes. Table 18 shows the zero order correlations of punctuality with each of the service attribute groups for delayed and nondelayed passengers combined. All of the correlations are significant, although not strongly so. What this shows is that none of these attributes are independent of punctuality. It does not prove haloing or transference of negative affect since these attributes may be related regardless of a delay.

Two separate series of correlations were calculated to assess whether the delay affected the relationships between the different service attribute groups. Table 18 also includes correlations between punctuality and the other service attributes for the delayed and nondelayed passengers separately. In all cases, correlations between punctuality and

other service attributes were lower for delayed passengers than for nondelayed passengers. This is opposite to that predicted by halo theory which would suggest that the correlations between punctuality and other service attributes should be inflated for delayed passengers.

As is shown in Table 16, delayed and nondelayed respondents differed in their evaluations of specific airline attributes ($F(7,377) = 151.47$ $p < .001$). This significant difference for all service attribute groups was explored further. Using a Bonferroni adjusted alpha, it can be seen that this difference was due primarily to differences in passengers' evaluations of punctuality and checkin. Differences in punctuality ratings were discussed above. What is interesting here is that the only other difference between delayed and nondelayed was in their evaluations of checkin attributes. This suggests that the delay only affected passengers' evaluations of service attributes which were experienced during or near the delay. Any negative effects of the delay transferred less to attributes experienced after the delay.

It was predicted in Hypothesis 15 that delayed and nondelayed passengers would differ in their evaluations of ambiguous attributes. In Chapter 6 it was suggested that if haloing was occurring, then for delayed passengers ambiguous attributes would be more likely to be rated lower than unambiguous attributes. For this analysis, five judges blind to the hypothesis rated the service attributes in terms of whether they would be judged to be ambiguous or nonambiguous. Only five attributes were judged by the majority of judges to be ambiguous; these were: "friendliness of check-in agent", "helpfulness of check-in agent", "aircraft boarding procedure", "helpfulness of flight attendant", and "friendliness of flight attendant". The 5 ambiguous and 19 nonambiguous attributes were

found to be significantly different ($\bar{X}$(ambiguous)=5.54, $\bar{X}$(nonambiguous)=4.78), t(204)= 10.98 $p<.05$), however in a direction opposite to what halo theories would predict. Ambiguous attributes were rated higher than nonambiguous attributes. These results should be interpreted with caution however, since there was not unanimous agreement on any of the ambiguous attributes from the judges. Apparently the task of judging ambiguous attributes was ambiguous in itself.

What the above results suggest is that the equity and cognitive dissonance interpretations discussed in Chapter 6 do not appear to be compatible with the data in this study. As discussed above, overall evaluations of the service are lower for delayed passengers than nondelayed passengers; these two theories predict the opposite. Also, service attributes other than punctuality are rated lower for the delayed passengers; again, this is opposite to what is predicted by cognitive dissonance and equity theories. However, the results have been consistent with some of the propositions put forth by multi-cue, mood and halo research. Consistent with all of these, punctuality and overall evaluations are lower for delayed passengers. Attributes other than punctuality are also lower for delayed passengers. This is consistent with both halo and mood research. However, correlations between punctuality and other attributes are lower for delayed passengers than for nondelayed, a result opposite to halo predictions[6].

To assess the compatibility of the mood interpretation, another series of comparisons were made. In Chapter 6, it was suggested that by assessing passengers' evaluations of attributes independent of the airline, one might gain an understanding of

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[6]*The lower correlations may be due to a restriction of range problem, since the range and variance on the punctuality measure was smaller for the delayed passengers than for the nondelayed.*

how delays affect passengers' evaluations. Specifically, it was predicted that delayed passengers would evaluate anything experienced during their delay lower than nondelayed passengers would due to more negative moods. It has already been determined that delayed passengers were in a more negative mood than nondelayed passengers just prior to boarding. Previous results from mood research would suggest then that passengers' evaluations of anything during that mood would be more negative. In this study, passengers were asked to evaluate three aspects about the airport, namely "airport cleanliness", "security efficiency", and "variety of shopping facilities". Interestingly, delayed and nondelayed passengers did not differ in these evaluations $F(3,398)=0.097$, $p>.90$ (see Table 19). Thus, despite being in a more negative mood, delayed passengers did not rate nonairline attributes in a more negative fashion than did nondelayed passengers.

There is no unequivocal support for any one of the possible interpretations presented in Chapter 6 regarding waiting's effects on service evaluations. The consistency theory interpretations, cognitive dissonance and equity, were clearly not supported. The multi-cue model was consistent with the data in that both punctuality and overall evaluations were lower after a delay. The multi-cue model does not, however, explicitly stipulate how other service attributes might be affected by the delay. Since other service attributes were affected by the delay, either a mood or halo interpretation might be suggested. The halo interpretation is not consistent with the results here since only the check-in attributes were lowered after the delay, and the correlations between punctuality and other service attributes were higher for nondelayed than for delayed, a result opposite to what halo effects research would suggest.

The fact that delayed passengers were in more negative moods prior to boarding, and the fact that they tended to rate airline attributes which were experienced close in time to the wait lower than other attributes would suggest a mood explanation. However, if mood is supposed to bias evaluations of anything experienced during the mood, then evaluations of the three attributes independent of the service should have been affected by the delay. The fact that these were not affected could be due to the fact that the lower service evaluations are not due to a mood bias, however the evidence suggests otherwise. Or perhaps, the mood did bias the evaluations of checkin attributes and not airline independent attributes because attribution is important - only airline controlled attributes will be biased because of a flight delay. This interpretation is not consistent with previous mood research which would suggest that all evaluations, regardless of their relationship to the mood inducer, would be affected by the bad mood. Thus, none of the 4 theories presented in Chapter 6, cognitive dissonance, equity, mood and halo effects, are consistent with the results of this analysis.

9.5.1 Service Regressions In addition to the above analyses, how the delay affected the attributes' ablity to predict overall quality was also examined. The influence of each of the service attributes on the overall evaluation of the service was investigated with two different regressions. Overall evaluation of the service was regressed on all seven attribute groups. This was done for the delayed respondents and for nondelayed respondents separately, allowing a comparison of regression coefficients between the two groups. Any difference would suggest that the wait affected the relative importance of the attributes in predicting the overall evaluation.

Table 20 displays the results of the two regressions. The R_A^2 differs between the two groups, with better prediction for nondelayed subjects. For nondelayed subjects, the best predictors of overall evaluation are evaluations of the meal and the flight attendants. For delayed subjects, the best predictors are the meal, punctuality and check-in evaluations.

These results suggest a number of things. First, the quality of the meal served is important in determining the overall evaluation of service regardless of whether the flight is delayed or not. Second, punctuality is a significant determinant of one's overall evaluation of the flight when a flight is delayed. However, unless the flight is delayed, punctuality does not significantly contribute to a passenger's overall evaluation of the service. It appears as if punctuality was only important to passengers if it was not good.

Evaluations of the check-in service affected overall evaluations only when the flight was delayed. As discussed earlier, it appears that the delay affects passengers' evaluations of airline attributes experienced during the delay, that is, the check-in attributes. The significant difference found between delayed and nondelayed passengers' evaluations of checkin (from Table 16) was mirrored in the service regressions.

All of these results suggest that the delay affected passengers' overall evaluations of service, specific attribute evaluations, and the relative importance of these attribute evaluations in predicting the overall evaluation. It appears as if waiting prior to service does indeed affect evaluations of service.

9.6 The Wait Experience Model

The results outlined above provide tests of the many hypotheses discussed in this study, however, they do not assess the Wait Experience Model as a whole. Because of the interrelationships between the three major dependent variables, wait aversiveness, felt duration and service evaluations, a test of the applicability of the complete model and these three relationships was conducted.

In addition to the analyses outlined above, a modified version of the Wait Experience Model was tested using estimation procedures for simultaneous equations from LISREL VI (Joreskog and Sorbom 1984). In this section, results from this analysis assessing the fit of the data to the hypothesized model are presented.

The Wait Experience Model was modified for the LISREL analysis. For this analysis, only the major components of the original model were included. These included: actual duration, felt duration, wait aversiveness and its associated costs, perceived airline control (attribution), punctuality and overall service evaluations.

There were also minor modifications made to some of the constructs and causal linkages. Testing the full complexity of the Wait Experience Model and its causal relationships would ideally require that measures be collected over time for many of the major variables. This is due to the simultaneous nature of the relationships between felt duration, costs of the wait and wait aversiveness. As is illustrated in the model in Figure 8 and from the discussions in Chapters 4 and 5, it was proposed that the longer the wait duration, the higher the costs and the more aversive the wait. It was also argued that the more aversive the wait, the longer the felt duration. In Chapter 5, it was suggested that an argument could be made that the longer the felt duration, the higher the costs

and the more aversive the wait. The most appropriate data to test this relationship would be time series data. In this study, measures were taken only at one point in time during the wait.

Recognizing the lack of time series data, and the simultaneity of the dependent measures, modifications to some of the constructs and some of the causal links were required. First, wait aversiveness and its associated costs were collapsed into one construct, thus combining these reactions to the wait. This combination not only provided a more parsimonious model, but it also reflected the fact that both types of reactions, affective and consequence reactions, may occur simultaneously. Second, since wait aversiveness and felt duration were not measured at different points in time, a correlational link was substituted for the causal link between the two constructs.

Figure 11 shows the modified model in a LISREL format, with both the constructs and their measures displayed. What is suggested in the model is that the actual duration of the delay affects both the perceptions of the delay duration and the reactions to the wait. These two responses to the delay, in turn, affect service evaluations. Felt duration and reactions are not modeled to be causally related, but are instead free to correlate. Also relevant, however, is the passengers' attribution for the delay. Attribution, measured by the perceived degree of airline control over the reason for the delay is hypothesized to affect not only the passengers' reactions to the wait, but also the overall evaluations of the service.

Each of the constructs, with the exception of the reactions construct, are measured with one variable. Eight variables are used to measure the reactions. These eight variables can be considered to be of two types. The first measures the resultant

consequences of the wait, such as the Consequences measure derived earlier (financial costs and inconvenience) and the perception of the wait aversiveness. The second measures the affective component including annoyance, frustration, boredom, uncertainty, perceived lack of control, and level of relaxation. These are the affective cost measures in the earlier analyses. The consequence and aversive measures were asked in the same section of the questionnaire and used identical scales, as did the affective cost measures, creating the potential for variance in these measures due to a method effect. Because of this, each of the variables within these two groups are set free to correlate in the LISREL analysis. The hypothesized set of relationships were tested using LISREL VI (Joreskog and Sorbom 1984). Parameter estimates were calculated from the variances and covariances of the measured variables (see Table 21) using maximum likelihood estimation. In this model, the scale of measurement for the affective construct was set by restricting the lambda parameter between the "unpleasant" variable and the reaction construct to be one. Because all other constructs had only one indicator each, these lambda parameters were also all fixed at one. It was unreasonable to assume that all of these constructs were measured without error, thus as Fornell (1983) suggested, a 10 percent measurement residual was set for each.

Results from the LISREL analysis are shown in Table 22. Assessment of fit indices were all indicative of a reasonable fit of the model to the data. All parameter estimates had reasonable values in the hypothesized directions. Overall goodness of fit indices were also reasonable. The chi-square value was significant at the .005 level. Its sensitivity, however, to large sample sizes confounds its interpretation (Bagozzi 1980, Fornell, 1983). Indices not sensitive to sample size such as Joreskog and Sorbom's

adjusted goodness of fit index and root mean square residual, indicate that the overall fit is reasonable (AGFI = .897, root mean square residual = 2.094). Nested model comparisons as suggested by Bentler and Bonett (1980), were also conducted. Results from data fit comparisons between the proposed model and 6 more restricted and 3 less restricted models are shown in Table 23. In all 6 cases in which the model was more restricted, the chi-square values increased; the differences between these values and the chi-square for the proposed model were significantly different, suggesting a poorer fit for the more restricted models. In the three cases for which the model was less restricted, the chi-square values were not significantly different from the proposed model. Thus the proposed model has a better fit than those more restricted, and is just as good as the less restricted, yet more complex alternatives. It should be noted that although the proposed model appears reasonable by all of these indices of fit, there still exists the possibility for obtaining a better fit with alternate models. However, the purpose here was to develop a confirmatory test of the Wait Experience Model, not to let the data dictate the model. The fact that the proposed model did better or the same as a few other theoretically possible models does not suggest that the model has been confirmed; it merely suggests that it is one potentially reasonable interpretation of the data in this study.

The measurement parameters for the reactions construct are all significant at the .001 level, suggesting that all are reasonable measures of the construct. Path coefficients were also all significant at this level with the exception of the paths from felt duration to punctuality and from attribution to overall evaluation. Total coefficient of determination for the structural equations was .561 denoting a reasonable level of

explanation for the relationships examined.

What these results suggest is that the actual length of the wait affects both perceptions of the felt duration and the affective reactions to it. Passengers' attributions for the delay also affects their affective reactions. However, evaluations of the service are affected more by the aversiveness of the wait and its costs than they are by the felt duration of the wait. These results will be discussed further in the next chapter.

CHAPTER 10 - CONCLUSIONS

10.1 Conclusions:

The intent of this research was to develop a better understanding of how consumers react to waiting for service. Specifically, the issues of concern involved: under what circumstances did consumers find waiting aversive, under what circumstances did consumers overestimate the duration of their waits, and to what extent did the wait influence their evaluations of the service. The investigation of these three issues was conducted within the framework of the Wait Experience Model illustrated in Figure 8. Each of the three central issues were analyzed in isolation, as well as together in a reduced form of the Wait Experience Model. The empirical study focused on one type of wait, a post-schedule wait in airline travel. Thus, although the relationships in the Wait Experience Model are predicted to hold for all three different types of waits, the results reported in this study may not be generalized beyond post-schedule waits.

In sum, the results tend to largely support most of the hypothesized relationships. As has been found in psychophysics (Allan 1979) and in the limited waiting research (Hornik 1984), people tend to overestimate their waiting times. The aversiveness of the wait, and the related degree of "filled" time and consumer time pressures appear to contribute to this overestimation.

As wait duration increases, so do the perceived costs of the wait. Waiting consumers experience higher levels of frustration, irritation, annoyance, perceived lack of control, boredom, uncertainty, financial costs and inconvenience than consumers who do not have to wait. As time pressures increase and as filled time decreases, these costs

increase. Higher levels of these costs correspond to higher levels of felt aversiveness of the wait.

Consumers' attributions for the wait also appear to be important in the degree of felt aversiveness, with higher degrees of perceived service provider control being associated with more aversive waits.

In this empirical setting, consumers generally were inaccurate in their attributions for the delay, with close to 80% of the perceived reasons for the delay being different than the actual reasons. Aversiveness differed depending on the perceived reason for the delay. Those passengers who didn't know the reason for their delay rated the delay about midrange on the aversiveness measures. This suggests that if the real reason for a wait is perceived to be more aversive than other possible explanations, or not knowing at all, it may be in the service providers' best interest not to inform consumers of the actual reason for the wait.

The proposition that waiting consumers would lower their evaluations of service quality was supported in this study. Delayed passengers' overall evaluations of the service were lower than those of nondelayed passengers. Ratings of punctuality were also lowered. Interestingly, these punctuality ratings appeared to be more strongly related to the aversiveness of the delay than to the felt or actual duration.

Attributes of the service experienced either during or very close to the delay were also lowered. Other attribute evaluations did not differ between delayed and nondelayed passengers. This finding, combined with the finding that delayed passengers were in a more negative mood than nondelayed, would suggest a mood interpretation of the delay's effect on service evaluations. However, attributes independent of the airline,

such as security efficiency, airport cleanliness and variety of shopping facilities, experienced near or during the delay were not affected by the delay, a result inconsistent with a mood research prediction.

While overall service quality appeared to be a function of the quality of individual service attributes, which of these attributes were important differed depending on whether the flight was delayed or not. When the flight wasn't delayed, evaluations of the meal and the flight attendants best predicted the overall evaluation. When the flight was delayed, evaluations of the meal, check-in service and punctuality were the best predictors of overall evaluation. As was discussed above, the delay appeared to bias downwards evaluations of attributes experienced during or close to the delay, thus affecting the check-in attributes. What the results of the regressions suggest is that these biases can override the importance placed on each of the service attributes when there is no delay. While evaluation of the meal is a significant predictor of overall evaluation for both delayed and nondelayed flights, the evaluation of the flight attendants is overridden in importance by the punctuality and check-in attributes when there is a delay.

An examination of the relationships between the major components of the Wait Experience Model revealed that the data in this study fit the hypothesized structure reasonably well. LISREL estimates for the modified version of the model were consistent with almost all of the hypothesized relationships, again suggesting that waiting for a service involves more than just the cost of the time spent. The aversiveness of the wait is important; this wait aversiveness influences not only the felt wait duration, but also the evaluation of the service.

10.2 Implications for the Service Provider

What do all of these results suggest to the service provider? First, the service provider should be concerned about waits for service. It is clear from this study that waiting can have a substantial effect on consumer evaluations of the service received. Not only is the overall evaluation affected, but other attributes are affected, as is the relative importance of the attributes in determining one's overall evaluation. The realization that waiting can affect service evaluations in a negative fashion should suggest to service providers that either: (1) they should attempt to shorten or eliminate waits for service, or (2) they should attempt to change the consumer's wait experience so that it is less aversive.

Wait aversiveness is very important. As the wait increases in aversiveness, felt wait duration increases, and service evaluations are lowered. To reduce the tendency for overestimation of wait duration, and the negative impact on service evaluations, the service provider should attempt to reduce the aversiveness of the wait. This could be done by altering some of the costs of the wait. For example, informing the consumer about the cause of and length of the wait (depending on the actual reason) may reduce the uncertainty and thus the aversiveness of the wait. Filling time during the wait could reduce boredom. By understanding that consumers can feel frustrated, angry, irritated, bored and powerless, the service provider can take actions which are expected to change these negative affective feelings. Since it appears that mood may be biasing service evaluations, it is very important for service providers to attempt to ensure or induce a positive mood in waiting consumers.

10.3 Directions for Further Wait Experience Research

The research that has been presented here represents one of the first attempts at gaining a full understanding of what happens when consumers have to wait for service. Development of the Wait Experience Model involved integrating both direct and indirect prior research related to waiting. The empirical test was also the first relatively comprehensive examination of the experience of waiting and its potential consequences. Waiting for services is common and yet its possible effects have been virtually ignored by marketing researchers. The results of this study suggest that waiting can have adverse effects on consumers' perceptions of the service, and that by understanding how consumers react to a wait, service providers may be better able to alleviate any of waiting's negative effects.

This dissertation provides a number of contributions to the field of marketing, with perhaps the most significant being the identification of many important wait experience variables and the development of a model to examine and understand how consumers react to waiting. The real life empirical setting used to investigate the relationships hypothesized in the model also was significant for the exploratory nature of the model development. The results of the empirical test presented here provide a number of insights into a consumer's waiting experience and its possible consequences; however more empirical work is needed to fully understand the effects of waiting on consumers. Results from this study suggest directions for further research.

First, a number of suggestions could be followed for a more complete test of the Wait Experience Model. Although the quasi-experimental setting for the empirical test was appropriate for the exploratory nature of the research, for many of the hypothesized

relationships it allowed only for measures of association instead of causation. Directional hypotheses were implied by the model, however the analysis conducted did not allow for causal conclusions. As was mentioned in Chapter 5, it could be argued that some of the hypothesized relationships are in a direction opposite to that predicted or that there was no directional relationship; the two constructs occured simultaneously. The example given then was the relationship between wait aversiveness and felt duration. The tested hypothesis was that wait aversiveness leads to a longer felt duration. It could also be argued that longer felt duration leads to a more aversive wait. To examine this relationship more fully, time series data, in which mood, felt duration, costs of waiting and wait aversiveness were measured over time, would be more appropriate. This would allow for a better test of directional hypotheses.

Causal inferences regarding the hypothesized relationships could also be developed by performing some controlled experiments with subsets of the Wait Experience Model. For example, the impact of the antecedant conditions of the wait on wait aversiveness and felt duration could be assessed by the manipulation of some of these conditions.

Given the exploratory nature of this research, a large number of variables were examined, however it also appears that there are still more variables to be investigated with respect to the waiting experience. The percentage of variance explained by the wait aversiveness and the felt duration regressions, and the LISREL analysis suggests that there is still remains a great deal of variance to be explained in these variables. Further research is required to discover what other variables would act as predictors of wait aversiveness and felt duration. These low variances may also be indications that further construct development is needed. The nonsignificance of some of the

hypothesized relationships could indicate that some constructs in the model require further scale development. For example, the lack of significant relationships between a consumer's time orientation (sense of time urgency), and both felt duration and the costs of waiting, were intuitively surprising. Was there really no relationship, or was the measure of time orientation used in this study a poor one? Further construct development is needed to answer this question.

An interesting result of this study involves the lack of effect of the delay on evaluations of attributes independent of the airline. Results from prior mood research would suggest that if in a negative mood, then evaluations of stimuli while in that mood should be biased downward. That was not the case in this study. Even though delayed consumers were in a more negative mood prior to boarding, they did not differ from nondelayed passengers in their evaluations of the three attributes of the airport. Yet they did differ in their evaluations of checkin attributes. Both types of attributes would have been experienced either during or very close to the delay. This result prompts a further examination of how mood affects evaluations when considering the locus of the mood inducer.

Other empirical tests which follows from this research would be investigations of consumer reactions to waiting for different types of waits. Reliability of the results from this study could be assessed by empirically examining other post-schedule waits. In addition, empirical studies involving pre-schedule and queue waits could be conducted to see if these waits differ from post-schedule waits.

Further research of an applied nature also follows from the results of this research. Now that many of the affective reactions to a delay have been identified, an

investigation of how these reactions can be altered or controlled seems to be a logical next step. For example, since boredom is a cost of waiting, a study could be conducted on how "filling" time with various "fillers" reduces the costs of waiting. A comparison of different managerial actions could also be conducted, as could the timing of these actions. For example, could introduction of a positive mood inducer be just as effective when introduced after the delay versus during the delay?

These suggestions for further research are just a few examples of the types of research that follow from the study described in this paper. This exploratory research, being the first to attempt to investigate the whole waiting experience, involved a large number of variables in a complex setting. Analyses of specific relationships within the Wait Experience Model and refinement of the model offers the potential for a large number of research projects. This study has shown that waiting can have adverse effects for both the consumer and the service provider, reason enough for both applied and pure researchers to be interested.

TABLE 1

PREDICTIONS OF WAITING'S EFFECTS ON SERVICE EVALUATIONS

	Multi Cue Model	Mood	Halo	Cognitive Dissonance	Equity
Punctuality	↓	↓	↓	↓	↓
Overall Quality	↓	↓	↓	If no external justification ↑	↑
Other Attributes	∅	↓	More for ambiguous attributes ↓	If no external justification ↑	↑
Other Evaluations Independent of Service	∅	↓	∅	∅	∅

TABLE 2

THE DATA COLLECTION PROCESS

	DELAYED:	NONDELAYED:
15 MINUTES PRIOR TO DEPARTURE: - collected by one of the two researchers.	MEASURES TAKEN: - trip purpose, - flying experience, - quality expectations, - delay expectations, - mood, - time orientation, - felt duration, - perceived aversiveness, - costs of waiting, - perception of "filled" time, - attribution for the delay,	MEASURES TAKEN: - trip purpose, - flying experience, - quality expectations, - delay expectations, - mood,
15 MINUTES PRIOR TO LANDING: - collected by one of the flight attendants on board the plane. Then returned to the researcher through CAI company mail.	MEASURES TAKEN: - overall service evaluation, - 24 specific attribute evaluations.	MEASURES TAKEN: - overall service evaluation, - 24 specific attribute evaluations.

TABLE 3

MOOD QUESTIONS FROM BOTH Q1 AND Q2

The next set of questions deal with people's feelings about flying.

For each of the items below, please circle the box that most closely resembles your feelings DURING THE TIME YOU HAVE BEEN WAITING FOR YOUR FLIGHT.

As you have been waiting, have you been feeling:

	NOT AT ALL						VERY
(a) Anxious?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(b) Excited?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(c) Bored?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(d) Calm?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(e) Annoyed?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(f) Powerless?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(g) Uneasy?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(h) Angry?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(i) Uncertain?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(j) Irritated?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(k) Helpless?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(l) Frustratrated	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(m) Pressed for time?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(n) Unsettled?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(o) Relaxed?	[1]	[2]	[3]	[4]	[5]	[6]	[7]

TABLE 4

DELAY QUESTIONS

(10) Without checking a clock, how long would you guess the delay in boarding has been so far?

_____ minutes.

(11) How often have you checked your watch or a clock while you've been waiting?

[1]	[2]	[3]	[4]	[5]
Not at all	Once	2-4 times	5-7 times	more than 7 times

(12) Sometimes delays seem longer or shorter than they actually are. Regardless of how long the delay has actually been so far, how long has it seemed?

_____ minutes. (Please answer in minutes.)

(13) What do you think the reason is for your flight being delayed?

_____

(14) What have you done during the delay?: _____

_____

(15) In your view, is the reason for the delay something that is very uncommon or something that is very common?

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[ ]
very uncommon						very common	don't know

(16) To what extent do you think the airline could have taken steps to avoid or shorten the delay?

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[ ]
nothing the airline could have done						airline could have avoided or shortened the delay definitely	don't know

(17) Has it been clear to you how long the delay would be?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
I felt very uncertain how long the delay would be						I knew for certain how long the delay would be

(18) Has it been clear to you exactly how your own plans might be affected by the delay?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
I felt very uncertain about how my plans would be affected						I knew for certain how my plans would be affected

(19) To what extent have you managed to fill your time during the delay?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
My time was not filled during the delay						My time was totally filled during the delay

(20) How likely is it that this delay will end up costing you money?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
not at all likely						very likely

(21) How inconvenient is the delay for you?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
not at all inconvenient						very inconvenient

(22) How unpleasant is this delay for you?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
not at all unpleasant						very unpleasant

(23) Overall, has the wait been an agreeable or disagreeable experience?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
very disagreeable						didn't bother me at all

TABLE 5

SAMPLE CHECKS

Trip purpose comparison between Delayed and Nondelayed, and between those who answered the service evaluation questionnaire (Q3) and those who did not.

Trip Purpose:	Number of Nondelayed	Number of Delayed	Number Who Answered Q3	Number Who Did Not Answer Q3
Business	114 (42.4)*	113 (43.1)	172 (42.8)	57 (43.8)
Accompanying Someone On Business	5 (1.9)	5 (1.9)	8 (2.0)	2 (1.5)
Visiting Friends/ Vacation	133 (49.4)	114 (43.5)	187 (46.5)	58 (44.6)
Personal Emergency	1 (0.4)	6 (2.3)	4 (1.0)	3 (2.3)
Returning Home (no other reason given)	10 (3.7)	15 (5.7)	19 (4.7)	7 (5.4)
Other	6 (2.2)	9 (3.4)	12 (3.0)	3 (2.3)
Total	269	262	402	130

* Number in parentheses is the column percentage.

$\chi^2(5) = 6.55$
$p > .05$

$\chi^2(5) = 1.74$
$p > .05$

TABLE 6

PRINCIPAL COMPONENT ANALYSIS OF THE COSTS OF WAITING

ROTATED FACTOR MATRIX

Variable:	Factor 1	Factor 2	Factor 3	Factor 4
Anxious	.25129	.06402	.78519	.05773
Excited	-.30601	-.00531	.76356	-.03234
Bored	.65636	-.07888	-.04078	-.06832
Calm	-.05038	.03080	-.02435	-.91809
Annoyed	.74243	.36737	.07104	.11308
Powerless	.78578	.13636	-.02280	.10100
Uneasy	.48657	-.01528	.48420	.28043
Angry	.71090	.30430	.09960	.20171
Uncertain	.49121	-.11134	.35971	.18902
Irritated	.79781	.26794	.08349	.15652
Helpless	.76147	.04856	.08934	.12874
Frustrated	.72834	.36482	.08507	.26022
Unsettled	.52214	.20511	.39469	.33186
Relaxed	-.34584	-.30967	-.14973	-.70955
Cost	.07468	.82128	.04845	-.00414
Inconvenience	.23024	.81470	-.03287	.13763

TABLE 6 CONTINUED

FACTOR MATRICES FOR MULTI-MEASURE COST CONSTRUCTS

The following factor loading matrices were used to derive the ANNOYED construct and the UNCERTAIN construct:

ANNOYED:

Annoyed	.88576
Irritated	.91173
Frustrated	.89535
Angry	.87885

UNCERTAIN:

Uneasy	.79922
Uncertain	.76613
Unsettled	.82571

TABLE 7

ZERO ORDER CORRELATIONS
COSTS OF THE WAIT AND ACTUAL DURATION, FILLED TIME, TIME PRESSURES, AND TIME ORIENTATION

	Actual Duration:	Filled Time:	Time Pressures:	Time Orientation:
Perceived Lack of Control:	.18 (.00)	-.20 (.00)	.40 (.00)	.06 (.20)
Uncertain:	.05 (.24)	-.22 (.00)	.49 (.00)	.07 (.15)
Anxious:	-.01 (.47)	-.16 (.01)	.06 (.19)	.04 (.26)
Annoyed:	.13 (.03)	-.30 (.00)	.60 (.00)	.09 (.08)
Bored:	.01 (.41)	-.27 (.00)	.11 (.04)	.11 (.04)
Relaxed:	.03 (.35)	.23 (.00)	-.34 (.00)	-.06 (.19)
Consequences:	.16 (.01)	-.17 (.01)	.52 (.00)	.09 (.10)

TABLE 8

MOOD DIFFERENCES BETWEEN DELAYED AND NONDELAYED PASSENGERS

Mean * (Std. Dev.)	Delayed	Nondelayed	Univariate Tests F:
Perceived Lack of Control:	.27 (1.14)	-.18 (.87)	22.76 [a]
Uncertain:	.14 (1.04)	-.16 (.89)	11.14 [a]
Anxious:	.00 (1.00)	-.01 (1.02)	.02
Annoyed:	.39 (1.16)	-.27 (.80)	50.70 [a]
Bored:	.24 (1.06)	-.22 (.90)	25.14 [a]
Relaxed:	-.11 (1.04)	.11 (.97)	5.45 [c]

* All scores standardized to mean 0 and standard deviation 1.

Hotellings T^2 : $F(6,449) = 9.72$ $p < .001$

[a] $p < .001$

[c] $p < .05$

TABLE 9

DELAY DURATION EXPECTATIONS

Expected Wait Duration: (in minutes)	Delayed Passengers: Frequency:	Delayed Passengers: Percent:	Nondelayed Passengers: Frequency:	Nondelayed Passengers: Percent:
0	168	67.5	188	74.6
5	1	.4	5	2.0
10	10	4.0	9	3.6
12	0	0	1	.4
15	12	4.8	17	6.3
20	10	4.0	12	4.5
25	0	0	2	.7
30	23	9.2	15	5.6
40	1	.4	0	0
45	7	2.8	1	.4
55	1	.4	0	0
60	11	4.4	0	0
70	1	.4	0	0
120	1	.4	1	4
135	1	.4	0	0
165	1	.4	0	0
180	1	.4	0	0
240	0	0	1	4
TOTAL	262	100.0	269	100.0
MEAN:		11.707		6.060
MEDIAN:		.000		.000
STD DEV:		24.581		18.864
KURTOSIS:		17.476		99.183
SKEWNESS:		3.610		8.714
RANGE:		180.000		240.000

TABLE 10

LOCUS OF ATTRIBUTION, PERCEIVED DEGREE OF AIRLINE CONTROL, AND AVERSIVENESS OF THE DELAY

	Number of passengers who actually experienced this type of delay	Number of passengers who perceived this as the reason for their delay	Mean Perceived Degree of Airline Control (Std. Dev.)	Mean Aversiveness Ratings for Type of Delay (Std. Dev.)
Attribution Locus:				
Other	0	28	3.56 (1.79)	3.70 (1.48)
Don't Know	0	75	3.91 (1.99)	3.74 (1.75)
Mechanical	20	46	3.88 (1.87)	4.00 (1.82)
Weather	0	33	2.85 (1.85)	3.33 (1.68)
Personnel	0	16	5.93 (1.27)	4.63 (1.94)
Turnaround	224	55	3.73 (1.84)	3.48 (1.67)
Congestion	0	5	2.75 (2.87)	3.40 (2.27)
Holding for Other Passengers	14	4	6.00 (.)	5.50 (1.78)

TABLE 11

AVERSIVENESS AND ATTRIBUTION:

CONTROLLABILITY AND STABILITY INTERACTION

Mean aversiveness ratings for different levels of perceived airline control and commonness of delay:

Mean (Std. Dev.) n	Airline Could Not Have Avoided Delay	Airline Could Have Avoided Delay	Row Total
Uncommon Reason For Delay	3.26 (1.47) 34	3.55 (0.93) 10	3.33 (1.36) 44
Common Reason For Delay	3.42 (1.63) 58	4.38 (1.78) 57	3.90 (1.76) 115
Column Total	3.36 (1.56) 92	4.25 (1.70) 67	3.74 (1.68) 159

TABLE 12

FULL MULTIPLE REGRESSION RESULTS - WAIT AVERSIVENESS

	Bivariate Correlation	Beta	Partial Correlation	Significance of Regression Coefficient
Predictor:				
Constant				.00
Consequences	.61	.41	.44	.00
Annoyed	.54	.22	.20	.02
Airline Control	.42	.26	.20	.02
Bored	.31	.11	.13	.11
Relaxed	-.35	-.11	-.13	.13
Perceived Lack of Control	.37	-.06	-.06	.48
Uncertain	.35	.06	.06	.48
Anxious	-.06	-.10	-.12	.14
Airline Locus[a]	.07	-.02	-.02	.77
Unknown Locus[a]	-.00	.02	.05	.58
Controllable/ Uncommon[b]	.03	.01	.01	.92
Not Controllable/ Uncommon[b]	-.11	.08	.09	.31
Not Controllable/ Common[b]	-.15	.14	.13	.13
Actual and Expected Duration Discrepancy	.12	.05	.07	.42

Continued...

TABLE 12 CONTINUED

$R_A^2 = .4753$
$F(14,137) = 10.77 \quad p < .001$

[a] The locus of attribution variable was recategorized into Airline locus (mechanical, personnel, turnaround, and holding for more passengers), and Nonairline locus (weather, congestion and other) and Unknown locus (Don't Know).

[b] The airline control and stability (common/uncommon) interaction as outlined in Table 10.

STEPWISE REGRESSION RESULTS - WAIT AVERSIVENESS

Predictor Variables Entering the Regression (α=.10)	Regression Coefficient	Beta	Partial Coefficient	Significance of Regression Coefficient	R_A^2
Constant	2.86			.00	
Consequences	.74	.42	.46	.00	.36
Annoyed	.36	.21	.22	.01	.46
Airline Control	.13	.15	.19	.02	.47
Bored	.09	.12	.15	.08	.48
Relaxed	-.20	-.11	-.14	.09	.49

TABLE 13

PASSENGER RESPONSES TO "USUALLY HATES WAITING" QUESTION

Responses to:

"Now, more generally, would you describe yourself as a person who hates waiting?"

RESPONSES:	VALUE	FREQUENCY	PERCENT
Definitely No	1	3	1.1
	2	16	6.1
	3	20	7.7
	4	47	18.0
	5	37	14.2
	6	55	21.1
Definitely Yes	7	83	31.8
		262	100.0

MEAN: 5.284
MEDIAN: 6.000
MODE: 7.000
STD. DEV.: 1.623

TABLE 14

VARIOUS ACTIVITIES AND FILLED TIME

Mean Degree of "Filled" Time for Various Activities:

Mean (Std. Dev.) n	Passengers Engaged in this Activity	Passengers Not Engaged in this Activity	t-value of Difference
Read	5.07 (2.03) 137	3.84 (1.76) 117	5.17 [a]
Watched People on Planes	4.40 (1.84) 15	4.51 (1.99) 239	-.20
Talked with Others	4.69 (1.56) 39	4.47 (2.05) 215	.66
Paper Work	4.95 (1.57) 39	4.42 (2.04) 215	1.54
Eat or Drink	4.79 (1.69) 42	4.44 (2.03) 212	1.02
Walked Around	4.06 (1.63) 18	4.53 (2.01) 236	-.99
Thought or Daydreamed	4.27 (2.34) 15	4.51 (1.96) 239	-.47
Sleep	3.00 (1.87) 5	4.53 (1.98) 249	-1.72
Did Nothing	2.23 (1.44) 35	4.86 (1.81) 219	-8.20 [a]

[a] $p < .001$

TABLE 15

FULL MULTIPLE REGRESSION RESULTS - FELT DURATION

Predictor	Bivariate Correlation	Beta	Partial Correlation	Significance of Regression Coefficient
Constant				
Actual Wait Duration	.54	.55	.44	.00
Aversiveness	.32	.19	.20	.00
Pressed for Time	.20	.11	.12	.08
Time Orientation 1 (Usually pressed for time)	-.15	-.10	-.11	.11
Time Orientation 2 (Usually hates waiting)	.11	.02	.02	.73
Filled	-.11	-.04	-.04	.55
Short Flight	-.00	.02	.02	.74
Discrepancy Between Actual & Expected Duration	.36	-.06	-.06	.43

$R_A^2 = .3503$

$F(10,200) = 12.32 \qquad p < .001$

Continued...

TABLE 15 CONTINUED

STEPWISE REGRESSION RESULTS - FELT DURATION

Predictor	Regression Coefficient	Beta	Partial Correlation	Significance of Regression Coefficient	R_A^2
Constant	3.23			.54	
Actual Wait Duration	.60	.51	.54	.00	.29
Aversiveness	5.25	.25	.29	.00	.35

TABLE 16

DIFFERENCES IN SERVICE EVALUATIONS - DELAYED AND NONDELAYED PASSENGERS

Mean (Std. Dev.)	Delayed	Nondelayed	Univariate Test F
Check-In:			
Bag Check Speed	5.35	5.79	12.07 [a]
Check-In Agent Friendliness	(1.39)	(1.08)	
Check-In Agent Helpfulness			
Boarding Procedure			
Entertainment:			
Clarity of Announcements	4.38	4.64	2.82
Clarity of Audio Programs	(1.53)	(1.52)	
Audio Selections			
Movie Enjoyment			
Magazine Selection			
Flight Attendants:			
Friendliness	5.80	5.79	.01
Helpfulness	(1.16)	(1.20)	
Meal:			
Beverage Selection	4.70	4.92	2.17
Meal Selection	(1.39)	(1.46)	
Meal Appearance			
Meal Enjoyment			
Conditions:			
Cleanliness of Washrooms	5.75	5.74	.01
Cleanliness of Cabins	(1.06)	(1.04)	
Condition of Cabin			
Cabin:			
Amount of Leg Room	4.68	4.86	1.54
Amount of Elbow Room	(1.49)	(1.35)	
Seat Cushion Comfort			
Overall Seat Comfort			
Punctuality:	1.74	5.80	
	(1.10)	(1.41)	975.53 [a]

Hotelling's T^2: $F(7, 377) = .74$

[a] $p < .001$

Continued...

TABLE 16 CONTINUED

Mean (Std. Dev.)	Delayed	Nondelayed	Univariate Tests
			F
OVERALL	4.44 (1.48)	5.50 (1.26)	58.06 [a]

[a] $p < .001$

TABLE 17

PERCEIVED AIRLINE CONTROL AND SERVICE EVALUATIONS
DELAYED PASSENGERS ONLY

Mean punctuality and overall service ratings for varying degrees of perceived airline control.

Mean (Std. Dev.) n		Punctuality Ratings:	Overall Evaluations:
Degree to Which Airline Had Control:			
Nothing the airline could have done to avoid the delay.	1	2.12 (1.45) 25	5.00 (1.22) 24
	2	2.25 (1.48) 16	4.31 (1.66) 16
	3	1.52 (.68) 21	4.76 (0.89) 21
	4	1.64 (.63) 14	4.07 (1.00) 14
	5	2.07 (1.27) 27	4.43 (1.26) 28
	6	1.93 (.83) 14	4.36 (1.60) 14
Definitely something the airline could have done to avoid the delay.	7	1.08 (.29) 12	3.33 (1.97) 12

$r_{\text{punctuality, airline control}} = 0.01$, $p < .05$

$r_{\text{overall, airline control}} = -0.16$, $p < .01$

TABLE 18

PUNCTUALITY AND EVALUATIONS OF OTHER SERVICE ATTRIBUTES

Comparison of correlations of punctuality and other service attributes between delayed and nondelayed passengers.

	Correlation with punctuality for NONDELAYED passengers:	Correlation with punctuality for DELAYED passengers:	Correlation with punctuality for DELAYED & NONDELAYED:
Check-In	.26[a]	.23[a]	.25[a]
Entertainment	.36[a]	.13[c]	.18[a]
Flight Attendants	.20[b]	.17[b]	.14[a]
Meal	.25[a]	.09	.17[a]
Conditions	.31[a]	.22[a]	.15[a]
Cabin	.24[a]	.10	.14[a]

[a] $p < .001$
[b] $p < .01$
[c] $p < .05$

TABLE 19

DELAYS AND EVALUATIONS OF NON-AIRLINE ATTRIBUTES

A comparison between delayed and nondelayed passengers on their mean evaluations for 3 nonairline attributes.

Mean (Std. Dev.)	Delayed:	Nondelayed:	Univariate Tests: F:
Attributes:			
Terminal Cleanliness	5.32 (1.17)	5.33 (1.32)	.01 [d]
Variety of Shopping Facilities	3.77 (2.21)	3.80 (2.26)	.01 [d]
Efficiency of Security	4.70 (2.10)	4.60 (2.22)	.21 [d]

Hotelling's T^2: $F(3,398) = .00073$

[d] $p > .10$

TABLE 20

REGRESSION RESULTS - SERVICE EVALUATIONS

R_A^2 and regression coefficients from two separate regressions (delayed and nondelayed) where overall service evaluation is regressed on each of the service attribute groups.

Attribute:	Nondelayed: Regression Coefficient:	Delayed: Regression Coefficient:
Check-In	.09	.25[a]
Entertainment	.04	-.04
Flight Attendants	.25[a]	.12
Meal	.36[a]	.33[a]
Conditions	.07	.05
Cabin	.03	.01
Punctuality	.03	.36[a]
	$R_A^2 = .4867$ $p < .001$	$R_A^2 = .3630$ $p < .001$

[a] $p < .001$

TABLE 21

VARIANCE - COVARIANCE MATRIX FOR LISREL ANALYSIS

	OV.	PUNC.	FELT DU.	UNPL.	AGREE.
OVERALL	2.146				
PUNCTUALITY	1.651	5.698			
FELT DURATION	-15.180	-12.298	1292.618		
UNPLEASANTNESS	-1.077	-1.609	20.635	3.767	
AGREEABLENESS	-.846	-1.049	16.605	2.578	3.386
CONSEQUENCES	-.376	-.703	8.575	1.189	.930
ANNOYANCE	-.604	-.849	10.865	1.084	.795
RELAXATION	.340	.469	-8.467	-.684	-.547
LACK OF CONTROL	-.368	-.415	10.696	.712	.598
UNCERTAINTY	-.220	-.368	7.687	.751	.480
BOREDOM	-.577	-1.141	12.119	1.315	.914
ACTUAL DURATION	-11.698	-20.980	577.356	7.741	5.706
AIRLINE CONTROL	-.715	-.747	6.047	1.535	1.367

	CONS.	ANNOY.	RELAX.	LACK.	UNCER.
CONSEQUENCES	1.000				
ANNOYANCE	.418	1.000			
RELAXATION	-.261	-.440	1.000		
LACK OF CONTROL	.295	.678	-.332	1.000	
UNCERTAINTY	.247	.579	-.458	.546	1.000
BOREDOM	.250	.866	-.331	.837	.724
ACTUAL DURATION	4.742	3.849	.780	5.466	1.384
AIRLINE CONTROL	.699	.729	-.254	.545	.418

	BORED.	ACTUAL D.	AIRLINE
BOREDOM	4.277		
ACTUAL DURATION	.850	873.971	
AIRLINE CONTROL	.974	.683	3.897

TABLE 22

LISREL RESULTS

Lisrel Estimates For The Model in Figure 11
(Standard Errors in Parentheses)

Parameter	Maximum Likelihood Estimates		Standardized Estimates	T-value
λ_1	.77	(.08)	1.109	10.27
λ_2	.39	(.05)	.562	8.32
λ_3	.51	(.06)	.729	8.14
λ_4	-.30	(.06)	-.429	-5.00
λ_5	.35	(.06)	.508	5.86
λ_6	.30	(.06)	.436	5.08
λ_7	.58	(.12)	.829	4.69
β_1	.20	(.05)	.329	4.17
β_2	-.40	(.10)	-.411	-3.85
β_3	-.76	(.15)	-.483	-4.94
β_4	.00	(.01)	.030	.36
γ_1	.01	(.06)	.012	.14
γ_2	.73	(.08)	.603	9.06
γ_3	.01	(.00)	.241	3.11
γ_4	.39	(.06)	.509	6.35
$\phi_{1,1}$	786.57	(87.62)	1.000	8.98
$\phi_{2,2}$	3.51	(.39)	1.000	8.98
$\Psi_{1,1}$	1.15	(.15)	.602	7.67
$\Psi_{2,2}$	3.96	(.49)	.777	8.04
$\Psi_{3,3}$	741.01	(91.95)	.637	8.06
$\Psi_{4,3}$	12.85	(3.40)	.262	3.78
$\Psi_{4,4}$	1.41	(.29)	.683	4.84
$\theta_{\varepsilon 1,1}$	.22	(000)	N/A	N/A
$\theta_{\varepsilon 2,2}$	.57	(000)	N/A	N/A

TABLE 22 CONTINUED

Parameter	Maximum Likelihood Estimates	Standardized Estimates	T-value
$\theta_{\varepsilon 3,3}$	129.26 (000)	N/A	N/A
$\theta_{\varepsilon 4,4}$	1.64 (.26)	N/A	6.28
$\theta_{\varepsilon 5,4}$	.93 (.22)	N/A	4.22
$\theta_{\varepsilon 6,4}$	.36 (.12)	N/A	3.09
$\theta_{\varepsilon 5,5}$	2.12 (.27)	N/A	7.94
$\theta_{\varepsilon 6,5}$	.29 (.11)	N/A	2.56
$\theta_{\varepsilon 6,6}$	.68 (.08)	N/A	8.29
$\theta_{\varepsilon 7,7}$	.45 (.07)	N/A	6.52
$\theta_{\varepsilon 8,7}$	-.12 (.06)	N/A	-2.03
$\theta_{\varepsilon 9,7}$	.30 (.06)	N/A	4.71
$\theta_{\varepsilon 10,7}$	.25 (.06)	N/A	4.10
$\theta_{\varepsilon 11,7}$	.24 (.12)	N/A	2.02
$\theta_{\varepsilon 8,8}$	.81 (.09)	N/A	9.13
$\theta_{\varepsilon 9,8}$	-.11 (.06)	N/A	-1.71
$\theta_{\varepsilon 10,8}$	-.27 (.07)	N/A	-3.94
$\theta_{\varepsilon 11,8}$	.04 (.13)	N/A	.27
$\theta_{\varepsilon 9,9}$	.73 (.08)	N/A	8.71
$\theta_{\varepsilon 10,9}$	.32 (.07)	N/A	4.70
$\theta_{\varepsilon 11,9}$	.40 (.13)	N/A	3.00
$\theta_{\varepsilon 10,10}$	.80 (.09)	N/A	9.10
$\theta_{\varepsilon 11,10}$	.35 (.14)	N/A	2.59
$\theta_{\varepsilon 11,11}$	3.57 (.39)	N/A	9.25
$\theta_{\delta 1,1}$	87.40 (000)	N/A	N/A
$\theta_{\delta 2,2}$	.39 (000)	N/A	N/A

TABLE 23

GOODNESS OF FIT TESTS FOR VARIANTS OF THE PROPOSED MODEL

Model	Degrees of Freedom	χ^2	Adjusted Goodness of Fit Index	Root Mean Square Residual
Proposed Model	48	79.99	.90	2.09
More Restrictive Models:				
Removing $\psi_{(\text{aversive, felt duration})}$	49	97.03	.88	3.36
Removing $\beta_{(\text{aversive, overall})}$ & $\beta_{(\text{aversive, punctuality})}$	50	121.82	.86	2.34
Removing $\gamma_{(\text{airline, overall})}$ & $\gamma_{(\text{airline, aversive})}$	50	122.66	.86	2.09
Removing $\gamma_{(\text{actual, felt duration})}$ & $\gamma_{(\text{actual, aversive})}$	50	149.30	.84	60.60
Removing $\beta_{(\text{punctuality, overall})}$	49	94.50	.87	1.99
Removing $\beta_{(\text{felt duration, punctuality})}$	49	80.11	.90	2.04
Less Restrictive Models:				
Adding $\gamma_{(\text{actual, overall})}$ & $\gamma_{(\text{actual, punctuality})}$	47	65.68	.91	1.67
Adding $\gamma_{(\text{actual, overall})}$ & $\gamma_{(\text{actual, punctuality})}$ & $\beta_{(\text{felt duration, overall})}$	46	65.09	.91	1.70
Replace all betas with correlations	48	86.27	.89	5.38

FIGURE 1
THE GENERAL WAIT EXPERIENCE MODEL

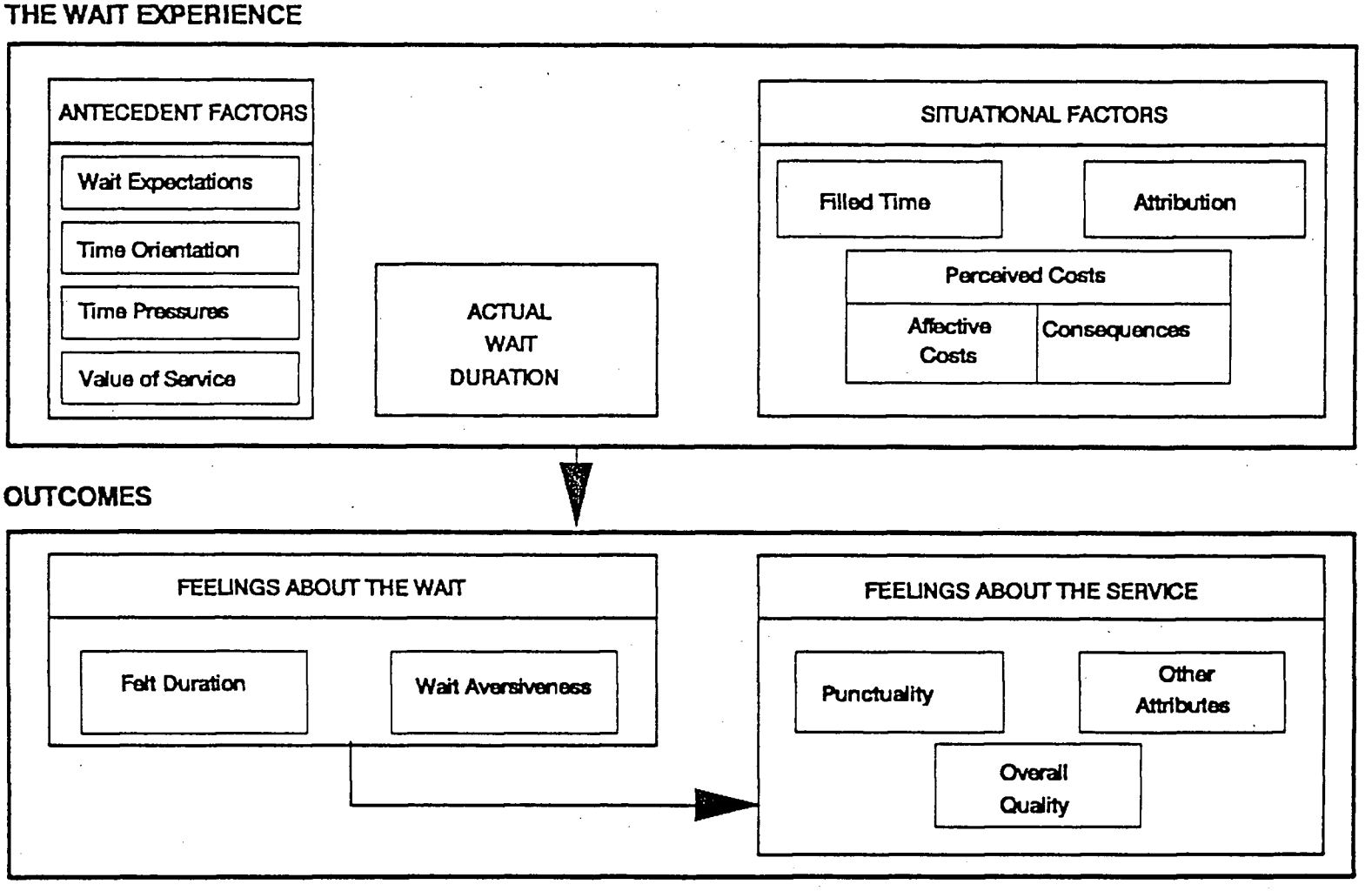


FIGURE 2
FACTORS EXPECTED TO AFFECT WAIT AVERSIVENESS

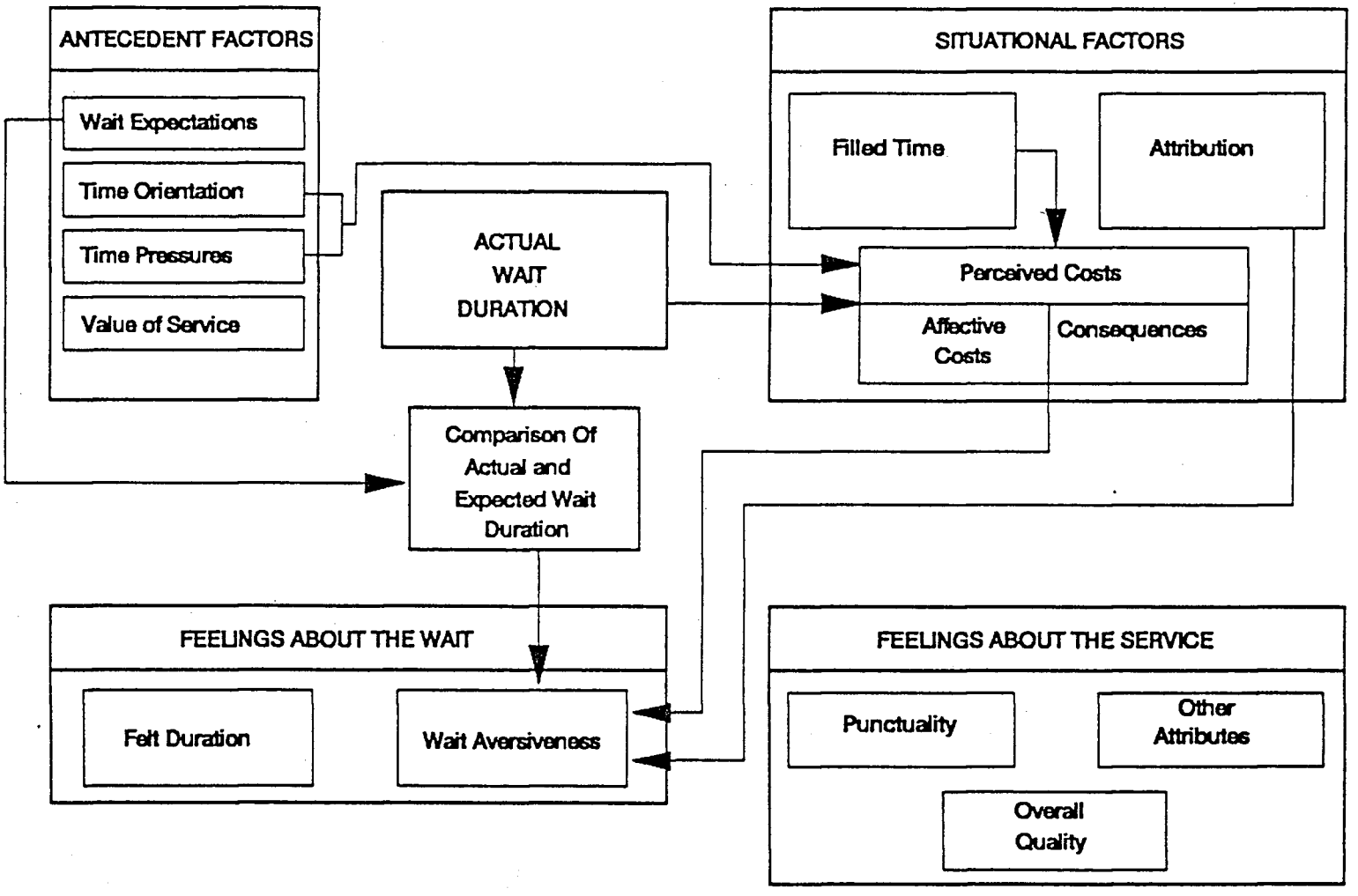


FIGURE 3
FACTORS EXPECTED TO AFFECT FELT DURATION

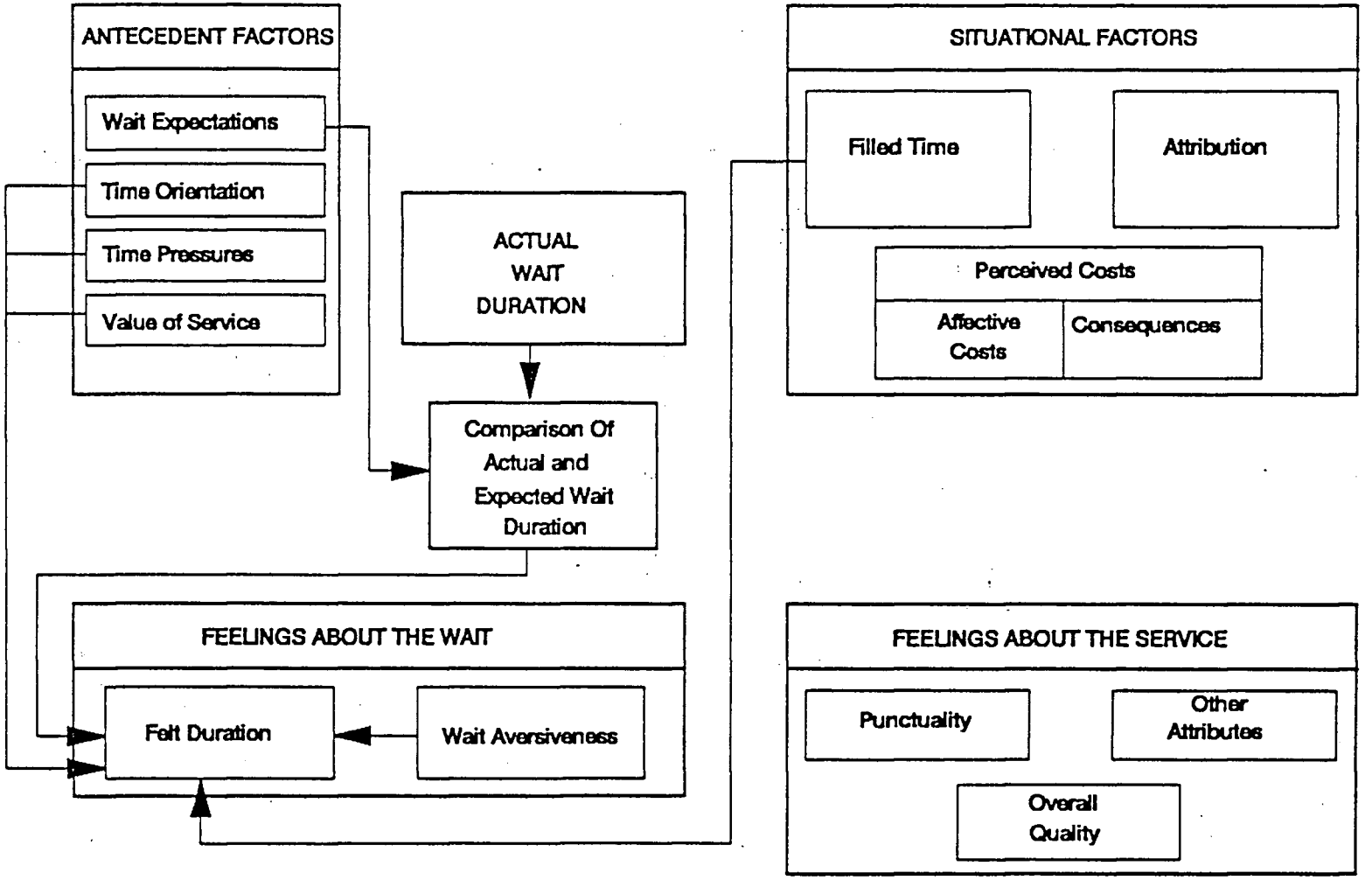


FIGURE 4
FEELINGS ABOUT THE WAIT

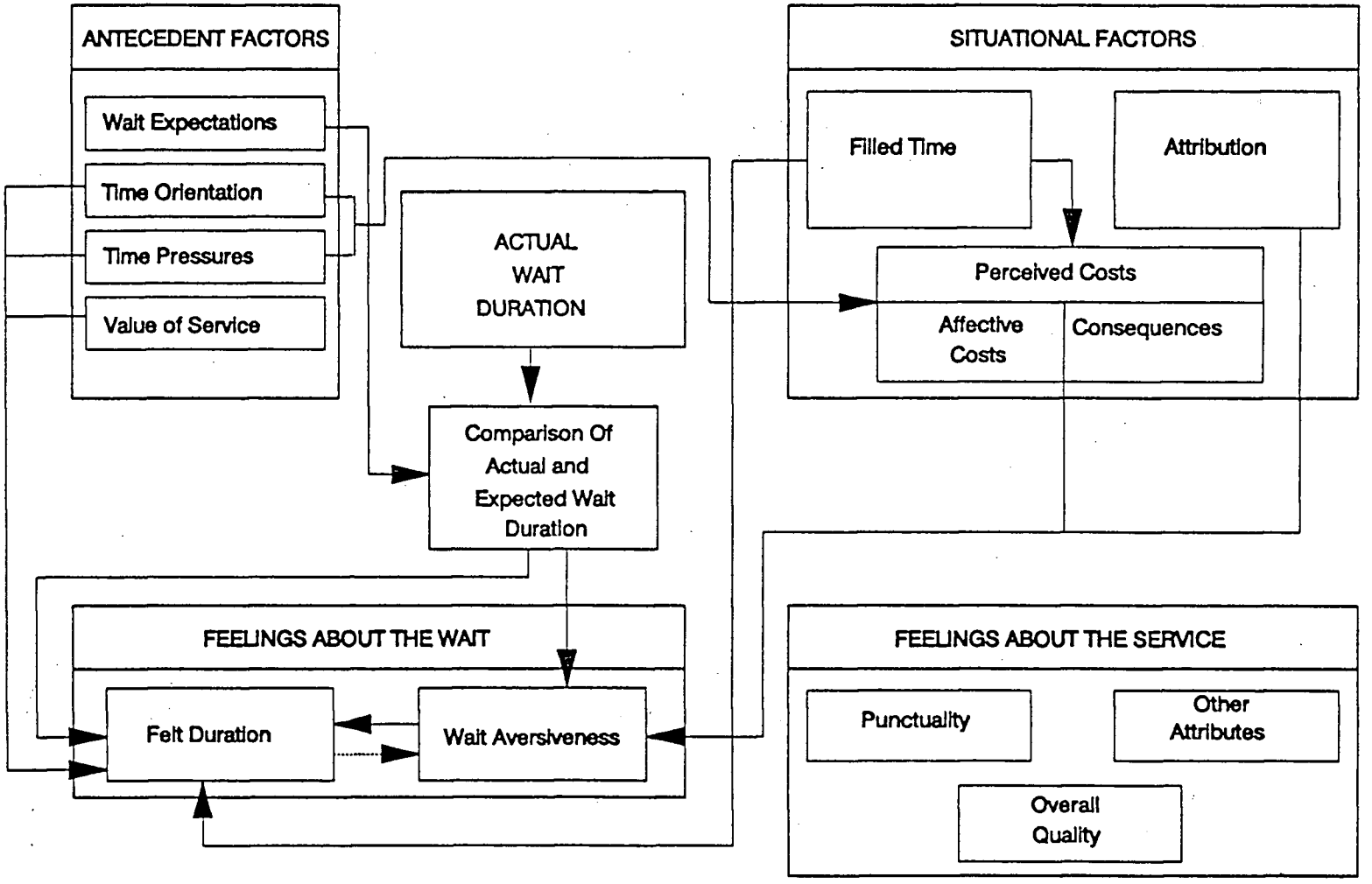


FIGURE 5
FACTORS EXPECTED TO AFFECT RATINGS OF PUNCTUALITY

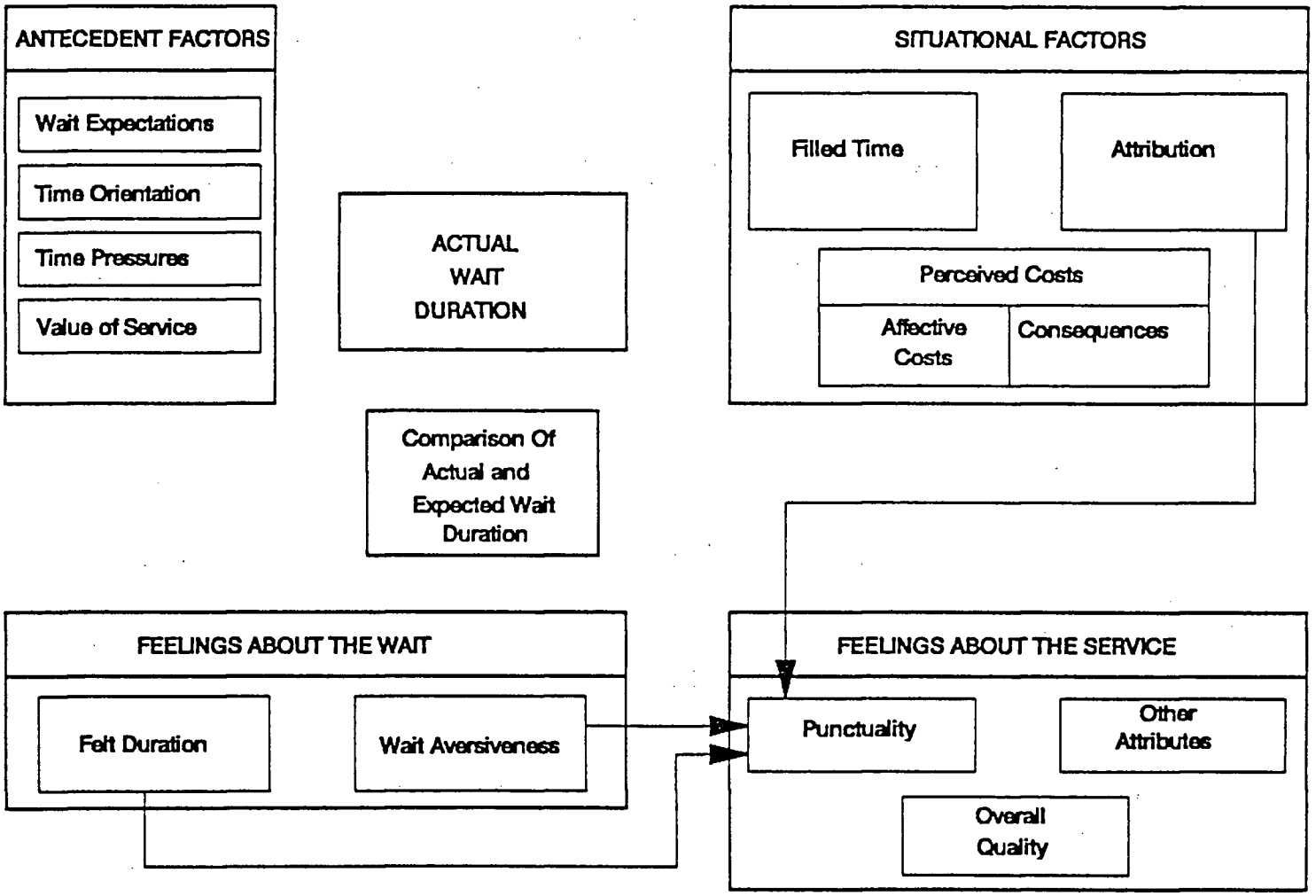


FIGURE 6
MULTI-CUE MODEL OF SERVICE EVALUATIONS

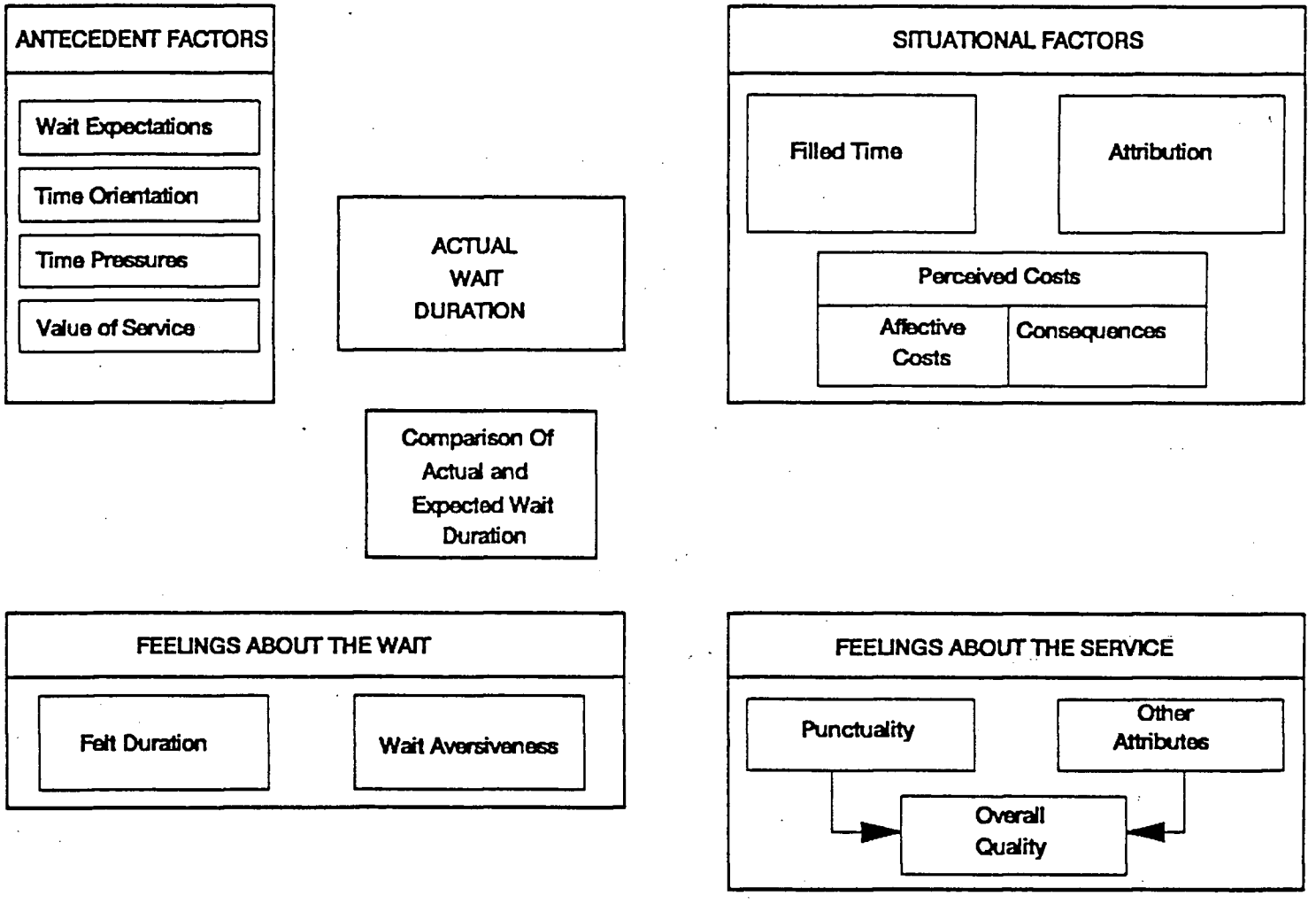


FIGURE 7
MOOD EFFECTS ON SERVICE EVALUATIONS

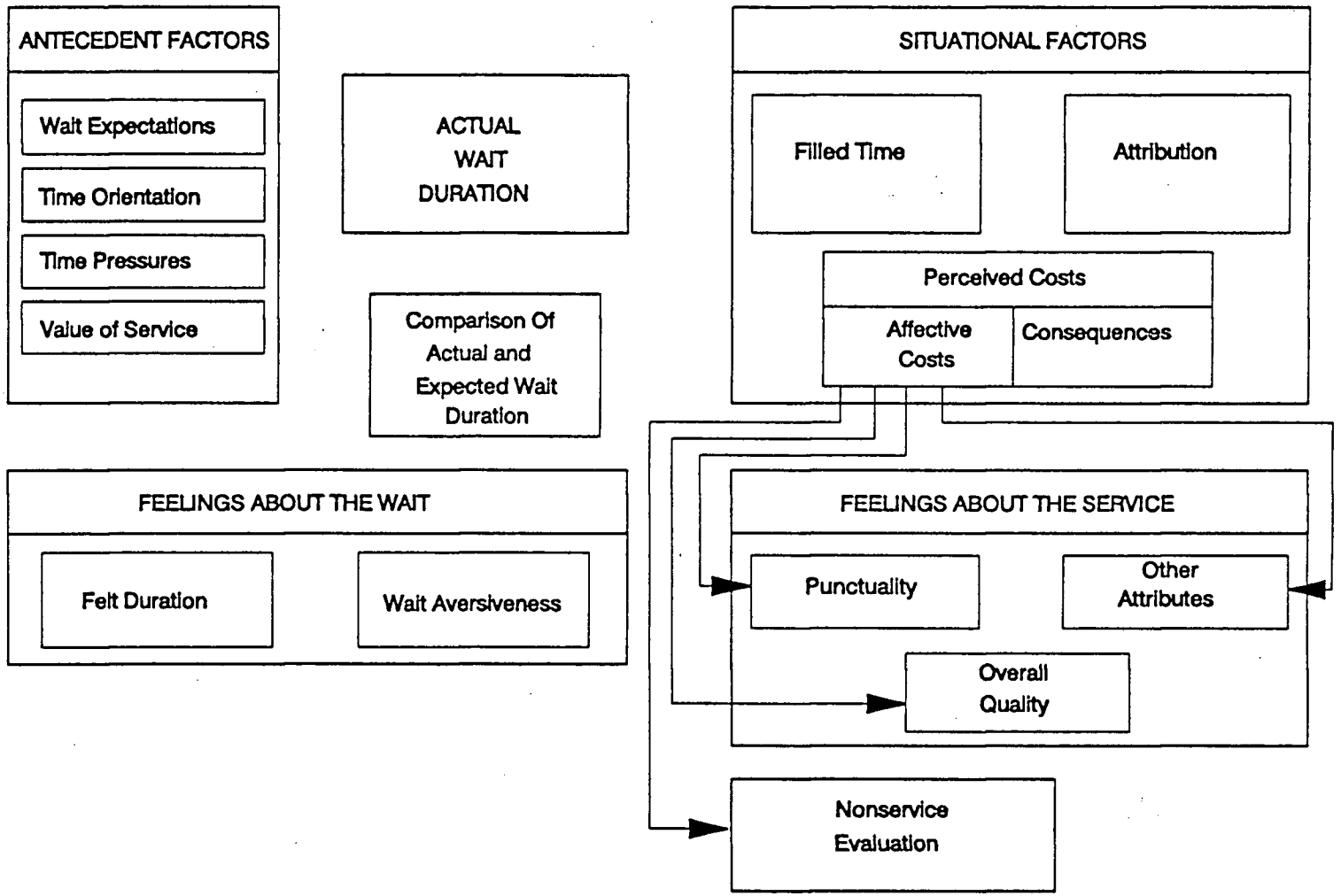


FIGURE 8
THE WAIT EXPERIENCE MODEL

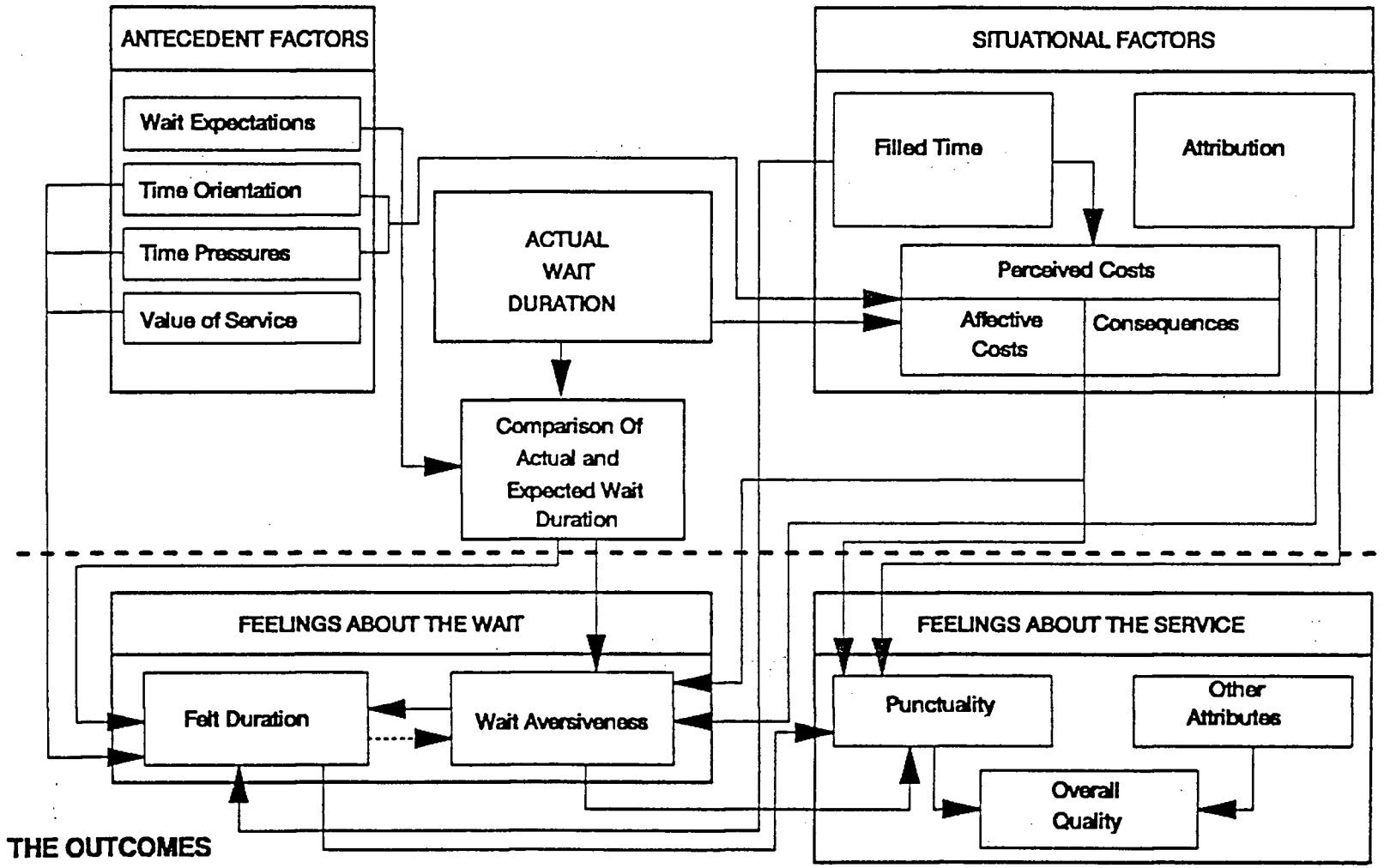


FIGURE 9

INSTRUCTIONS FOR THE SERVICE EVALUATION QUESTIONNAIRE

AIRLINE TRAVELLER QUESTIONNAIRE - PART B
This questionnaire deals with your views at the end of the flight. A flight attendant will make an announcement when it is time to complete this questionnaire. *Please wait until requested to do so before opening this envelope.* Please give your completed questionnaire to the flight attendant.

Thank you for your cooperation.
Return: Marketing Research YVRSB

FIGURE 10

INSTRUCTIONS TO THE FLIGHT ATTENDANTS

Running through April 30, we will be conducting a brief in-flight survey. This survey will help us to understand our passengers' flight needs.

The in-flight survey has been distributed to selected passengers prior to boarding. Passengers have been instructed to wait to complete the survey until the announcement is made on board the plane.

SURVEY INSTRUCTIONS:

1. Please make the following announcement *just before you begin your descent into* (the circled destination only):

   Edmonton Calgary Toronto

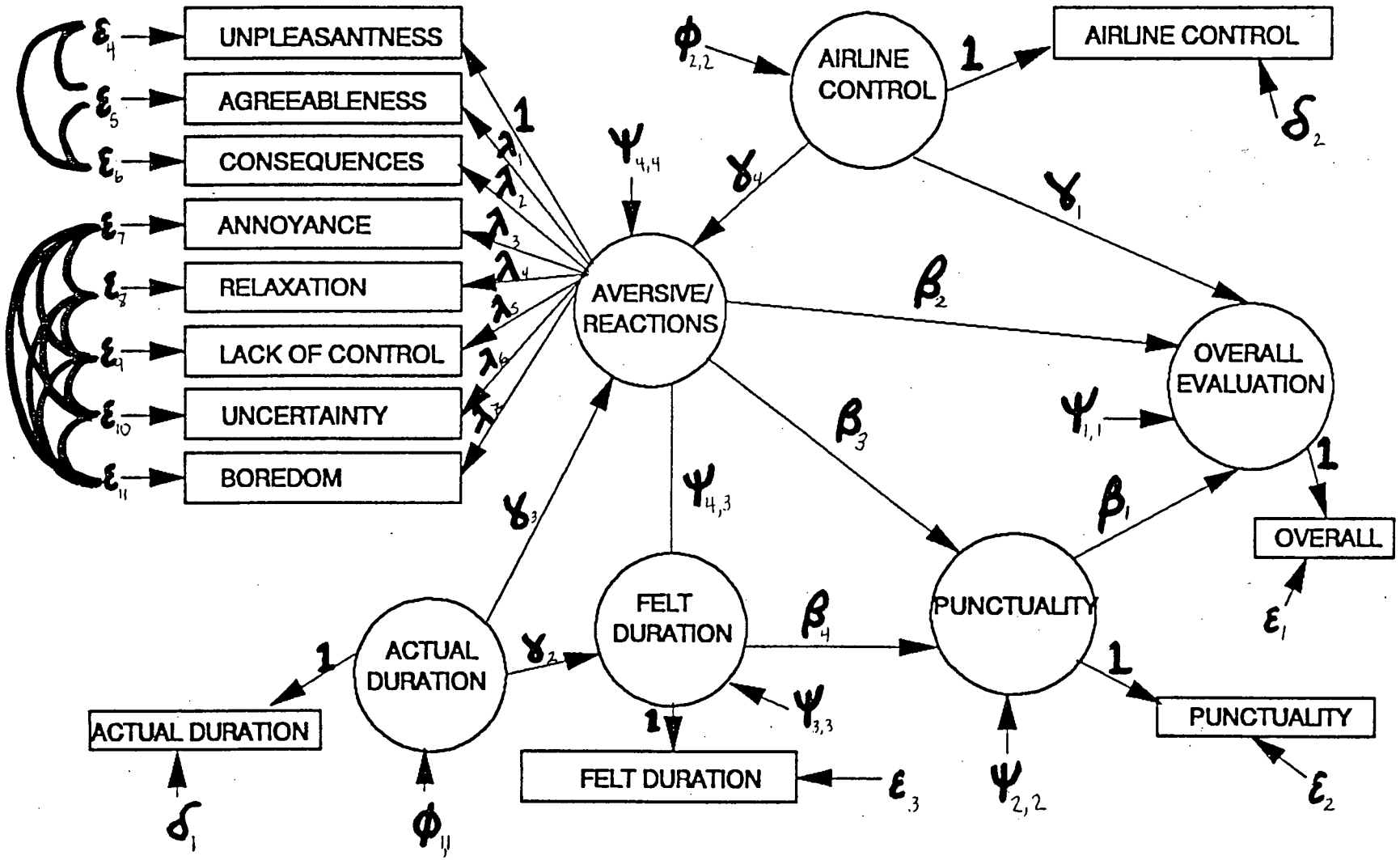
   "Ladies and gentlemen, may we please have your attention for just a moment? For those passengers who received the airline passenger questionnaire prior to boarding, will you now please take a few minutes to respond to the questionnaire? A flight attendant will collect them from you when you have completed them."

2. Collect the questionnaires and return them to the self addressed envelope.

3. Hand the envelope over to the gate agent or return it with your flight report to your base and they will forward it via company mail.

Your cooperation is appreciated.

FIGURE 11
THE MODIFIED VERSION OF THE WAIT EXPERIENCE MODEL



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APPENDIX A

QUESTIONNAIRE 1 FOR NONDELAYED PASSENGERS

AIRLINE TRAVELLER QUESTIONNAIRE - PART A

(1) Your flight destination today?_____

(2) What is your main purpose for today's flight?

[] business
[] accompanying someone on business
[] visiting friends/relatives or vacation
[] personal emergency
[] other (please specify) _____

(3) Approximately how many times have you flown on this airline (Canadian Airlines International) over the past year? One round trip counts as one time.

_____

(4) Approximately how many times have you flown on other airlines over the past year?

_____

(5) The next set of questions deal with people's feelings about flying.

For each of the items below, please circle the box that most closely resembles your feelings DURING THE TIME YOU HAVE BEEN WAITING FOR YOUR FLIGHT.

As you have been waiting, have you been feeling:

	NOT AT ALL						VERY
(a) Anxious?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(b) Excited?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(c) Bored?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(d) Calm?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(e) Annoyed?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(f) Powerless?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(g) Uneasy?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(h) Angry?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(i) Uncertain?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(j) Irritated?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(k) Helpless?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(l) Frustrated?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(m) Pressed for time?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(n) Unsettled?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(o) Relaxed?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
	NOT AT ALL						VERY

Lastly, questions about your expectations regarding today's flight.

(6) People often have expectations about the quality of airline service that they will receive.

Consider all aspects of today's plane trip. Before you came to the airport today, did you expect that your overall impression would be very bad or very good or somewhere in between?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
VERY BAD						VERY GOOD

(7) Before you came to the airport today, did you expect your flight to depart on time?

[] yes [] no [] don't know

If no:

(7a) How many minutes late did you think the departure would probably be?

_____ minutes.

Thank you for taking a few minutes to answer our questions. Please return this questionnaire to your interviewer before boarding the plane.

APPENDIX B

QUESTIONNAIRE 2 FOR DELAYED PASSENGERS

AIRLINE TRAVELLER QUESTIONNAIRE - PART A

(1) Your flight destination today?_____

(2) What is your main purpose for today's flight?

[] business
[] accompanying someone on business
[] visiting friends/relatives or vacation
[] personal emergency
[] other (please specify) _____

(3) Are you travelling alone today or with others?

[] alone
[] with preschoolers
[] with pre-teens
[] with teenagers
[] with other adults
[] with business associates
[] other

(4) Approximately how many times have you flown on this airline (Canadian Airlines International) over the past year? One round trip counts as one time.

_____

(5) Approximately how many times have you flown on other airlines over the past year?

_____

(6) The next set of questions deal with people's feelings about flying.

For each of the items below, please circle the box that most closely resembles your feelings DURING THE TIME YOU HAVE BEEN WAITING FOR YOUR FLIGHT.

As you have been waiting, have you been feeling:

	NOT AT ALL						VERY
(a) Anxious?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(b) Excited?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(c) Bored?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(d) Calm?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(e) Annoyed?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(f) Powerless?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(g) Uneasy?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(h) Angry?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(i) Uncertain?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(j) Irritated?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(k) Helpless?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(l) Frustrated?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(m) Pressed for time?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(n) Unsettled?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
(o) Relaxed?	[1]	[2]	[3]	[4]	[5]	[6]	[7]
	NOT AT ALL						VERY

(7) Now, more generally, would you describe yourself as a person who:

(a) usually has too many things to do without enough time to do them?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
definitely no						definitely yes

(b) usually feels pressed for time?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
definitely no						definitely yes

(c) hates waiting?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
definitely no						definitely yes

The next set of questions deals with your expectations regarding today's flight.

(8) People often have expectations about the quality of airline service that they will receive.

Consider all aspects of today's plane trip. Before you came to the airport today, did you expect that your overall impression would be very bad or very good or somewhere in between?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
VERY BAD						VERY GOOD

(9) Before you came to the airport today, did you expect your flight to depart on time?

[] yes [] no [] don't know

If no:

(9a) How many minutes late did you think the departure would probably be?

_____ minutes.

The next set of questions deal with the departure delay.

(10) Without checking a clock, how long would you guess the delay in boarding has been so far?

_____ minutes.

(11) How often have you checked your watch or a clock while you've been waiting?

[1]	[2]	[3]	[4]	[5]
not at all	once	2-4 times	5-7 times	more than 7 times

(12) Sometimes delays seem longer or shorter than they actually are. Regardless of how long the delay has actually been so far, how long has it seemed?

_____ minutes. (Please answer in minutes.)

(13) What do you think the reason is for your flight being delayed?

_____

_____

_____

(14) What have you done during the delay: _____

_____

_____

For each of the following questions, please circle the box that best describes your answer.

(15) In your view, is the reason for the delay something that is very uncommon or something that very common?

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[ ]
very uncommon						very common	don't know

(16) To what extent do you think the airline could have taken steps to avoid or shorten the delay?

[1]	[2]	[3]	[4]	[5]	[6]	[7]	[ ]
nothing the airline could have done						airline definitely could have avoided or shortened the delay	don't know

(17) Has it been clear to you how long the delay would be?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
I felt very uncertain how long the delay would be						I knew for certain how long the delay would be

(18) Has it been clear to you exactly how your own plans might be affected by the delay?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
I felt very uncertain about how my plans would be affected						I knew for certain how my plans would be affected

(19) To what extent have you managed to fill your time during the delay?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
my time was not filled during the delay						my time was totally filled during the delay

(20) How likely is it that this delay will end up costing you money?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
not at all likely						very likely

(21) How inconvenient is the delay for you?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
not at all inconvenient						very inconvenient

(22) How unpleasant is this delay for you?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
not at all unpleasant						very unpleasant

(23) Overall, has the wait been an agreeable or disagreeable experience?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
very disagreeable						didn't bother me at all

(24) Suppose today's flight had been 15 minutes late. How much would this have mattered to you?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
wouldn't have mattered at all						would have mattered very much

(25) How much would it have mattered if the plane had been 45 minutes late departing?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
wouldn't have mattered at all						would have mattered very much

(26) How much would it have mattered if the plane had been one and a half hours late departing?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
wouldn't have mattered at all						would have mattered very much

Thank you for taking a few minutes to answer our questions. Please return this questionnaire to the interviewer before boarding the plane.

APPENDIX C

QUESTIONNAIRE 3 - SERVICE EVALUATION QUESTIONNAIRE

AIRLINE TRAVELLER QUESTIONNAIRE - PART B

(1) Flight Number_____

(2) Flight Destination_____

(3) Considering all aspects of today's plane trip, would you rate your overall impression as very bad or very good or somewhere in between?

[1]	[2]	[3]	[4]	[5]	[6]	[7]
very bad						very good

(4) How would you rate the various services experienced on this flight? Please circle the box that best describes your answer.

Airport Check-in:	very bad						very good	not applicable
Speed of baggage check-in	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Friendliness of check-in agent	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Helpfulness of check-in agent	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Aircraft boarding procedure	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Punctuality of Flight Departure	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
In-Flight Service								
Clarity of in-flight announcements	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Amount of cabin baggage storage	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Friendliness of flight attendents	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Helpfulness of flight attendents	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Selection of beverages	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Selection of meal entre	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Appearance of the meal	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]

	very bad						very good	not applicable
Enjoyment of the meal	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Clarity of audio programs	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Enjoyment of audio selections	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Enjoyment of movie	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Selection of magazines	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Cabin and Seat Comfort								
Cleanliness of washrooms	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Cleanliness of cabin	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Condition of cabin furnishings	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Amount of leg room	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Amount of elbow room	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Comfort of seat cushion	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Overall seat comfort	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]

(6) How would you rate the airport facilities in the Vancouver Terminal?

	very bad						very good	not applicable
Cleanliness of terminal	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Variety of Terminal shopping facilities	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]
Efficiency of Security Agents	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[]

Thank you for you cooperation. Please return this form to the envelope and give it to the flight attendent.