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UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

**AN INVESTIGATION OF LATITUDE MODELS OF
SERVICE-ENCOUNTER EVALUATION**

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
In partial fulfilment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

By
STEPHEN L. VARGO

Norman, Oklahoma

1997

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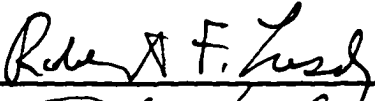
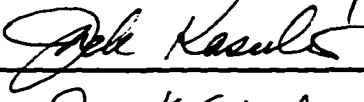
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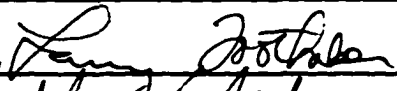
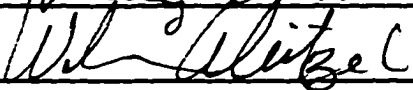
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**AN INVESTIGATION OF LATITUDE MODELS OF
SERVICE-ENCOUNTER EVALUATION**

**A Dissertation APPROVED FOR THE
COLLEGE OF BUSINESS ADMINISTRATION**

BY

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ABSTRACT

How consumers evaluate service-encounters has profound implications for the ways marketers manage these encounters. However, there is disagreement concerning the appropriate model for understanding how consumers make service-encounter evaluations. Recently, models based on ranges of acceptable performance have been suggested as modifications or alternatives to the more traditionally employed disconfirmation of expectation models. In general, these models have not been adequately tied to existing theoretical frameworks, nor have they been tested empirically. This thesis conceptually explores these latitude models for similarities and differences. Particular attention is directed toward the “zone of tolerance” model of service quality (Zeithaml, Berry, and Parasuraman 1993) and to the latitude conceptualization of social judgment-involvement theory (e.g., Sherif, Sherif, and Nebergall 1965). The viability of these latitude or zonal models is tested empirically using modified procedures developed in social judgment theory for detecting the underlying reference scales used in evaluation. Additionally, the relationship between various comparison standards employed in disconfirmation models and among these standards and latitude boundaries is established empirically. Finally, the relationship between latitudes and behavioral intentions is explored. Implications for managing service-encounters and influencing the formation of latitudes are offered and future research directions are suggested.

CHAPTER I:

INTRODUCTION

THE ROLE OF EVALUATION

The process by which consumers evaluate service-encounters has received considerable attention in the marketing literature (e.g., Bleuel 1990; Bolton and Drew 1991; Boulding, Karla, Staelin, and Zeithaml 1993; Oliver 1980). Usually, this literature is couched in the specific terms and models of “service quality” (Parasuraman, Zeithaml, and Berry 1985, 1988; Zeithaml, Berry, and Parasuraman 1993; Teas 1993, 1994) or “customer satisfaction/dissatisfaction” (Babin, Griffin, and Darden 1994; Cadotte, Woodruff, and Jenkins 1987; Oliver 1981). Less often, it is couched in the terms and models of “value” (Hesket, et al. 1994; Strandvik 1994). Regardless of the specific rubric, the general process of evaluating marketing stimuli has important implications for marketing managers. Generally, these evaluations serve as the bases for consumers’ behavioral decisions, such as patronage preferences (DeSouza 1992; Taylor and Baker 1994; Zeithaml, Berry, and Parasuraman 1996), customer complaints (Fornell and Wernerfelt 1987; Goodwin and Spiggle 1989; Oliver 1984; Singh 1988), positive and negative word-of-mouth (Brown and Baltramini 1987), and brand loyalty (Hesket et al.

1994). In turn, an understanding of the manner in which consumers make evaluations affects how marketers design, communicate, and deliver their market offerings (Fornell and Wernerfelt 1987; Hemmasi, Strong, and Taylor 1994; Keanaveney 1995; Ozment and Morash 1994).

The purpose of the present research is to extend the understanding of how consumers make evaluative judgments in service-encounters. The approach represents a departure from most traditional approaches that employ evaluative models based on the linear comparison of expectations and perceptions. It is an investigation of an alternative class of models which shares notions of *ranges* of acceptable or tolerable service-encounter perceptions. This latitude model has been proposed, with varying degrees of explication, by a number of service quality (e.g. Zeithaml, Berry, and Parasuraman 1993; Strandvik 1994) and consumer satisfaction/dissatisfaction researchers (e.g. Bleuel 1990; Gioia and Stearns 1979; Miller 1977; Woodruff, Cadotte, and Jenkins 1983). It has also been employed in research concerning price evaluation (e.g. Emery 1970; Kalyanaran and Little 1994; Lichtenstein, Block, and Black 1988; Monroe 1973; Raju 1977). What is unique to the present inquiry is (1) an examination of the applicability of social judgment-involvement theory (e.g. Sherif, Sherif, and Nebergall 1965) as a general theoretical framework for the further development of zonal models of service-encounter evaluation; (2) the specific zonal model's viability, as implied by this theoretical foundation.; (3) the determination of the relationship among core components of service quality and consumer satisfaction/dissatisfaction models based on the disconfirmation of expectations paradigm and those based on perceptual bias; and (4) the exploration of the relationships between

latitudes and behavioral intentions associated with service-encounter evaluations.

MODELS OF EVALUATION

Most customer satisfaction-dissatisfaction (CS/D) and service quality (SQ) models are built on some variation of the confirmation-disconfirmation paradigm (e.g. Oliver 1980; Cadotte, Woodruff, and Jenkins 1987; Parasuraman, Zeithaml, and Berry 1985, 1988). The basic paradigm assumes that individuals make satisfaction or quality judgements by comparing a performance perception with some standard. However, there exists considerable debate concerning (1) the nature of the standard employed in the comparison (Liljander 1995; Woodruff et al. 1991); (2) the direct versus the mediating role of expectations, perceived performance, and disconfirmation (Bolton and Drew 1991; Parasuraman, Zeithaml, and Berry 1994; Teas 1993, 1994); and (3) the appropriate model for the representation of the comparison process (Bolton and Drew 1991; Boulding, Karla, Staelin, and Zeithaml 1993). Additionally, several marketing scholars have noted that the threshold at which the discrepancy between perceptions and the standard of comparison results in evaluations of CS/D is not absolute (e.g., Bleuel 1990), but may be characterized by multiple norms (Cadotte, Woodruff, and Jenkins 1987) or a “latitude of acceptable performance” or a “zone of tolerance,” which is subject to fluctuation in varying situational contexts (Woodruff, Cadotte, and Jenkins 1983; Gioia and Stearns 1979; Miller 1977).

The central feature of these latitude models is a range of evaluative stimuli which are objectively different but perceptually or behaviorally equivalent. This range is usually

posited to expand and contract as a function of situational variables. For example, on the basis of gasoline consumption a consumer may not perceive a difference (or be differentially satisfied or make a differential quality judgment) between two automobiles that get 21 and 29 miles per gallon under conditions of abundant gasoline supplies, but may perceive the difference under conditions of inadequate supplies of gasoline. Similarly, a consumer may not perceptually, evaluatively, or behaviorally distinguish between a ten and 30 minute waiting time to see a doctor for a routine physical, but may react with intolerance if suffering from injury or accident. However, not all of these latitude models differentiate between perceptual, evaluative, and behavioral reactions.

Most recently, Zeithaml, Berry, and Parasuraman (ZBP) (1993) have adopted a "zone of tolerance" model as an extension of the single-point, linear comparison model that has dominated the SQ literature (e.g. Parasuraman, Zeithaml, and Berry 1985; 1988). Unlike previous "zone" models, the ZBP (1993) model is predominately built on information synthesized from focus group data and attempts to explicate and integrate the antecedents of zone formation. Consequently, it provides a potentially powerful framework from within which the various zone models of CS/D and SQ research might be integrated. However, like most previous zone models of CS/D and SQ, the ZBP model is only modestly tied to an established theoretical structure and has very limited empirical support (however see Parasuraman, Zeithaml and Berry 1994; Strandvik 1994).

EVALUATION AND EVALUATIVE SCALES vs. SERVICE QUALITY AND SATISFACTION FOCUS

In part, the present research is a comparison of the ZBP zone model of SQ and of similar latitude models of CS/D. However, the focal intention is to explore the implications of a considerably broader, and potentially more generalizable, perspective. This breadth is both desirable and necessary for several reasons; each concerns unresolved issues of definition and domain that are related to previous research. First, while both SQ and CS/D research share the confirmation/disconfirmation paradigm, the specific definition of, and relationship between, their central constructs (i.e., service quality and satisfaction) continues to be debated (e.g. Bolton and Drew 1991; Strandvik 1994; Taylor and Baker 1994; Taylor and Cronin 1994; Liljander 1995). Second, while CS/D research has been variously focused toward the evaluation of tangible products and services, SQ research, by definition, has been limited to services. However, no clear, universal scheme of categorization for differentiating between services and products as alternative types of market offerings exists (Vargo and Lusch 1995). Consequently, *what* is being evaluated (i.e. an offering, its episodic delivery, or a buyer/seller relationship) under the rubrics of CS/D and SQ is often unclear (Strandvik 1994; Liljander 1995). Finally, it has been suggested by a number of marketing scholars that the confirmation/disconfirmation paradigm is flawed (see Cronin and Taylor 1992; Teas 1993, 1994; Parasuraman, Zeithaml, and Berry 1994), in part because consumer expectations and perceptions, which are central to the disconfirmation paradigm, are not independent, as it assumes (Bolton and

Drew 1991; Boulding, et al. 1993). With the exception of the latter issue, it is not the intention of the present research to resolve the possibly intractable questions behind these debates. Rather, it is the intent to focus on the fundamental question of how consumers make evaluative judgments.

THE SERVICE ENCOUNTER

The domain of the present research is the service-encounter. The service-encounter is chosen because it represents an area in the goods-services domain about which there is, arguably, a relative consensus for its definition. For the purposes of the present research, *service-encounter* is specifically intended to denote a discrete interaction, usually at the time of delivery, between an offering firm and a consumer. That is, the service-encounter represents the point of transaction. This definition is in general agreement with service-encounter definitions provided by Shostack (1985), Bitner and Hubbert (1994); and Chase and Bowen (1991). However, in the present context it is intended to be equally applicable, regardless of whether the “core” offering is commonly considered to be a “service” or a “good.”

MULTIPLE, OVERLAPPING RESEARCH STREAMS

Partially ignoring the goods/services and satisfaction/quality debate and focusing on the general issue of evaluation has the advantage of allowing the inclusion of the

previous CS/D and SQ research, as well as the conceptual and empirical work of a number of similar research streams both within and outside of marketing. The conceptual approach is to look for areas of overlap and similarities among these research streams. Given its recent prominence in the marketing literature, its specific focus on services, and its relatively comprehensive scope in relation to other zone models of service-encounter evaluation, the ZBP model will be a primary focus of interest. Of additional particular interest is the extensive marketing literature concerning the evaluation of price, particularly the research based on models of latitude of price acceptability (e.g. Emery 1970; Kalyanaram and Little 1994; Monroe 1973). Further attention is directed towards the rather small amount of literature in marketing concerning global brand evaluation, specifically notions of evoked, inept, and inert sets (Naryana and Markin 1975). Finally, consumer behavioral variables related to both price and non-price attributes are considered.

The research also draws on a number of the theoretical orientations which have been proposed as the foundations of various latitude conceptualizations of evaluative processes, such as prospect theory (Kahneman and Tversky 1979), and adaptation level theory (Helson 1964). However, the central focus is social judgment-involvement theory (Sherif and Hovland 1961; Sherif, Sherif, and Nebergall 1965). Specifically, the social judgment-involvement theory is proposed as an organizing framework for the integration and elaboration of latitude models.

Social judgment-involvement (SJI) theory, originally formulated for the study of attitude formation and change phenomena, (e.g. Sherif and Hovland 1961; Sherif, Sherif,

and Nebergall 1965) is proposed as an organizing framework for the investigation of zone of tolerance models for a number of reasons. As will be demonstrated, its selection is based on (1) the similarity between it and the specific conceptualizations of the ZBP model; (2) the specific links between SJI and several seminal CS/D latitude models in the marketing literature (e.g. Anderson 1973; Miller 1977); (3) its primary role in the investigation of similar marketing-related phenomena, such as price evaluation (e.g. Kalyanaram and Little 1994; Monroe 1971, 1973; Rao and Sieben 1992); (4) the availability of its related evaluation assessment methods which may contribute to the understanding of service-encounter phenomena; (5) the fact that SJI was originally formulated as theoretical orientation for the evaluation of relatively ambiguous social stimuli within a situational context, and therefore similar to characteristics of service-encounters; and (6) the fact that considerably more theoretical explication and empirical support exists for SJI than for other zonal models.

SUMMARY OF PURPOSE

The focus of this thesis is the understanding of the ways in which consumers make evaluative judgments. Specifically, it investigates latitude model of service-encounter evaluation. Particular attention is directed to the Zeithaml Berry and Parasuraman (1993) “zone of tolerance” model of service quality. Social judgment theory is offered as a common foundation for the further exploration and integration of latitude models in general and of ZBP’s zone of tolerance model in particular. The general viability of latitude

models and the appropriateness of SJI as an organizing framework is tested empirically. The methodological approach to this empirical test introduces a research tool, developed by SJI researchers for the study of attitudes, not previously employed in marketing research.

ORGANIZATION OF THIS THESIS

This thesis is organized into six chapters. In Chapter I (the present chapter) the research problem and approach are introduced. Chapter II presents a review of the literature related to the research, including (1) the dominant service-related models of evaluation, particularly those concerning service quality and (dis)satisfaction; (2) the disconfirmation of expectations paradigm of evaluative judgment; (3) related issues. Chapter III introduces and discusses latitude models, including (1) the ZBP model of service quality; (2) the SJI approach to evaluation; (3) the other latitude conceptualizations of evaluation found in both the marketing and non-marketing literature and provides a comparison and partial synthesis of these various orientations to latitude models with SJI serving as an organizing framework. A series of research questions implied by this comparison and synthesis and a related series of testable hypotheses are also offered. In Chapter IV research designed to test these hypotheses is described. The results of the research are presented in Chapter V. Finally, in Chapter VI the results are discussed and some theoretical and managerial implications of this research are provided.

CHAPTER II

REVIEW OF LITERATURE: SATISFACTION AND SERVICE QUALITY

MODELS OF SERVICE-ENCOUNTER EVALUATION

The evaluation of service-encounters are usually viewed in terms of perceptions and/or feelings of consumer (dis)satisfaction or in terms of perceptions of service quality. Neither a precise delineation nor the relationship between these two constructs is entirely clear from a review of the literature. This lack of clarity is exacerbated by the fact that both constructs are built on the same disconfirmation of expectations paradigm. Recently, the disconfirmation of expectations paradigm (and consequently the (dis)satisfaction and service quality constructs, or at least their measurement), have come under increased scrutiny. Two modifications of, or alternatives to, the paradigm have been offered: one assumes that perceptions are partially driven by expectations and the other assumes a “zone of tolerance” exists which is bounded by different expectations of service quality and satisfaction. These constructs, associated paradigms, and modification are reviewed in the following sections. Several related paradigms from within and outside of marketing are then reviewed and an integrative framework is proposed. Finally, several implied research

questions are proposed.

THE DISCONFIRMATION OF EXPECTATIONS PARADIGM

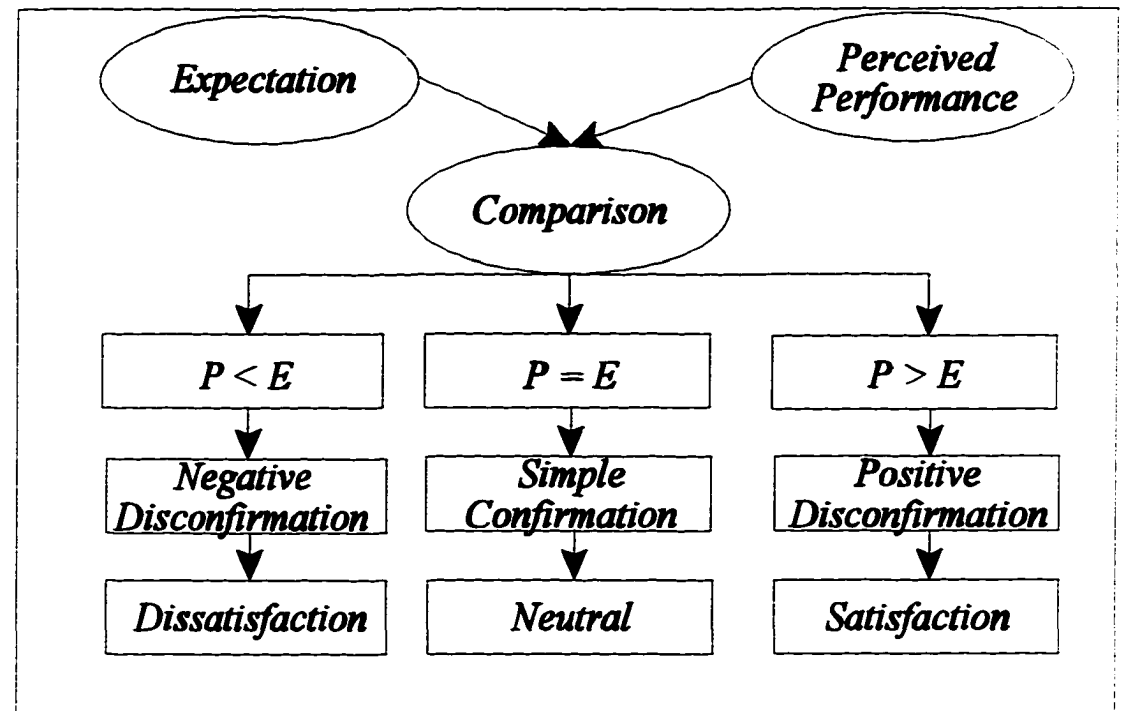
The disconfirmation of expectations paradigm has its roots in psychology (e.g. Aronson and Carlsmith 1962; Carlsmith and Aronson 1963), where its investigation was often grounded in cognitive dissonance theory (Festinger 1957). Cognitive dissonance theory posits that in an effort to maintain cognitive consistency, particularly as it relates to self-concept, individuals reduce the negative affect associated with a discrepancy between an internal standard and a perception of reality by the process of assimilation, or perceptual bias in the direction of the standard.

The disconfirmation of expectations paradigm was introduced into marketing by Cardoza (1965), who noted that the assimilation-based dissonance theory (e.g. Festinger 1957) and “contrast” theory (e.g. Spector 1956) make opposing predictions concerning the direction of the perceptual bias. That is, while assimilation theory predicts that perceptions will be biased toward an expectation, contrast theory predicts perceptions will be biased away from the expectations. Cardoza suggested that the level of customer effort, which presumably reflects the importance of an acquisition, moderates the direction of the perceptual bias. That is, the prediction of assimilation associated with dissonance theory holds when the customer expends considerable effort (reflecting importance) in obtaining a product and the prediction of contrast theory holds when little effort is expended. Several of the early studies in the marketing literature continued to focus on this process

of comparative judgment and the question of the appropriate model to explain this process (e.g., Anderson 1973; Olshavsky and Miller 1972). Some of these studies will be addressed more thoroughly in following sections.

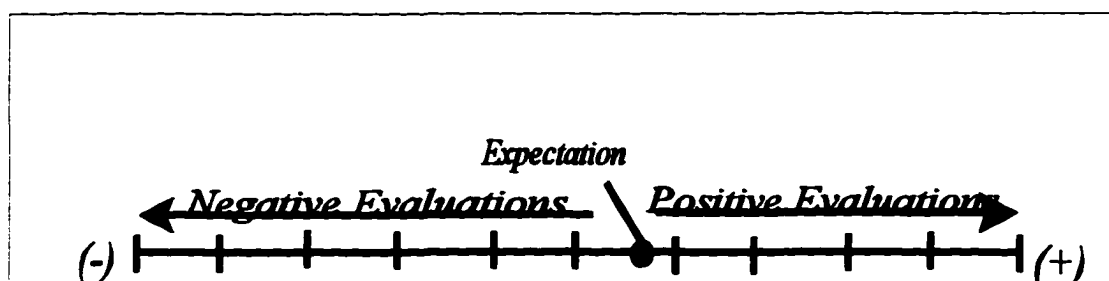
However, over time, the disconfirmation of expectations paradigm generally evolved into a relatively static model emphasizing the distance between the expected and the actual performance and the relationships among antecedents and consequences, rather than the underlying process. The fundamental proposition of expectancy disconfirmation is that perception of the actual performance of a focal referent (e.g., product or service-encounter experience) is compared to the expectation of that performance. If the perception of the actual performance matches the expectation, the result is *simple disconfirmation*. If the perception is below the expectation, *negative disconfirmation* results; if perceptions exceed expectations, *positive disconfirmation* results. Simple confirmation causes a neutral reaction or attribution of service quality. Positive disconfirmation, in turn, causes extreme satisfaction or positive attributions of service quality, while negative disconfirmation causes, or negative attributions of service quality. The degree of satisfaction or dissatisfaction is usually seen as being a linear function of the degree of disconfirmation. The process of disconfirmation of expectations paradigm is depicted schematically in Figure 2.1.

Figure 2.1 Disconfirmation of Expectations Model



In the service quality literature this comparison between perceptions and expectations is often called “Gap 5,” from Parasuraman, Zeithaml, and Berry’s (1985) identification of various gaps between management, employee, and customer perceptions

Figure 2.2 The Structure of an Evaluative Domain according to the Disconfirmation Paradigm



and standards. Regardless of the terms used, disconfirmation is seen as resulting in the structure of an evaluative domain--i.e., the full range of stimuli to be evaluated--depicted in Figure 2.2

CONSUMER SATISFACTION AND SERVICE QUALITY

The academic study of (dis)satisfaction has generally preceded the study of service quality by a decade or more, yet they are largely parallel in their development. While their most fundamental similarity is their shared foundation of the disconfirmation of expectations paradigm, perhaps their most striking similarity is the separate realizations made by their respective scholars, that the paradigm on which they are based, though intuitively appealing, may be flawed as a model for evaluative judgment.

Consumer Satisfaction/Dissatisfaction

Most early studies of judgmental and evaluation phenomena within marketing were only nominally concerned with (or later identified with) consumer satisfaction (e.g. Anderson 1973; Cardoza 1965; Cohen and Goldberg 1970 Olshavsky and Miller 1992). In fact, none of these early studies explicitly defined the construct of satisfaction (although Anderson did provide a "dictionary" definition), and only one of them (Swan and Combs) purported to measure it. Rather, most of these studies were concerned with the relationship between expectations and product performance, which, in turn, was typically *assumed* to be a surrogate of satisfaction (see Liljander 1995). One or several of three

overlapping theoretical frameworks was or were normally employed in or tested by these studies: (1) contrast, (2) assimilation, and (3) assimilation-contrast (Anderson 1973; Day 1976). A fourth explanation, adopted from Carlsmith and Aronson and tested by Anderson (1973) was “general negativity,” an explanation that suggests that perceptions both above and below a standard will be evaluated negatively (essentially an “ideal point” explanation-e.g., Teas 1993). These alternative theories of perceptual bias are discussed further in following sections. However, it should be noted that either implicitly or explicitly the research emphasis was on an overall *emotional (or affective) response*, resulting from a discrepancy in a post-purchase evaluation based on the comparison of product performance with pre-purchase expectations, which is reduced by a perceptual distortion. Much of the concern was with the mechanisms affecting perception during the arousal associated with disconfirmation. That is, the focus was on the disconfirmation process as opposed to the satisfaction response or outcome.

However, during the mid 1970's, while the underlying satisfaction process continued to be debated, the focus partially shifted from issues of emotional drive and perceptual bias to the antecedents and consequences of satisfaction, as well as to the measurement of satisfaction as an outcome of (dis)confirmation. For example, Swan and Combs (1976), in what was probably the first attempt to use a direct measurement of satisfaction (Liljander 1995), used critical incident technique to identify the relationship between “instrumental” (i.e., functional) and “expressive” (i.e., emotional) outcomes and satisfaction. Oliver (1977), using a six-item affective Likert scale measure, was probably first to quantify satisfaction as an outcome.

At the same time, some of the attention was shifted towards the refinement of antecedent components of the satisfaction, especially preformed expectations. Olson and Dover (1976), in line with the multiattribute models popular at the time (e.g. Fishbein and Ajzen 1975), conceptualized expectations as specific belief elements within a cognitive structure. Miller (1977) distinguished between four kinds of standards for comparison: expected, deserved, ideal, and minimum tolerable. Similarly, Swan and Trawick (1977) distinguished between predicted (expected) and desired (ideal) expectations. Oliver (1980a) suggested that expectations were equivalent to Helson's (1964) "adaptation level"--a neutral level to which the individual has adjusted. Woodruff, Cadotte, and Jenkins (1983) suggested that expectations be replaced with "experience based norms"--that is, brand-based and product-based experience grounded standards of comparison around which there exists a "zone of indifference."

Other aspects of the disconfirmation process also became the objects of both refinement and scrutiny. Olson and Dover (1980) found support for their (Olson and Dover 1976) conceptualization of expectations as attribute-specific beliefs, as well as support for either assimilation or assimilation-contrast effects. LaTour and Peat (1979b) reviewed assimilation, contrast, and assimilation/contrast explanations and proposed "comparison level" theory (Thibaut and Kelly 1979) as an alternative explanation. Oliver (1980a) reviewed the issues in the CS/D process and came down on the side of adaptation level theory, but suggested that expectations had both a direct and an indirect effect, through disconfirmation, on satisfaction. Prakash (1984) questioned the disconfirmation of expectations paradigm on the basis of measurement issues related to problems with

difference scores (see also Peter, Churchill, and Brown 1993), rather than on conceptual grounds.

This increased questioning of the disconfirmation of expectations paradigm and the search for adjustments to the model, or for more isomorphic models, has become a dominant focus in (dis)satisfaction research. Pieters, Koelemeijer, and Roest (1996, p. 30) objected to the disconfirmation of expectations model on the basis of its assumption that experience and expectations are independent because, while it provides an “elegant framework, it may assume that a customer is both motivated and able to form prior expectations, and who is motivated and able to compare these with subsequent experiences.” They suggest and find support for the view that experiences, rather than expectations, dominate satisfaction formation. Oliver found support for his contention (Oliver 1980a) that satisfaction is a joint function of expectation and disconfirmation and for his adaptation-level based contention that this satisfaction is compared to (and is used to update) anticipated satisfaction (attitude), which serves as an antecedent to behavioral intention. He reiterated that expectation measurement should be based on a multiattribute affect-belief (ab) scale (e.g. Fishbein and Ajzen, 1975) and found support for his contention that direct (“greater than or less than expected”) measures of confirmation have a more meaningful relationship to satisfaction than indirect measures (e.g., difference score).

Oliver (1981, p. 27) defined satisfaction as “an evaluation of the surprise inherent in a product acquisition and/or consumption experience.” He distinguished further between attitude and satisfaction by noting that satisfaction is a complex emotional

response (including surprise as a central concept), while attitude is an affective orientation toward an object (does not include surprise). He proposed an integration of adaptation-level-theory and “dynamic opponent-process theory” (e.g., Solomon 1980) which predicts that individuals seek homeostasis through opposing forces in the face of disconfirmation.

Oliver (1988) integrated consumer satisfaction, attribution processing (e.g., Weiner, Bernard 1980), and emotion typology literature, and suggested three major categories of (dis)confirmation (cf. Woodruff, et al. 1983):

1. a region where performance in deviations are considered acceptable;
2. a range of disconfirming performance that is “plausible” and considered “gratifying” or “disappointing”; and
3. levels that are unexpected or “surprising.”

For Oliver, “Satisfaction may be an incomplete dependent variable in that it may mask the underlying degree of arousal inherent in the satisfaction process” (p.5). That is, (dis)satisfaction may be (discontentment) contentment, (unpleasant) pleasurable, and (annoying) satisfying. He further suggested there may be at least five “response modes” giving rise to satisfaction: contentment, pleasure, relief, novelty, and surprise, each differing in the level of arousal, nature of cognitions, attributions, and emotions. For example, in “contentment”, expectations become passive and are not processed, and little arousal and no attribution processing exists. Conversely, in satisfaction-as-surprise, most (except primary affect) processing modes (expectation, performance, disconfirmation, attribution) are activated.

As can be seen in the above brief review, the move in satisfaction research has

increasingly been away from simple linear-function disconfirmation models, in which satisfaction is directly proportional to the distance between expectations and perceptions, and toward more complex models in which only perceptions outside of a dynamic zone create levels of arousal which serve as antecedents to attitude and behavioral change. This zone, in which satisfaction levels are equal, implies a nonlinear relationship between perceptions and satisfaction. In addition to the latitude or zone models suggested by Anderson (1973), Woodruff, Cadotte, and Jenkins (1983), and Oliver (1988), references to similar conceptualizations can be found in Miller (1977), Cadotte and Turgeon (1988), Bleuel (1990), Hesket et al. (1994), and others. The similarities and differences among these latitude models and similar models associated with other marketing-related constructs are discussed below. However, it should be noted that with the exception of Anderson (1973), all of these models are conceptual only; none has been tested empirically.

Service Quality

Although lacking an initial emphasis on affective processes, service quality as a construct of academic focus has followed a pattern of development similar to that of CS/D. While the notion of quality, as a quantifiable, comparative measure of the relationship between manufacturing specifications and manufactured output, has a well established history in the study and practice of tangible production, the term was not formally introduced in the services literature until Groonroos (1982) first defined service quality as an outcome of the “production of a service (p. 54).” Based largely on the

findings of the relationships among expectations, perceptions, and evaluations in consumer (dis)satisfaction research, Gronroos defined perceived service quality as the outcome of the evaluation of the comparison of expected service to perceived service. Thus, from this first formal introduction of the perceived service quality construct into the marketing literature, it has been defined in terms of the same disconfirmation of expectations paradigm as has (dis)satisfaction. Gronroos further differentiated between “technical quality”, what the consumer actually receives, and “functional quality”, the manner in which the service is delivered, a distinction similar to Swan and Combs’ (1976) instrumental/expressive delineation in the CS/D literature.

Parasuraman, Zeithaml, and Berry (1985) further associated the service quality concept with the disconfirmation of expectations paradigm by defining service quality in terms of “the magnitude and direction of the gap between expected service and perceived service.” Based on their exploratory focus group analysis they identified this “gap” as “Gap 5” and postulated that it was in turn a function of four other gaps.

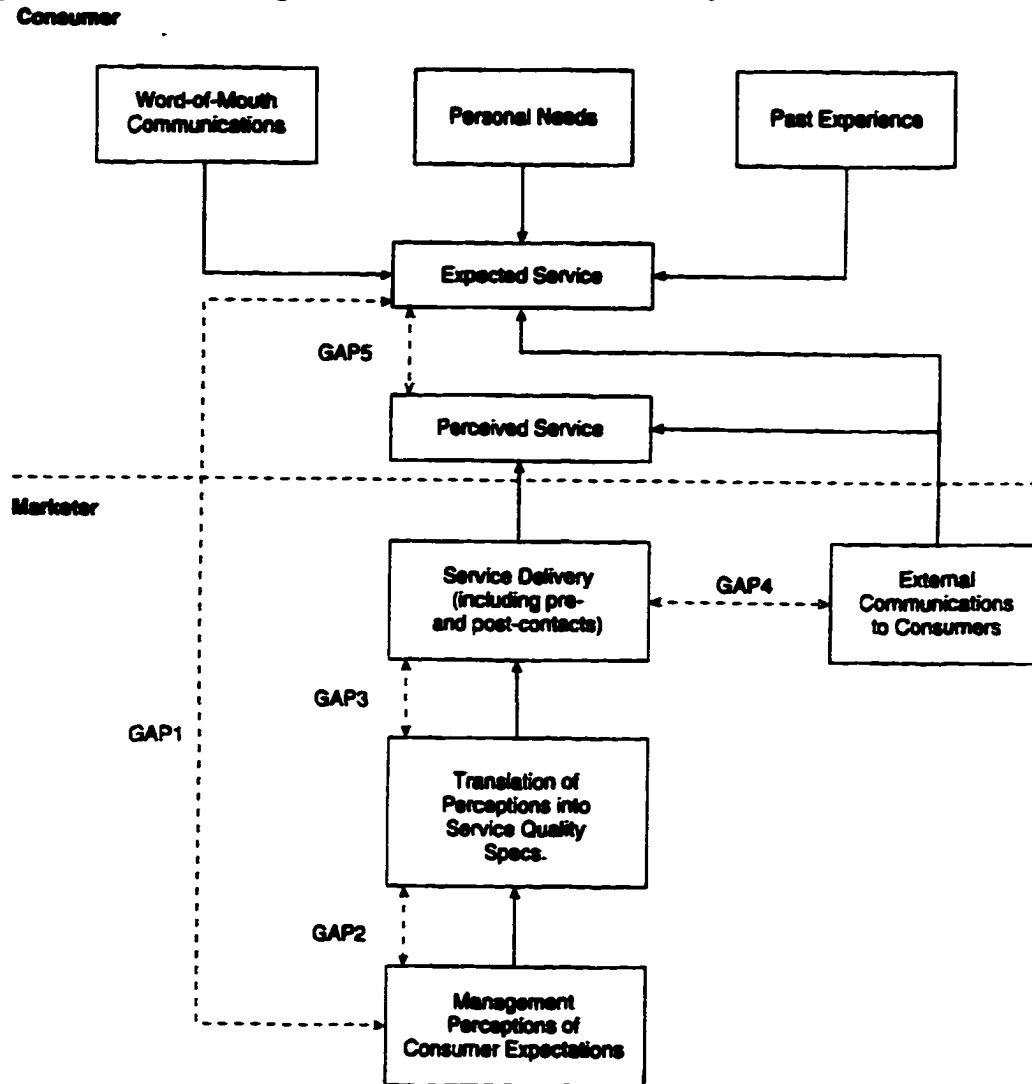
Gap 1: the difference between consumer expectations and management’s perceptions of consumer expectations.

Gap 2: the difference between management perceptions of consumer expectations and service quality specifications.

Gap 3: the difference between service quality specifications and actual service delivery.

Gap 4: the difference between actual service delivery and external communication about services. This “Gap” model is depicted in Figure 2.3.

Figure 2.3 The "Gap" Model of Service Quality



Source: Parasuraman Zeithaml and Berry (1985)

Additionally, based on their focus group data they postulated the following dimensions of service quality:

Reliability:	consistency of performance and dependability
Responsiveness:	willingness or readiness of employees to provide service and timeliness of service provision
Competence:	possession of the required skills and knowledge to perform the service
Access:	approachability and ease of contact
Courtesy:	politeness, respect, consideration, and friendliness of contact personnel
Communication:	keeping customers informed and listening to them
Credibility:	trustworthiness, believability, honesty
Security:	freedom from danger, risk, or doubt
Understanding / knowing:	effort to understand the customer's needs
Tangibles:	physical evidence of the service

They (PZB 1985, p. 16) distinguished between satisfaction and service quality by construing the latter to be “a global judgment, or attitude, relating to the superiority of service, whereas satisfaction is related to a specific transaction.”

In an empirical investigation of their gap model, and based on their *a priori* assumptions of the dimensions of service quality, Parasuraman, Zeithaml, and Berry (1988) developed a multiple-item scale for measuring perceived service quality which they called SERVQUAL. Using exploratory factor analysis they reduced their original ten dimensions to five: (1) Tangibles, (2) Reliability, (3) Responsiveness, (4) Assurance, and (5) Empathy.

The SERVQUAL score was a linear combination of the five difference scores (i.e., perceived performance less should-expectations) derived for each of these five dimensions, weighted by the importance of each dimension.

In a follow-up study, Parasuraman, Berry, and Zeithaml (1991) offered a number of refinements to the SERVQUAL instrument. For example, noting that asking respondents to indicate how dimensions of a service *should be* to establish a standard of comparison, as was done in the earlier version, produced unrealistically high standards, they changed the standard to one of actual expectations by asking how the respondents thought the actual service dimension *would be* performed. Additionally, they introduced importance weights of dimensions to the linear combination of the component measures. They also noted that in some industries fewer than the five previously identified dimensions may be found, and in some cases the tangibility dimension seemed to break into two distinct dimensions (“physical facilities/equipment” and “employees/communication materials”), suggesting the possibility of an industry-dimension interaction.

With some modifications, this disconfirmation of expectations based gap model and the SERVQUAL instrument developed from it have dominated the service quality literature. Despite this dominance neither has had universal acceptance. The primary criticisms are usually grounded in disagreements concerning (1) the appropriateness of the overall model itself, (2) the dimensionality proposed by PZB, and (3) the appropriate definition and nature of expectations that should be used if the gap model is employed.

As with the employment of the disconfirmation paradigm in (dis)satisfaction research, the primary criticism of its use in service quality research has been based on the

lack of independence between expectations and perceptions. Carmen (1990) noted that expectations vary between service-encounter situations and, in turn, differentially influence perceptions. Bolton and Drew (1991) found perceived service quality to be a function not only of disconfirmation, but also perceptions of actual performance. That is, perceptions of performance had both a direct effect on service quality and an indirect effect through disconfirmation. They noted the similarity between this finding and the CS/D literature.

Perhaps the most ardent protagonists of the disconfirmation of expectations model for the understanding of service quality have been Cronin and Taylor (1992, p 56). They suggest that despite its popularity in the service quality literature, the gap model has “little if any theoretical or empirical support.” They further suggest that the fundamental flaw in SERVQUAL is the fact that it is based on this gap model, which is a *satisfaction* model, rather than an attitude model as they feel it should be. They posit that a performance only assessment of service quality, which they operationalize as the performance perception half of SERVQUAL, is more isomorphic with this attitude conceptualization than the expectations/perceptions score used in SERVQUAL. In support of this contention, they find that this performance-only measure, which they call SERVPERF, accounts for more variance in a direct assessment of service quality than does the full SERVQUAL measure. This perceptions only operationalization of service quality has found support with Babakus and Boller (1992) and Peter, Churchill, and Brown (1993). Parasuraman, Berry, and Zeithaml (1991) and Parasuraman, Zeithaml, and Berry (1994) acknowledge the potential superiority of perceptions versus difference score operationalization for predictive purposes, but maintain that the difference score approach has greater diagnostic value.

Much as Prakash (1984) criticized the use of difference score operationalization of the disconfirmation of expectations model in satisfaction research, Peter, Churchill, and Brown (1993) again issued a caution concerning their use on methodological grounds. Specifically, they argued that difference scores were often characterized by (1) low reliability, (2) false indications of discriminant validity, (1) spurious correlations and (4) restricted variance resulting from one measure (e.g. expectations) being almost always higher than the other measure (e.g. perceptions).

Several researchers have not found support for the dimensionality across services-encounter types that was found in the original SERVQUAL validation. Carmen found that while most of the SERVQUAL dimensions could be found in a replication across industries not used in the original validation, other dimensions could also be found. He suggested that factor structure for a particular industry may be driven by the importance of dimensions specific to that industry. Studies by Babakus and Boller (1992) and Finn and Lamb (1991) also failed to confirm the five factor structure proposed by PZB's (1988) study.

Considerable debate can also be found in the operationalization of the standard of comparison. This debate involves two issues. The first is a definitional issue similar to Miller's (1977) distinction among ideal, expected, deserved and minimum tolerable standards of comparison in (dis)satisfaction research. The other issue involves the nature of the standard--that is, whether it is a vector attribute or ideal point (Teas 1993).

As noted, in the original study (PZB 1988) expectations were defined in terms of how the service "should" be performed. Brown and Swartz (1990) used a similar

operationalization. However, in their 1991 reassessment, PBZ (1991) noted that should expectations might yield unrealistically high expectations, and thus changed the wording so that expectations would reflect what the respondent *would* experience at a similar company that provided excellent service. Boulding, et al. (1993) found evidence that should expectations negatively affect perceptions of quality while will expectations positively affect perceptions of quality. Cronin and Taylor (1992), drawing on Woodruff, Cadotte, and Jenkins' (1983) work in the satisfaction literature, suggest that a better standard would be a normative expectation based on previous experience with similar service providers. In a further revision, ZBP (1993) suggest the simultaneous use of two comparison standards: desired service and adequate service (see below).

Drawing on all of these conceptualizations of comparison standards as well as Miller's (1977) delineation in the satisfaction literature, Liljander (1995) investigated eight standards in both inferred and direct comparison models. These eight comparison standards were excellent service, adequate service, predictive episodic expectations, brand norm, product type norm, best brand norm, deserved service, and equity. She found that while all expectation measures correlated with performance measures, there was little support for the disconfirmation of expectations model, and that different comparison standards may be used by individuals when making evaluations of service quality or satisfaction and when evaluating intentions to behave (e.g. repeat patronage).

Similar to this issue of the definition of the comparison standard used in the disconfirmation process is the question of the nature of this standard, specifically whether the comparison attribute should be viewed as a vector or a classic attitudinal ideal point.

Teas (1993) maintains that the SERVQUAL model, as well as the gap model on which it is based, implicitly assume vector attributes by specifying a monotonically increasing relationship between P-E and service quality. However, he notes that ZBP (1991, p. 3-4) suggest expectations “is similar to the ideal standard in CS/D literature”, which would imply an inverted v-shaped relationship between P-E and service quality (see Figure 3.4 in the following chapter). The issue is further complicated by the fact that classical ideal point can be conceptualized as a “*classical attitudinal model*” ideal point or a “*feasible ideal point model*” (Teas 1993). In the former model, the expectation is equal to the ideal ($E=I$) standard while in the latter the expected performance and ideal performance are not equal ($E<I$ or $E>I$). Further, Teas (1994, p. 135) notes that additional possibilities for the interpretation of standards exists, such as “hoped for and adequate service.”

Three recently developed models of SQ have departed somewhat from, or significantly modified, the disconfirmation model. Two of these are the previously mentioned attitudinal-based perceptual model of Cronin and Taylor (1992) and the similar dynamic, experience-updated perceptual model of Boulding, et al. (1993). A third is the “zone of tolerance” model of ZBP (1993). The first two are reviewed here, however, because the third of these models represents a “latitude” model, it is dealt with in more detail in a the following citation.

An Attitude/Performance Model of Service Quality. Cronin and Taylor (1992) fault the gap model of service quality because, while service quality is defined as an attitude, the gap model is based on a (dis)satisfaction (i.e., a disconfirmation of

expectations) paradigm. From a synthesis of prior service quality research by Bolton and Drew (1991) and the attitude and satisfaction research of Oliver (1980), they posit that SQ (an attitude) is a function of prior attitude and satisfaction. They see attitude as a function of the evaluation of performance and cite research supporting satisfaction (disconfirmation) as a transitory mediator of performance and attitude, or service quality. They find empirical support for a performance-only conceptualization in the form of the superiority of SERVPERF over SERVQUAL in predicting an independent assessment of service quality. In a latter article they (Cronin and Taylor 1994, p. 127) extend this proposition of the superiority of performance-only measures by asserting that “expectancy-confirmation judgements , however, are distinct from both consumer satisfaction judgments and service quality perceptions.

A Dynamic Process Model of Service Quality. Boulding et al. (1993) propose a dynamic, or iterative, model in which expectations of service quality drive perceptions of service quality, which in turn drive future expectations. They distinguish between *will expectations*, which reflect the anticipated service level, and *should expectations*, which reflect the normative service level. They suggest that the former are a function of prior will expectations, new information acquired between service-encounters and the service level received in the previous service-encounter; the latter, should expectations, are a function of prior should expectations, new information, and the service level received in the last service-encounter. However, should expectations only increase, and only if services received exceed prior expectations. Further, *perceived service* is posited to be a function

of both will and should expectations, new information (e.g., word-of-mouth and advertising), and delivered service level. Finally, will and should expectations influence perceptions inversely. That is, will expectations play an assimilative role and raise perceptions while should expectations serve as a standard against which perceptions are contrasted. Boulding, et al. provide empirical evidence which support these relationships.

A third type of expectation, *ideal expectations* (cf. Teas 1993; 1994), is also delineated but not specifically modeled, in part because ideal expectations are viewed as remaining relatively unchanged and as having only an indirect effect on perceptions through should expectations.

This model represents the most significant departure from the disconfirmation of expectations paradigm for specifying the service-encounter process, at least as it relates to the concept of service quality. The departure has two fundamental dimensions. The first is the dynamic, iterative nature of the process. The second concerns the *perceptual bias* nature of the comparative process, as opposed to the linear-function assumption of disconfirmation. While not explicitly specified, the Boulding et al. (1993) model implies an *evaluative zone* comprising, if not bounded by, “will” and “should” expectations. However, they (Boulding 1993, p. 25) do explicitly proffer the intuitively problematic notion that “ideally, one would want to simultaneously increase customers’ *will* expectations and decrease their *should* expectations”, or alternatively “increase the customers’ *will* expectations without a proportional increase in their expectation of what a firm *should* do.” A more explicit zone model of service quality can be found in the *zone of tolerance* model of ZBP (1993).

The Zone of Tolerance model of Service Quality. Zeithaml, Berry, and Parasuraman (1993), in a major modification of their gap model, propose a dynamic latitude or “zone of tolerance” to replace the single-point conceptualization of the standard normally employed in comparative judgment models. Further, they propose that this zone is bounded by *desired* service and *adequate* service. Presumably, actual service quality within this zone results in perceived service quality which is homogeneously acceptable. This model is addressed in more detail in the following chapter.

Summary. To briefly summarize this section, it should again be pointed out that the (dis)satisfaction and service quality literature, while temporally distinct, are largely parallel in their development. While satisfaction and SQ are presumably different concepts, both have a common foundation in the disconfirmation paradigm; both have generated similar concerns for the appropriate standard of comparison used in the evaluation process; and both have developed models based on multiple standards, within which differences in delivered service are tolerated, if not perceptually undifferentiated. It is these latter zone or latitude models that are the primary focus of the present investigation. However, the similarities between the two concepts and their development raise the question of whether the concepts of satisfaction and service quality are in fact distinct, or two dimensions of the outcome of a singular evaluative process. As stated in the introduction, it is not the purpose of the present research to resolve this issue. Nevertheless, a brief review of the normally cited distinctions and relationship between these two constructs may be appropriate before moving to a more detailed analysis of latitude models.

Consumer Satisfaction versus Service Quality

Despite their common foundations in the disconfirmation of expectations paradigm, most researchers view service quality and satisfaction to be different concepts. The three primary distinctions between the constructs are (1) their antecedent/consequence relationship, (2) the comparison standard by which they are defined, and (3) their episodic versus relational nature. These distinctions are related. At times these distinctions are specified; often they are only implied.

Neither Gronroos (1982) nor Parasuraman, Zeithaml, and Berry (1985) address the issue of the relationship between service quality and satisfaction. However, Parasuraman, Zeithaml, and Berry (1988) do address the issue by first defining service quality as an attitude and then invoking Oliver's (1991, p. 42) distinction between attitude as an "enduring affective orientation" and satisfaction as an "emotional reaction following a disconfirmation experience which acts on the base attitude level and is consumption-specific." Thus, they (Parasuraman, Zeithaml, and Berry (1988) conclude:

perceived service is a global judgment, or attitude, relating to the superiority of service, whereas satisfaction is related to a specific transaction. Incidents of satisfaction over time result in perceptions of service quality.

They leave relatively implicit the notion that service quality, in turn, affects behavioral intentions. Their model can be represented as:

Satisfaction → Service Quality → Behavioral Intentions

Woodside, Frey, and Daly (1989) propose a model in which evaluations of specific events in successive “acts” (episodes) of service encounters result in perceptions of service quality which combine to form an overall perception of service quality. This overall service quality affects customer satisfaction which, in turn, affects behavioral intentions. In its simplest form, the model can be represented as:

Service Quality_{Act} → Service Quality → Satisfaction → Behavioral Intentions

They present empirical evidence to support their model. However, they note that their crosssectional approach and single-item measures could cause inflated correlations due to systematic method and response bias.

Bitner (1990) presents results of a test of a model similar to the one proposed by Parauraman, Zeithaml, and Berry (1988), which also posits that attributions of causality mediate disconfirmation and satisfaction. Contrary to the findings of Woodside, Frey, and Daley (1989) the results of their fully recursive structural equation model provides support for the Satisfaction → Service Quality → Behavioral Intentions sequence.

In line with these results, Cronin and Taylor (1992) hypothesized a similar model of satisfaction as an antecedent of service quality. Using a nonrecursive structural equation model they present evidence that which, in their interpretation, suggests that service quality precedes satisfaction. However, it should be noted that the coefficients for the structural path from satisfaction to service quality, while smaller than the path in the reverse direction, was also significant. Additionally, they find that satisfaction has a direct

effect on behavioral intentions while service quality primarily has an indirect effect through satisfaction. Somewhat consistent with these results, Taylor and Baker (1994) find that the interaction between satisfaction and service quality explain more of the variance in behavioral intentions than either satisfaction or service quality alone. They interpret this finding as evidence that satisfaction moderates the relationship between service quality and behavioral intentions. However, it should be noted it is not entirely clear from the data presented why an interpretation of an inverse relationship (service quality mediates satisfaction) is not equally plausible.

Similar to Woodside, Frey, and Daley's (1989, p. 76-77) multiple, act-specific or episodic perception of service quality which combines to form overall service quality, Bitner and Hubbert (1994) propose the following hierarchical-conceptualization of satisfaction:

Service Encounter Satisfaction: The consumer's dis/satisfaction with a discrete service encounter (e.g., a haircut, an interaction with a dentist, a discussion with a repair person, and experience with a hotel check-in desk).

Overall Service Satisfaction: The consumer's overall dis/satisfaction with the organization based on *all* encounters and experiences with that particular organization.

This overall service satisfaction functions as an antecedent of :

Service Quality: The consumer's overall impression of the relative inferiority/superiority of the organization and its service.

In an empirical investigation of this model, they (Bitner and Hubbert 1994, p. 88) find that a three factor solution to a confirmatory factor analysis fits the data better than either a one or a two factor solution. However, they note "the high correlation in the three-factor

solution provides evidence that the constructs, though distinct, are quite similar conceptually.” No test of the proposed causal order between satisfaction and service quality is provided.

Parasuraman, Zeithaml, and Berry (1994) in a significant revision of their earlier views of service quality, (dis)satisfaction, and the relationship between the two, reverse their previous position and accept the Woodside, Frey, and Daley (1989) view that service quality precedes satisfaction. Additionally, responding in part to suggestions from Teas (1993), they also adopt a hierarchical model similar to that of Bitner and Hubbert (1994) with three differences. First, as noted, they reverse the causal order between service quality and satisfaction. Second, they add product quality and price to transaction-level antecedents and delineate transaction-level satisfaction as a function of transaction-level service quality, product quality, and price. Finally, they delineate global level impressions about a firm, which are seen as a function of transaction-level evaluation.

Oliver (1993) distinguishes between service quality and satisfaction on the basis of the nature of the expectation. He suggests that service quality judgements result from comparison of performance with ideal expectations, while dis/satisfaction judgments result from comparison of performance with predictive expectations. Spreng and Mackoy (1996), in an empirical test of a modified form of this model, find support for the distinction between service quality and satisfaction. However, they find the two constructs to be highly correlated. Spreng and Mackoy also note the similarity between their own and Oliver’s distinction between desired and predictive expectations and Boulding et al’s (1993) distinction between “should” and “will” expectations.

Liljander and Strandvik (1995) take Parasuraman, Zeithaml, and Berry's conceptualization one step further and, similar to a framework proposed by Teas (1993), distinguish between *episodic* service quality and satisfaction and *relational* service quality and satisfaction. Like Parasuraman, Zeithaml and Berry, they model service quality as an antecedent of satisfaction, but additionally combine quality with "sacrifice" (cost) in a concept of "value". Following an empirical investigation of this model, Liljander (1995) suggested that many of the distinctions between the two constructs (i.e. service quality and satisfaction) be abandoned. More directly, and adding the term "value" to the list, Strandvik (1994, p. 63) contends:

Even if there is a theoretical distinction between service quality, satisfaction, and value, it is not certain that it is meaningful to measure them all. It is not clear, either, whether the customers are able to make reliable distinctions between these concepts.

Given this present state of the theory and evidence concerning a meaningful distinction, or lack of one, between service quality and satisfaction, the present research is not framed in terms of either. Rather, given the similarities in the manner in which the constructs have been conceptualized and measured, the similarity among the standards which have been proposed to be employed in the evaluative process, and the suggestion that each might be better modeled by some latitude or zone model rather than, or as a modification to, the disconfirmation of expectations paradigm, the focus of the present research is the evaluative process. Particular attention is directed toward these latitude models.

SUMMARY

This chapter explores the dominant model used for the understanding of the evaluation of the service-encounter, the disconfirmation of expectations paradigm. This paradigm posits that perceptions of a service encounter are judged in relation to some standard, usually an expectation about the service-encounter brought into the situation by the consumer. Its employment can be found in both the (dis)satisfaction literature and the service quality literature. The development of both of these research streams are reviewed and compared. A number of common problems with disconfirmation of expectations paradigm have been noted in both research streams. The two most commonly cited problems are the (1) fact that expectations and perception have been found to be correlated and (2) the observation that the relationship between (dis)satisfaction and attributions of service quality are not linearly related to variations in service-encounter attributes. In both literatures, zones of tolerance or latitudes of acceptability have been proposed as modifications to, or alternative models for, the disconfirmation of expectations paradigm.

The literature concerning the relationship between satisfaction and service-encounter is also briefly reviewed. There is little agreement concerning this relationship and increasingly scholars are questioning whether the two constructs are distinct.

CHAPTER III

REVIEW OF LITERATURE: LATITUDE MODELS OF EVALUATIVE PROCESSES

INTRODUCTION

In their simplest form, the central feature of latitude models is the proposed existence of a range, zone, or latitude within which actual differences are perceptually, affectively, or behaviorally equivalent. In one sense they may be seen as an alternative to models which employ a single point (e.g. ideal point) as a direct standard of comparison for evaluative judgements; however, as will be discussed, they may imply much more.

These models can be classified into three types: multiple standard boundary models, perceptual displacement models, and hybrid models. Multiple standard boundary models assume the existence of more than one standard against which perceptions of a performance are judged and which serve as boundaries of a zone within which perceptions are not differentiated (e.g., ZBP 1993). Perceptual displacement models (e.g., assimilation) assume that standards serve as an anchor in a conceptual categorization process which distorts perceptions of a performance (e.g., Weber/Fechner law). Hybrid models (assimilation-contrast) assume the use of multiple standards which serve as multiple

anchors in the categorization of perceptual stimuli (e.g., Sherif, Sherif, and Nebergall 1965).

As a class, these models are not new to social scientific inquiry. In terms of the relationships they posit, roots can be found in Weber and Fechner's (1966) investigation of psycho physical judgments. In terms of the underlying processes, roots can be found in the study of psycho social phenomena by Festinger, Helson, Sherif, and others. They are also not new to marketing. With varying degrees of detail, latitude models have been suggested as fundamental to the evaluation of price (Emery 1970; Kalyanaram and Little 1994), product class (e.g., Naryana and Markin 1975), and consumer satisfaction/dissatisfaction (e.g. Anderson 1973; Oliver 1988), as well as service quality (e.g. Zeithaml, Berry, and Parasuraman 1993). The emphases of the present investigation are the latter two rubrics, particularly as they relate to the service- encounter. However, a review of the various explanatory foundations, as well as a review of the various applications of latitude models in the marketing literature, is appropriate.

The organization of this chapter is as follows. First, the zone of tolerance model from the service quality literature is outlined. Then, some alternate theoretical foundations for understanding latitude models are introduced, with particular attention to social judgment-involvement theory. Studies from the marketing literature that are based on or suggest latitude interpretations are then reviewed. Some patterns and research questions that emerge from this review are noted. Finally, a set of testable hypotheses that are used in the remainder of this thesis are proposed.

THE "ZONE OF TOLERANCE" MODEL

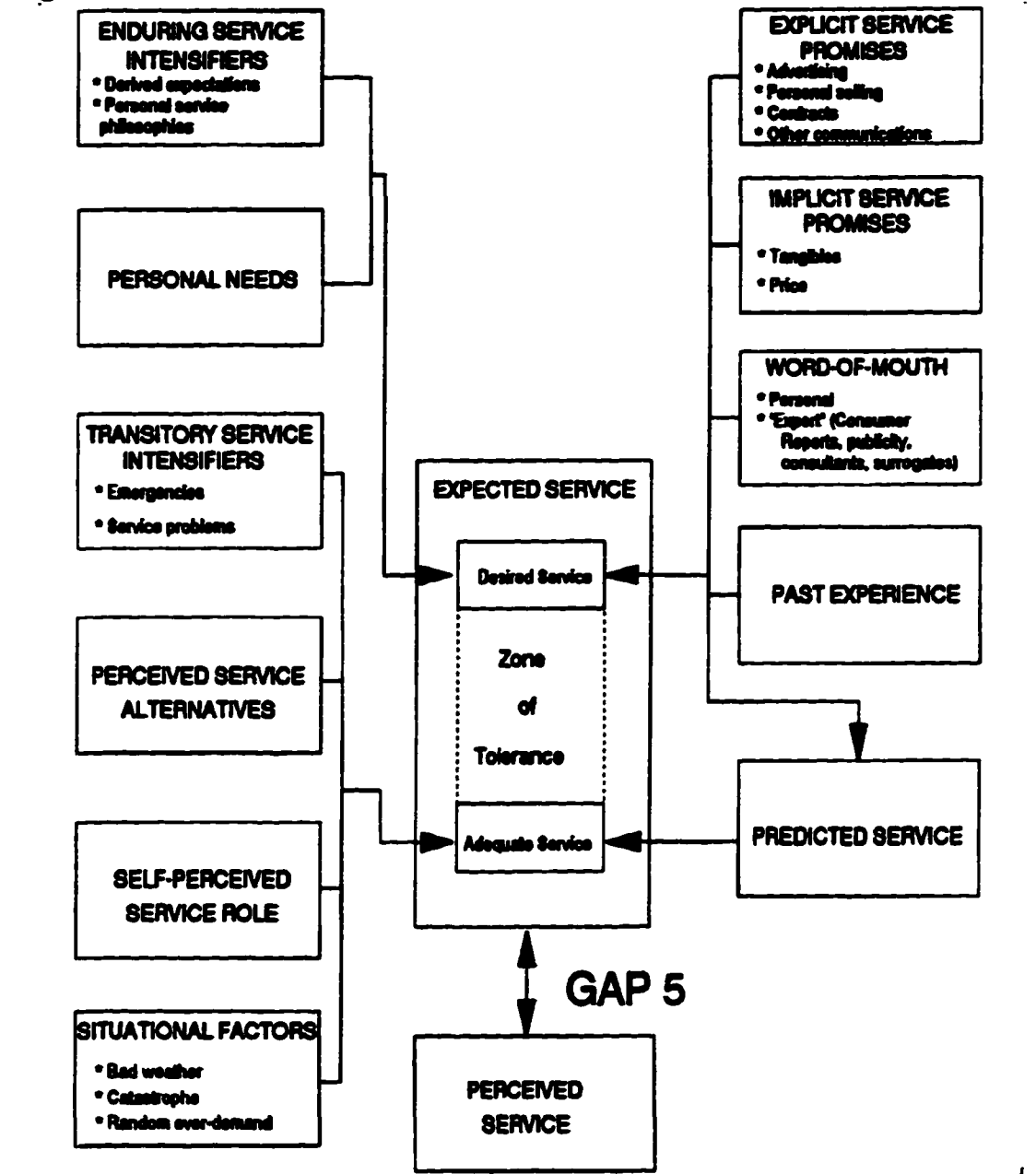
The central feature of the “zone of tolerance” (Parasuraman, Zeithaml, and Berry 1993) model of SQ is the explicit conceptualization of the comparison standard used in the evaluation of service quality judgments as a range or zone within which deviations from desired quality are tolerated, if not unnoticed. The full model is represented by a series of propositions and supporting definitions as shown in Table 3.1., and is shown schematically in Figure 3.1.

Table 3.1. Zone of Tolerance Propositions

- P1:** Customers assess service performance based on two standards: what they desire and what they deem acceptable.
- P2:** A zone of tolerance separates desired service from adequate service.
- P3:** The zone of tolerance varies across customers.
- P4:** The zone of tolerance expands or contracts within the same customer.
- P5:** The desired service level is less subject to change than the adequate service level.
Enduring service intensifiers are individual, stable factors that lead the consumer to a heightened sensitivity to service...(e.g.) derived (from other persons) services expectations...(or) the customer's underlying generic attitude about the meaning of service.
- P6:** Enduring service intensifiers elevate the level of desired service.
- P7:** A positive relationship exists between the level of personal needs and the level of desired service.
- P8:** In the presence of transitory service intensifiers, the level of adequate service will increase and the zone of tolerance will narrow.
- P9:** The customer's perception that service alternatives exist raises the level of adequate service and narrows the zone of tolerance.
- P10:** The higher the level of a customer's perceived service role, the higher the level of adequate service.
Situational factors (are) service-performance contingencies that customers perceive are beyond the control of the service providers.
- P11:** Situational factors temporarily lower the level of adequate service, widening the zone of tolerance.
Predicted service (is) the level of service customers believe they are likely to get. (It) is synonymous with the definition of expectations in the dominate paradigm in the CS/D literature.
- P12:** Two types of service quality assessments are made by consumers: perceived service superiority, which results from a comparison between desired service and perceived service; and perceived service adequacy, which results from a comparison between adequate service and perceived service.
- P13:** The higher the level of predicted service, the higher the level of adequate service and the narrower the zone of tolerance.
Explicit service promises are personal and nonpersonal statements about the service made to customers by the organization.
Implicit service promises are service related cues other than explicit promises that lead to inferences about what the services could and will be like.
- P14:** The higher the level of explicit service promises, the higher the levels of desired service and predicted service.
- P15:** Implicit service promises elevate the levels of desired service and predicted service.
- P16:** Positive word of mouth communication elevates the levels of desired and predicted service.
- P17:** A positive relationship exists between levels of past experience with a service and the levels of desired service and predicted service.

Source: Zeithaml, Berry, and Parasuraman (1993)

Figure 3.1 The Zone of Tolerance Model



Source: Zeithaml, Berry, and Parasuraman (1993), "The Nature and Determinants of Customer Expectations of Service", *Journal of the Academy of Marketing Science*, 21 (Winter), 1-12.

This zone of tolerance is presumed to be bound by "desired service" (upper boundary) and "adequate service" (lower boundary). *Desired service* is defined as "the level of service the customer *hopes to receive* (p. 6)" and represents a combination of what the service *should* and *can be*. *Adequate service* represents the *minimum tolerable* level of service the customer will accept (cf. Miller 1977) and is comparable to *experience-based norms* proposed by Woodruff, Cadotte, and Jenkins (1987). It is proposed that this zone expands and contracts, partially as a function of (1) "situational" and "enduring service intensifiers," which represent individual specific variables; (2) "situational factors," which are specific to and vary with the situation; (3) information provided by others, including the service provider, and brought into the situation; and (4) past experience. Adequate service is seen as being more variable than desired service, and therefore contributing more to the dynamic nature of the zone of tolerance.

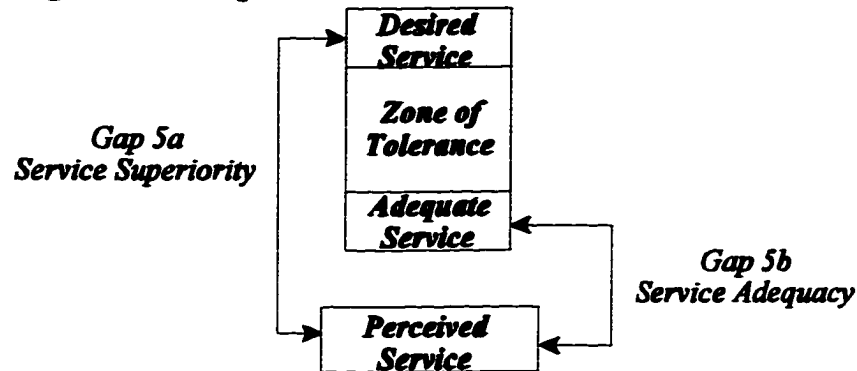
ZBP (1993) explicitly distinguish between *consumer satisfaction* and *service quality*. The former is the "gap" between predicted service and perceived service and the latter is the "gap" between expected service and perceived service. Because expected service is based on two comparison standards, service quality can be conceptualized as two "gaps": one between perceived service and *adequate service*, which they call *perceived service adequacy*, and one (gap 5A) between perceived service and *desired service*, which they call *perceived service superiority* (see Figure 3.2).

It should be clear that the zone of tolerance model is an extension of the disconfirmation of expectations paradigm with comparisons between perception and multiple standards representing different constructs (e.g., service quality and consumer satisfaction) and varying conceptualizations (e.g., service adequacy and service superiority) of the same construct.

The zone model offers several advantages over previous models by explicitly acknowledging and integrating (1) the significance of attitudes brought into the judgment context, (2) the existence of individual differences in the judgment process, (3) the impact of the judgment context itself (situation) on the judgment process, (4) the possibility of the existence of multiple standards employed in the judgement process, and (5) the expanding and contracting nature of the range of perceptions in relation to standards of comparison. However, the model also has several shortcomings and represents several challenges, most of which are acknowledged by the researchers. First, while the model provides an integrated framework, in its present state of development it provides little insight into how these existing attitudes, individual differences, and situational cues interact to mediate judgment. Second, and related, it also has only limited grounding in any existing theoretical framework. Third, as noted previously, it is still fundamentally a disconfirmation of expectations model with multiple standards serving as boundaries for a zone, and potentially has the shortcomings previously noted for disconfirmation models--e.g., the dependence of expectations and perceptions--which are explicitly acknowledged in the present model. In fact, ZBP (1993) explicitly

distinguish between gap 5a, “service superiority”, and gap 5b, service “adequacy” (see

Figure 3.2 Gaps 5a and 5b

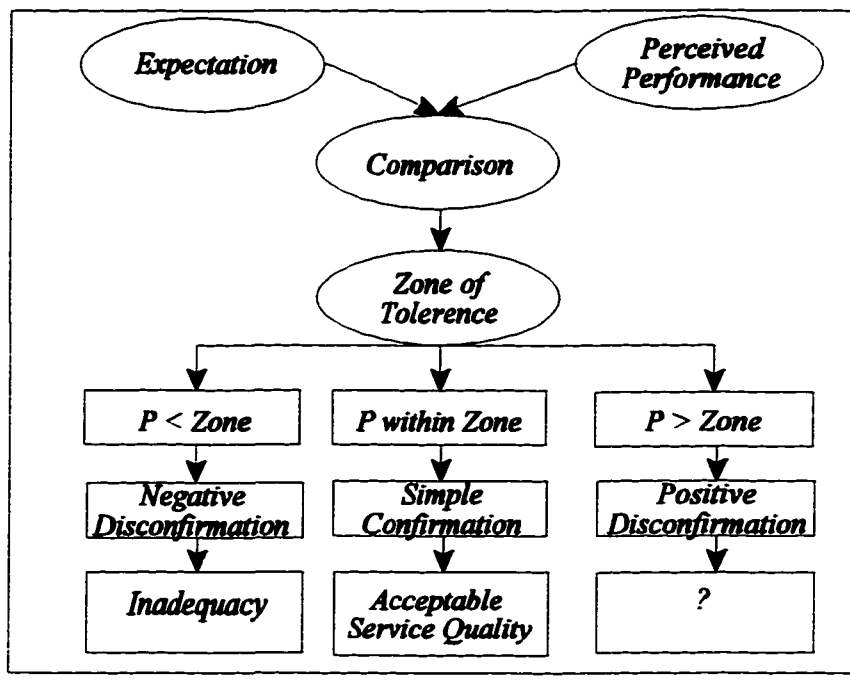


Source: Zithaml, V.A., L.L. Berry, and A.V. Parasuraman

Figure 3.2). Fourth, it is not entirely clear what happens if perceived service is outside of the zone of tolerance (see Figure 3.3). Presumably, if it is below adequate, all disconfirmation is negative and perceived service quality is poor. On the other hand, if perceived service is beyond the desired level, perceived service quality could be considered to be ‘superior,’ neutral, negative, or impossible. Given the gap 5a delineation, a superior service interpretation appears most likely. In this case, given a perception outside the zone of tolerance, a perceptual indifference interpretation could not be invoked. In part, this latter problem is a function of whether comparison standards are considered to be vector attributes or ideal points (e.g., Teas 1993, 1994). However, it is also a function of the nature of the zone. That is, is the zone of tolerance a neutral zone, comparable to an expanded range of expectations, within which perceptions result in responses of indifference, or a positively charged affective zone within which small differences are

simply not noticed. Regardless of the nature of the attribute, a problem with interpretation persists. This problem is not unique to this particular zone model and is discussed in more detail in a later section. Finally, the multidimensional conceptualization of the standards

Figure.3.3 Disconfirmation of Expectations Model of Zone of Tolerance



of comparison highlights the importance of the development of instruments that can capture the perceptual differences between the standards. As PBZ (1993, p. 10) point out:

empirical testing of the propositions advanced would require developing psychometrically sound measures of the model's constructs, particularly, the focal constructs of desired, adequate, and predicted service. While the domain of customers' service expectations (i.e., the general dimensions of criteria customers use in evaluating services) has been well established (Parasuraman, Zeithaml, and Berry 1985, 1986), more work is needed to operationalize those domains in the context of the three types of expectations.

Parasuraman, Zeithaml, and Berry (1994) tested three alternative methods (and

indirectly the zone of tolerance model) for assessing service quality from the perspective of the zone of tolerance model:

Three-column format, in which desired, adequate, and perceived service are rated on side-by-side scales and difference scores are calculated for

Measured Service Adequacy (MSA), the difference between perceived performance and adequate performance, and

Measured Service Superiority (MSS), the difference between perceived service and desired service

Two-column format in which MSA and MSS are measured directly (i.e., is your perception greater than or less than the adequate and desired levels respectively) on adjacent nine-point scales

One-column format in which direct measures of MSA and MSS are made sequentially rather than side-by side.

SERVQUAL items were used as stimulus items. “Minimum service” was substituted for “adequate service” after a pilot test revealed “logical inconsistencies” in responses. Across four service types, the direct, performance-only measure of MSS was superior to either direct MSA measures or the difference-score measures derived from the three-column format in predictive validity (correlation with another service quality measure). However, despite this superiority, the researchers noted that the indirect assessment measures have more diagnostic value than the direct measures because both the size and location of the zone of tolerance and the location of perceived service can be determined, in contrast to the direct measures which only provide placement of perceived service relative to the zone. Additionally, they note a common “response error” with the direct measure, in which MSS exceeds MSA. Additionally, they find that with the indirect measure, perceived service appears to be above the zone, a pattern that they find suspect. This pattern was in contrast

to the pattern found in the direct measure, in which perceived service was less than desired (i.e., MSS was negative). The researchers see this as evidence that the indirect measure is more “face valid.”

ALTERNATIVE THEORETICAL FOUNDATIONS OF LATITUDE MODELS

The fact that the fundamental feature of latitude models is the existence of a zone within which perceptions or behaviors are undifferentiated implies a nonlinear relationship between the level of a service encounter dimension (e.g. friendliness of a waitperson in a restaurant) and the perception or behavior under investigation. This relationship is in contrast to the linear relationship implied by the disconfirmation of expectations paradigm. Figure 3.4 shows some alternative forms this relationship may take.

A number of models and theoretical frameworks exist which explicitly or implicitly describe these nonlinear or latitude relationships exist. Most have their origins in psychophysics and social psychology. Some of the more important frameworks are the Weber-Fechner Law, Adaptation-level Theory, Prospect Theory, and the Social Judgment-Involvement approach to the study of attitudes. The essential elements of these foundations are outlined in the following sections.

The Weber-Fechner Law

The foundations for the notion that perception of stimuli may occur as categories, in which physically different stimuli are judged to be equivalent or similar, can be found

in law. Weber's law suggests that the level of difference that can be perceived between two stimuli is a constant function of the intensity of the first stimulus presented. Specifically, Weber's law suggests that:

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

where S is the magnitude of the original stimulus, ΔS is the amount of change in the stimulus necessary for a difference to be perceived, and K is a constant.

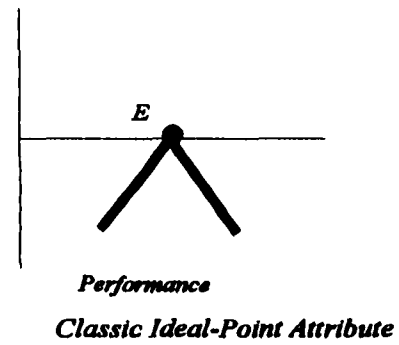
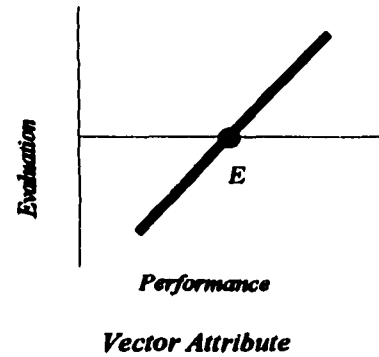
Fechner restated Weber's law to express it in terms of a perceptual response and to account for the fact that Weber's constant ratio holds for only a limited range of stimulus intensity (see Savage 1970). Fechner's restatement takes the form

$$R = c \log S + a$$

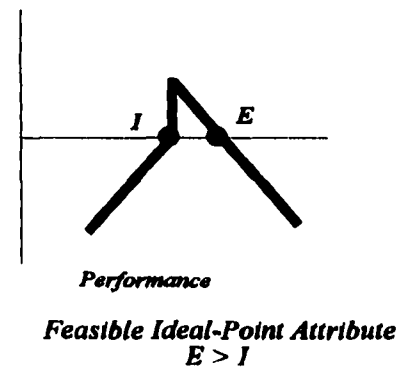
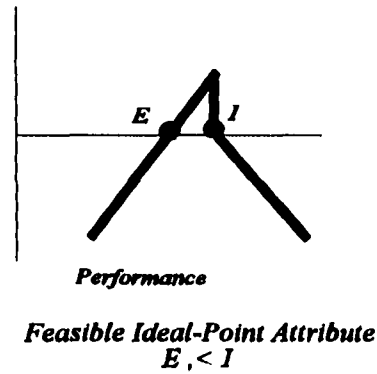
where R equals the sensation response, c is a constant of proportionality, and a is the constant of integration, or absolute threshold.

Regardless of the way in which it is stated, the Weber-Fechner law implies a zone of indifference within which changes in stimulus values are perceptually equivalent, and above and below which stimulus values are perceived as greater than and less than the stimulus respectively. This zone of indifference is called the just-noticeable-difference (jnd) and, as indicated, is a function of the stimulus intensity in which it occurs.

Figure 3.4a Select Evaluative Function- Single-Standard Model

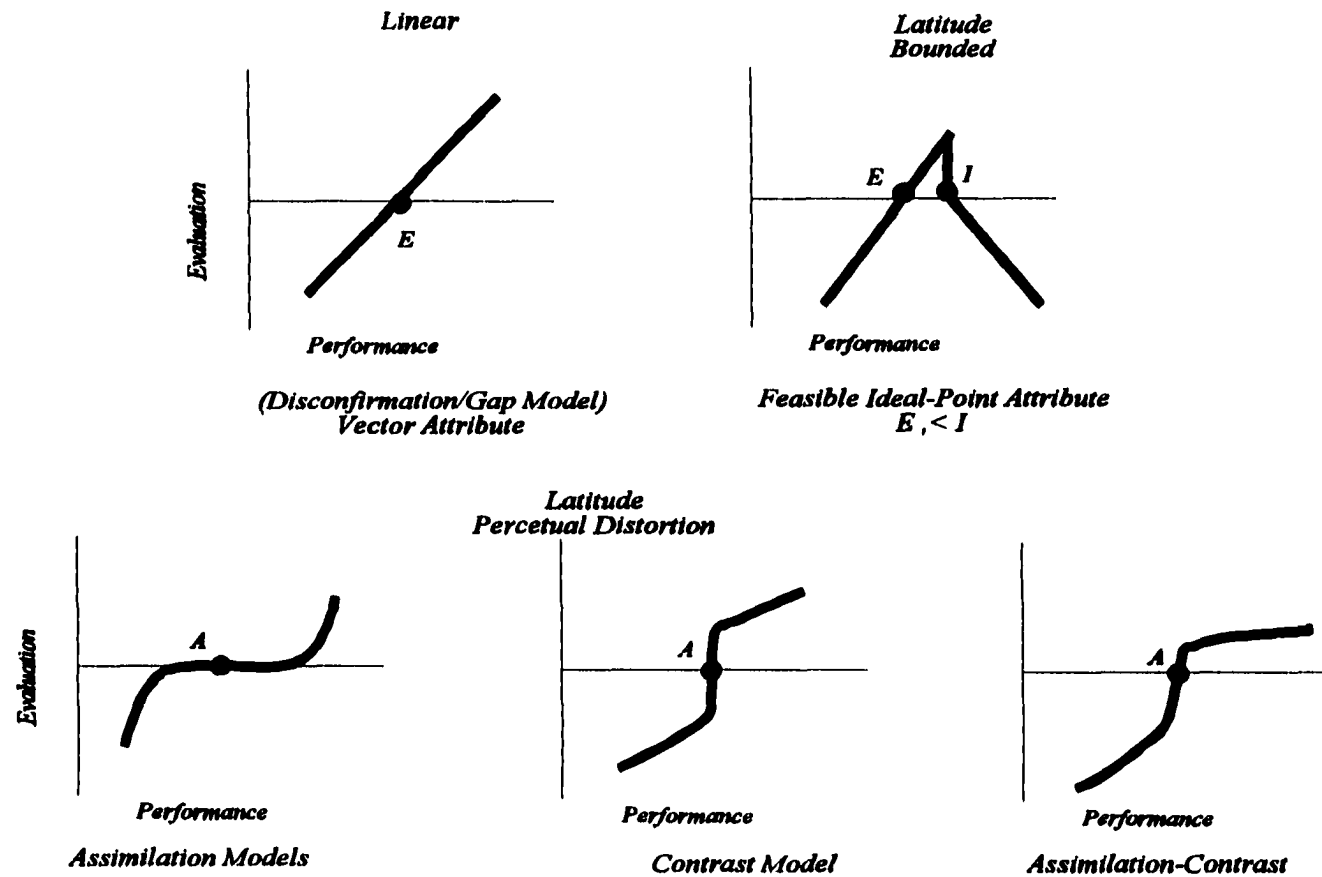


Multiple-Standard Models



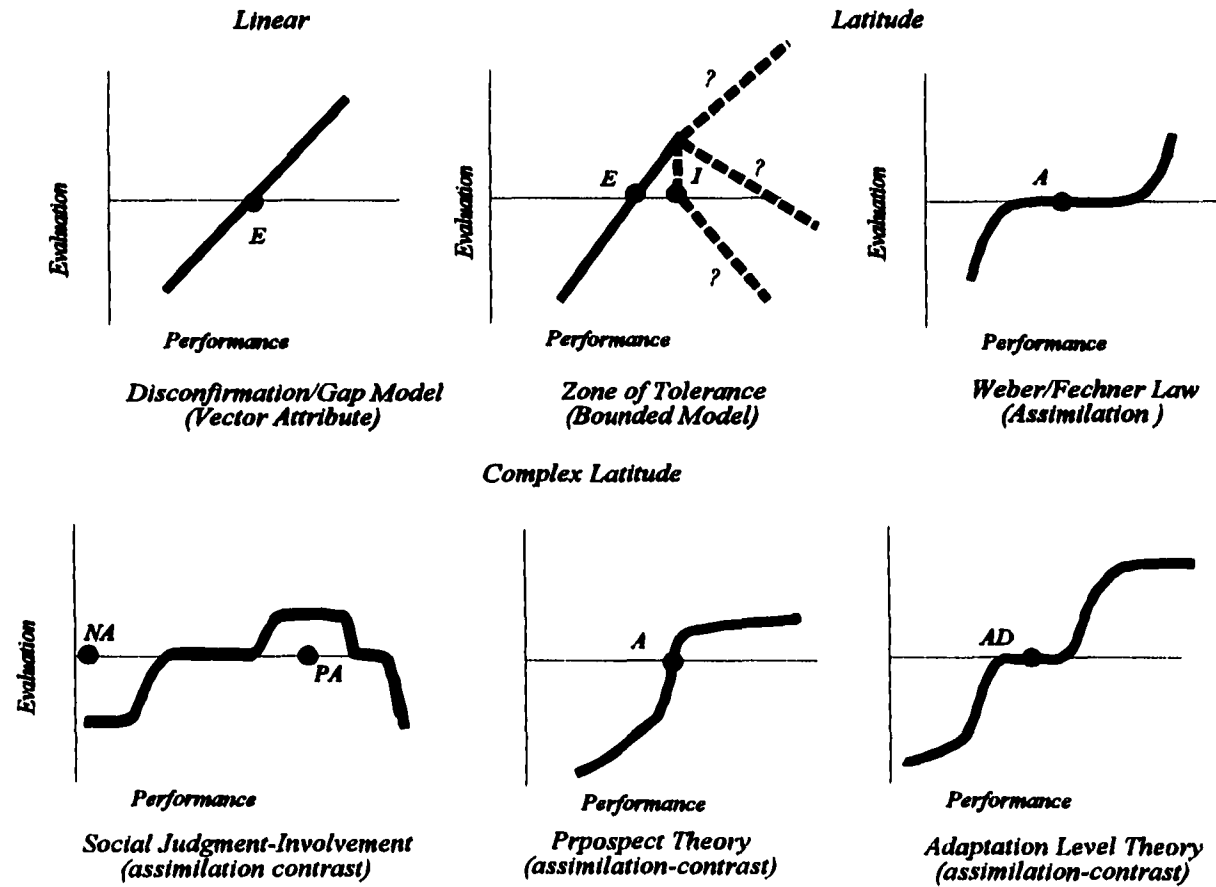
E = Expected, I = Ideal

Figure 3.4b Select Evaluative Functions-- Generic Models



E = Expected, I = Ideal, A = Anchor

Figure 3.4c Select Evaluative Functions-- Specific Models



E -- Expected, I -- Ideal, A -- Anchor, NA -- Negative Anchor, A -- Anchor, AD -- Adptation Level

Adaptation-level Theory

Whereas the Weber-Fechner law views this zone of indifference and the sensation-response to be a function of stimulus intensity, adaptation-level theory sees neutrality and sensation-response to be a function of all current and previously experienced stimuli (Helson 1959). That is, based on all currently and previously experienced levels of a stimulus, individuals form a pooled area of neutrality, or equilibrium, about which their own scale for that stimulus is formed.

Helson (1959; 1964) originally developed adaptation-level theory to explain the phenomenon of color sensation response in the context of varying illumination levels. For Helson, as individuals experience a stimulus they develop a scale or reference structure with a behavioral equilibrium. This behavioral equilibrium, or neutral region, reflects the individual's adjustment to the stimuli and serves as a reference point for the evaluation of similar stimuli. Helson calls this neutral region adaptation level (AL). Adaptation level (Helson 1959, p. 567) is a function of the pooled effects of

three classes of behavior operating in all behaviors: (1) the stimuli being responded to and in the immediate focus of attention; (2) all other stimuli immediately present and forming a background or context for the focal stimuli and often affecting them profoundly; and (3) all determinants of behavior having their locus within the organism, such as effects of past experience and constitutional and organic factors which interact with present stimulation.

Importantly, past experience includes any previously formed adaptation level resulting from prior experience with the stimuli. Unless counteracted by the internal influences (e.g., an existing AL based on previous experience), AL tends to be a weighted log mean of the stimuli immediately confronting the individual.

The existence of an adaptation level (AL), which represents an equilibrium, implies a “bipolarity of behavior.” That is, stimuli above AL elicit one response (e.g. positive) while stimuli below AL elicit an opposite response (e.g., negative). Thus, AL serves as a “frame of reference” against which stimuli are judged. A special case of this neutral adaptation level, or frame of reference, is “expectancy level.” Helson (1959, p. 585) further assumes that (1) the specific response to any stimulus is a function of its distance from AL in Weber-Fechner just-noticeable-difference units; and (2) “the magnitude of the perceived difference is not, as in the Weber law, a constant fraction of the standard, nor, as in Fechner’s law, a function of only the stimulus and its distance from absolute threshold but, rather, depends upon both the stimuli being judged and the value of AL.” Helson’s modified version of Weber’s law becomes :

$$\frac{\Delta S}{f(S,A)} = K$$

where ΔS equals the jnd, S is the stimulus, A is AL, and K is the Weber constant. AL can be further specified as:

$$A = S^p B^q R^r$$

where S is the log mean of stimuli being judged, B is the background stimulus, R is the residual (including previous experience), and p , q , and r are the weighting coefficients which sum to 1. The restated version of Fechner’s law becomes:

$$J = K \log S - K \log A$$

with A, or AL, replacing the absolute threshold as a neutral point, as in the original formulation.

Two central features of adaptation-level theory should be emphasized. First, AL is dynamic and comprehensive. That is, AL is both a function of present and past experiences and changes over time with exposure to additional stimuli. This is in contrast to the Weber-Fechner conceptualization which considered only the relative difference between two present stimuli and/or their distance from absolute threshold of stimulation (level of intensity). Second, the standard for comparison is a *neutral* zone, rather than an *affectively* preferred point, or zone of acceptability or desirability. This assumption of a neutral standard is in contrast to the motivational-affective standard employed by the social judgment-involvement approach.

Prospect Theory

Prospect theory was first proposed by Kahneman and Tversky (1979; Tversky and Kahneman 1980) as an alternative to expected utility theory as an explanation of decision-making under conditions of risk. They proposed an asymmetric, s-shaped value function about a neutral reference point (cf., Helson 1964) which is (1) concave for gains and convex for losses and (2) more steep for gains than losses. That is, (1) the subjective perception of successive, equal amounts of a gain or a loss (e.g., money) decreases and (2) losing results in more displeasure than an equal gain results in pleasure. Thus judgments

can be affected by the way they are framed in terms of losses or gains.

Kahneman (1991) distinguishes between reference points and anchors. Reference points are neutral points, such as the adaptation level, while anchors are “graded” values of a stimuli that represent the salient values in norms or categories and affect evaluation of other stimuli, including the determination of reference points. Since the reference point is a point of sharp transition in the slope of the value function, it might therefore be characterized as point of *contrast*. Kahneman further notes that a multiplicity of reference points may be operative at the same time.

THE SOCIAL JUDGEMENT-INVOLVEMENT APPROACH

One latitude approach to judgmental and evaluative processes, the Social Judgment-Involvement (SJI) orientation, is worthy of particular attention in the understanding of the service-encounter evaluation in general, and for zone models in particular, for several reasons. First, the evaluation of the service-encounter is, by definition, an attitude phenomenon. Second, SJI is the only approach to the understanding of attitudes that explicitly model attitudes in terms of latitudes, or a set of evaluative categories. Finally, SJI extends the Weber-Fechner law, as well as the adaptation-level theory approach to multiple latitudes of acceptability, objectionability, and neutrality, rather than making an *a priori* assumption that stimuli above and below a neutral zone are uniformly acceptable and objectionable, respectively. The latitude conceptualization of SJI is, at a minimum, analogous to the zone of tolerance model of ZPB, as well as other range

or zone models.

Social judgment-involvement (e.g., Sherif and Cantril, 1947; Sherif and Hovland, 1961, C. Sherif, Sherif, and Nebergall, 1965) was originally developed as a theoretical approach to the conceptualization, assessment, and study of attitudes, attitude formation, and attitude change. In a departure from traditional single-point conceptualizations of attitudes, SJI saw attitudes as ranges or evaluative categories which are used by individuals to define what is acceptable and what is unacceptable. These "latitudes" of acceptability and unacceptability were posited to expand and contract as a joint function of the relationship between the referent and the individual's self-concept and the situational context. Further, attitudes were seen to serve as anchors that caused perceptual bias. This perceptual bias was found to be the greatest for those stimuli which were the most ambiguous.

Psycho physical Foundations of Social Judgment-Involvement

The theoretical and empirical underpinnings of social judgment theory are grounded in psycho physical scaling and attitude formation and change research. The prototypical psycho physical experiment for SJI research involves the comparison of a series of weights, first in isolation and then in the presence of an increasingly large reference weight (Sherif, Taub, and Hovland, 1958). In isolation, the relative weights of the individual stimuli in the series are normally judged with a high degree of accuracy. However, as heavier reference weights are systematically introduced into the judgment process, the relative weights of the original stimulus series are first skewed toward, and

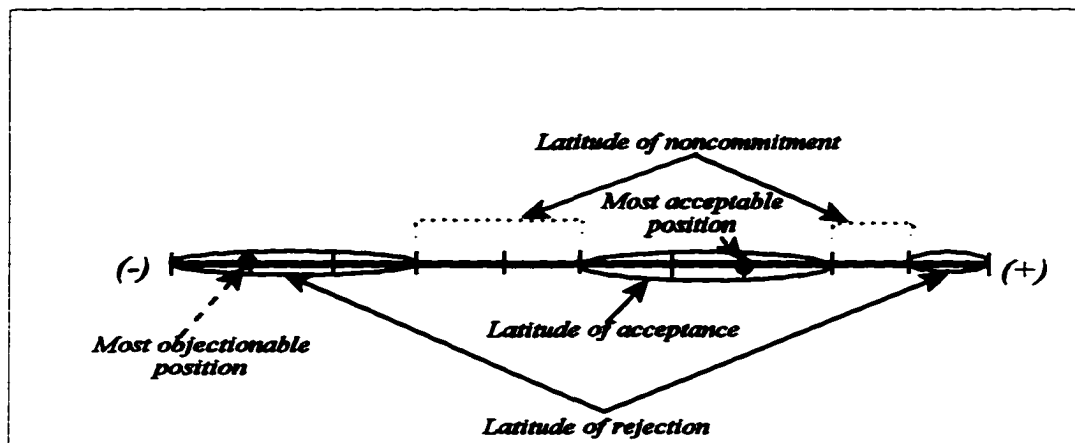
then away from, the reference. The SJI interpretation is that the perceptual scale used for judgment of heaviness is adjusted as the reference weights are introduced. These displacements are attributed to “assimilation” and “contrast” effects. The reference stimuli are assumed to serve as anchors against which other stimuli are judged, and in relation to which the underlying evaluative categories form the individual's reference scale. These reference scales have been shown to stabilize and become internalized with increased experience with the stimuli and to be employed in further similar judgment tasks performed by the same individuals (Sherif and Hovland, 1961).

Psycho social Reference Scales

The development of psycho social reference scales is presumed to be relatively isomorphic with the development of psycho physical scales. The classical crossover experiment (from psycho physical to psycho social scaling) centered on the "autokinetic" effect-- the apparent movement of a stationary light in a dark room. Sherif (1935) found that when asked to estimate the range of movement of the light when the judgement of a "plant" provided an external anchor, subjects tended to displace their judgements of the amount of movement toward the confederates, and to subsequently internalize the resulting reference scale and employ it in further, similar judgment tasks.

For SJI theorists, the development and internalization of psycho social reference scales are at the heart of their related conceptualization of attitudes. Reference scales are seen as providing stable ties and anchors with the physical and social environment. These stable ties and anchors are represented as attitudes, which are defined as (Sherif, Sherif,

Figure 3.5 Social Judgement Representation of an Evaluative Domain



and Nebergall 1965, p. 20):

...a set of evaluative categories formed toward an object or class of objects as the individual learns, in interaction with others, about his environment, including evaluations of other people.

Because these attitudes make up the individual's self-concept, and the psychological tendency is presumed to be toward stability of ties and anchors, attitudes are seen as having motivational-emotional aspects that are inexorably intertwined with their cognitive structures. They are carried with the individual, serve as internal anchors, and, in interaction with other attitudes and with external anchors (situational cues), provide a frame of reference for the judgment of stimuli (Sherif, Sherif, and Nebergall, 1965).

Attitudes as Latitudes

For SJI theorists, the cognitive structure of attitudes is modeled as a series of latitudes, or ranges of evaluative judgements of stimuli. The *latitude of acceptance* (LA)

consists of the position in the domain of an issue which the individual finds most acceptable, as well as any other acceptable positions (cf. ZBP's "zone of tolerance"). The *latitude of rejection* (LR) is composed of the position within the domain which the individual finds most objectionable, plus any other positions which the individual finds objectionable. The *latitude of noncommitment* (LNC) represents all of the positions that the individual finds neither acceptable nor objectionable (cf., adaptation level). A schematic representation of latitudes can be seen in Figure 3.5.

As the attitudes are accessed in the context of appropriate stimulus situations, the associated latitudes are hypothesized to expand or contract as a function of (1) the centrality of the attitude in the individual's ego-attitude hierarchy, mediated by assimilation-contrast effects, and (2) the situational context (cf. ZBP P1, P3, P6, P8, and P11). Latitude width is seen as an indicator of *ego-involvement*, which is defined (Sherif, Sherif, and Nebergall 1965, p.65) as:

...the arousal singly or in combination, of the individual's commitments and stands in the context of appropriate situations, be they interpersonal relations or a judgement task in actual life or an experiment.

Ego-involvement, therefore, is conceptualized as the situational arousal of the central attitudes with which the individual defines his or her self-concept, and represents the affective-motivational component of attitudes.

Social Judgment Methods of Latitude Assessment

Empirical support for the categorization process that represents attitudes usually comes from studies that involve the employment of some variation of two approaches. The

first, called the *own categories procedure*, involves the placement of statements, derived from content analyses of various media accounts concerning a social issue, into categories according to the subject's perception of similarity. The research instructions impose no categorical constraints on the subject. Respondent samples are usually drawn from groups whose members are known to have strong feelings on the issue (pro or con) and from a general population frame. Only after the subjects have sorted all of the statements, and the stacks of statement cards have been bound together, are the subjects asked to make evaluative identifications concerning which stacks are personally acceptable and which are objectionable. SJI researchers (e.g. Sherif and Hovland, 1953) have consistently found that individuals in the criterion groups (highly involved) use fewer categories to sort the statements than do average subjects. Further, the number of statements that are judged to be most objectionable by the highly involved subjects is disproportionately large in comparison to both their own acceptable statements and to the number of statements judged most objectionable by the average subjects. The combined use of fewer categories in non-evaluative (similarity) judgments, along with the subsequent identification of most of these statements (and categories) as objectionable, is seen as evidence of (1) the unconscious use of internalized reference scales in making judgments and (2) evidence of the displacement of judgments by assimilation and (especially for highly involved subjects) contrast effects.

A second method, the *method of ordered alternatives*, is a more direct attempt at capturing the cognitive structure of the underlying attitudinal scales. The method involves asking subjects to indicate latitude categorizations (evaluative) of an ordered set of nine

statement ranging from extremely favorable toward one end of an issue continuum, to extremely favorable toward the opposing end. The same heightened threshold of acceptance and lowered threshold of rejection for involved, as opposed to less involved, subjects are normally found (e.g., Elbing 1962; Sherif 1960; Whittaker 1963). The own-categories technique has the advantage of being relatively disguised in purpose and information-rich, but the disadvantage of being difficult to construct, administer, and evaluate. The reverse can be said of the method of ordered alternatives.

A hybrid latitude assessment method, the *imposed categories method* (Sherif and Hovland 1961), restricts the number of categories to a fixed number (usually eleven). It provides most of the information of the own categories procedure (and difficulty of construction), and also some of the ease of evaluation of the method of ordered alternatives. A summary of latitude assessment instruments is represented in Table 2.2

Assimilation-Contrast, Ambiguity, and Judgment Bias

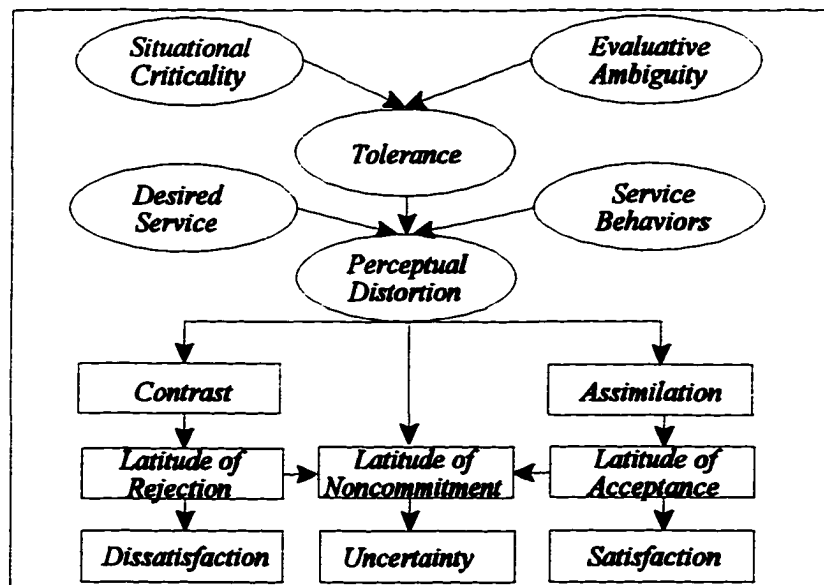
An important distinction concerning assimilation-contrast effects relative to dimensionality and ambiguity should be emphasized. SJI researchers have consistently found that subjects are accurate in identifying the order and relative placement of objectively worded statements on a similarity dimension. The bulk of the observed variability in item placement is accounted for by the more ambiguously worded statements when judged by highly involved respondents. It is assumed that the anchors comprising the underlying evaluative reference scale that represents

Table 3.2 Social Judgment-Involvement Theory--Summary of Related Instruments

Procedure	Number of Categories	Number of Statements	Statement Sort	Latitude Determination
Own-Categories Procedure	Subject- Determined	Varies Approximately 50-60	Yes By Similarity	Yes After Sort
Imposed- Categories Procedure	Fixed Usually 11	Varies Approximately 50-60	Yes By Similarity	Yes After Sort
Method of Ordered Alternatives	Fixed Usually 9	Same as Number of Categories	None	Yes Primary Task

previously formed attitudes is responsible for the assimilation and contrast in the judgment of ambiguous items, even when the judgmental dimension is similarity (see Sherif, Sherif, and Nebergall 1965). The general principle is that perceptual shifts of stimuli occur as a function of both the attitude brought into the stimulus situation (expectation) and the ambiguity of the stimulus. These perceptual displacements are most pronounced for highly involved respondents. This perceptual distortion aspect of latitude formation in SJI is fundamentally different from the boundary-driven latitude concept of the zone of tolerance

Figure 3.6 Perceptual Distortion Model of Latitudes



model (see Figure 3.6) Perceptual distortion may also have particular significance for the understanding of perceptions and evaluations in relation to service-encounter stimuli, which are normally characterized as “experiential” and relatively ambiguous.

Summary

A simplified summary of SJI is that when presented with a social stimulus situation (e.g. a service-encounter), the individual employs both external anchors specific to the stimulus situation and internal anchors, developed through past experience with the stimulus objects and/or learned through interactions with reference groups, to make evaluative judgments concerning the acceptability or objectionability of the stimuli. The more central the attitudes are to self concept, the greater the likelihood that relatively ambiguous stimuli will be judged objectionable due to a lowered threshold of rejection and a heightened threshold of acceptance. To the extent that attitudes are less central, or unformed, the role of situational factors as anchors becomes greater. The mechanism that is posited to mediate this displacement in judgment is represented to be assimilation-contrast. However, it is emphasized that in real-world service encounters an attitude is seldom aroused in isolation. Most stimulus situations produce differential arousal of a full range of attitudes appropriate to the situational context and consequently multiple internal, as well as external, anchors are employed interactively in a given judgment task (Sherif, Sherif, and Nebergall 1965).

Reference to assimilation-contrast explanations of perception and of SJI theory can be found in several diverse research streams in the marketing literature. By far, the majority of the SJI references has concerned its core construct of ego-involvement (e.g. Greenwald and Leavitt 1984; Houston and Rothchild 1986; Krugman 1965, 1966; Muncy and Hunt 1984). A second area where SJI theory has received extensive attention in

marketing literature is in the study of judgments of price acceptability as a function of reference prices (e.g. Kalyanaram and Little 1994; Monroe 1971, 1973; Rao and Sieben 1992). Less frequent have been references to assimilation-contrast effects in relation to the general confirmation and disconfirmation of expectations (e.g. Anderson 1973; Olson and Dover 1979; Lynch, Chakravarti, and Mitra 1991) and studies of product usage (e.g. Folkes, Martin, and Gupta 1993) and latitudes in relation to the categorization of non-price marketing stimuli (e.g. Belonax and Javalgi 1989; Naryana and Markin 1975). However, despite the apparent similarities between SJI and service-encounter evaluation processes (e.g. satisfaction/dissatisfaction and service quality judgments), no investigation of service-encounter evaluation from the SJI perspective can be found, except in the context of the reference price and general confirmation-disconfirmation research streams.

LATITUDE MODELS AND MARKETING

In addition to the reference to SJI (assimilation-contrast) as a foundation for latitude models in various research streams in the marketing literature, other latitude models based on Weber-Fechner's law, adaptation level, and prospect theory, as well as on more *ad hoc* analyses (e.g., ZBP 1993), can be found in many of the same research streams. Major latitude studies from the marketing literature are discussed below and a summary is presented in Table 3.3.

Consumer Satisfaction/Dissatisfaction

Several studies have suggested zone or latitude models as an alternative to, or modification of, the disconfirmation model in the study of (dis)satisfaction. Most of these studies have been conceptual rather than empirical. Additionally, latitude generating processes (e.g., assimilation-contrast effects) have been studied in the context of disconfirmation models without direct reference to latitudes.

Olson and Dover (1979) found that pretrial product expectations constrained posttrial disconfirmations and attributed the constraint to assimilation effects, consistent with both cognitive dissonance (Festinger 1957) and SJI theory.

Table 3.3 Major Latitude Studies

Research Stream/Study	Latitude Concept	Theoretical Foundations	Summary Type	
SERVICE QUALITY				
Zeithaml, Berry & Parasuraman (1993)	Zone of Tolerance	Focus Group Interview	C	Zone bounded by <i>adequate</i> (AS) and <i>desired</i> (DS) service; identifies antecedents of boundary formation; maintains “gap” model
Parasuraman, Zeithaml & Berry (1994)	Zone of Tolerance	ZBP (1993)	E	Tests three assessment methods based on AS and DS <i>a priori</i> assumptions
Strandvik (1994)	Zone of Tolerance	ZBP (1993) Prospect Theory	E	Uses conjoint analysis to test nonlinear and asymmetric quality function implied by zone of tolerance notion and prospect theory; finds support for both
(DIS)SATISFACTION				
Anderson (1973)	Zones or Latitudes of Acceptance & Rejection in perception	SJI	E	Compares alternative models of perceptual judgment of product performance; assimilation/contrast provided best explanation

Table 3.3 Major Latitude Studies

Research Stream/Study	Latitude Concept	Theoretical Foundations	Type	Summary
Miller (1977)	Latitudes of Satisfaction, Indifference, and Dissatisfaction	SII Comparison Level Theory	C	Suggests a modified model of satisfaction based on “latitudes” of satisfaction; suggests “ideal”, “expected”, “minimum tolerable” and “deserved” expectations
Woodruff, Cadotte & Jenkins (1983)	Zone of Indifference	Miller (1979) Gioia & Stearns (1979)	C	Replaces expectations as comparison standard with <i>experience based-norms</i> forming zone of indifference
Cadotte and Turgeon (1988)	Zone of Indifference	Woodruff, Cadotte & Jenkins (1983)	C	Proposes taxonomy of service attributes (satisfiers, dissatisfiers, criticals & neutrals) based on attribute-level/satisfaction distributions and width of zone of indifference
Oliver (1988)	Latitude of acceptance	Woodruff, Cadotte & Jenkins (1983)	C	Distinguishes among several types of satisfaction ranging from contentment to surprise; suggests the arousal potential of a performance-discrepancy is a function of the consumer’s latitude of acceptance
Bleuel (1990)	Zone of Uncertainty	none provided	C	Suggests correspondence between satisfaction and dissatisfaction not one-to-one, but separated by a zone of uncertainty

Table 3.3 Major Latitude Studies

Research Stream/Study	Latitude Concept	Theoretical Foundations	Type	Summary
Hesket, Jones, Loveman, Sasser, & Schlesinger (1994)	Zone of Indifference	none provided	C	Posits a zone of uncertainty bounded by a zone of affection and a zone of defection in customer loyalty as a function of satisfaction level
PRICE EVALUATION				
Emery (1970)	Region of Indifference	Adaptation level theory	C	Notes that perceptions of price are relative to other prices and to associated use-values; there is a region of indifference within which changes in price produce no change in perception
Monroe (1971)	Price Limit (threshold) Latitude	SJI	E	Partially replicates C. Sherif's use of "own categories" procedure to test nature of price evaluation scales and thresholds
Monroe (1973)	Absolute and Differential Thresholds	Weber's Law, Adaptation level theory, SJI	C	Explores the concepts of, and evidence for, absolute and differential thresholds for price; suggests that while the evidence of assimilation-contrast in a pricing context is meager, if applicable the implications are profound

Table 3.3 Major Latitude Studies

Research Stream/Study	Latitude Concept	Theoretical Foundations	Type	Summary
Raju (1977)	Acceptable Price Range	Monroe (1971), SJI, Weber's Law	E	Distinguishes between unacceptably "low" and "high" ranges in which all prices are treated as "chucks" without internal discrimination and an acceptable price range where finer discriminations are made
Sawyer & Dickson (1984)	Latitude of Acceptance	SJI	C	Suggests latitude of acceptance bounded by "bargain point" and "resistance point"
Kosenko & Rahtz (1988)	Acceptable Price Range	SJI	E	Price limits affected by degree of market knowledge; information reduces variability in upper price limit
Lichtenstein, Block & Black (1988)	Latitude of Price Acceptance	SJI, Weber's Law	E	Finds width of the latitude of price acceptability to be negatively related to price consciousness and positively related to the level of price acceptability
Sorce & Widrick (1991)	Latitude of Acceptable Prices	Monroe (1971), SJI, Adaptation level theory	E	Investigates individual differences in latitude of acceptable price; width of latitude correlates with brand differentiation; finds upper threshold best predictor of price paid
Rao & Sieben (1992)	Acceptable Price Range	SJI	E	Price limits (high and low) increase with "prior" knowledge; acceptable price-range end-points lowest for low-knowledge subjects

Table 3.3 Major Latitude Studies

Research Stream/Study	Latitude Concept	Theoretical Foundations	Type	Summary
Kalyanaram & Little (1994)	Latitude of Price Acceptance	SJI, Prospect theory, Adaptation level theory	E	Uses scanner panel data to demonstrate the presence of a region of price insensitivity; high frequency of purchase associated with narrower latitude; average reference price associated with wider latitude; consumers with higher brand loyalty have wider latitude of price acceptance
PRODUCT CLASS EVALUATION				
Naryana & Markin (1975)	Evoked, Inept, and Inert Sets	Campbell (1969), SJI	E	Extends Campbell's (1969) notion of evoked set to exhaustive categorization of available brands; notes similarity to SJI latitudes of acceptance, rejection, and non-commitment

However, consistent with SJI, they noted the low involvement nature of the judgement task (coffee bitterness) and pointed out the necessity of taking ego-involvement and past experience into account prior to generalization of assimilation-only effects. More directly related to the serve-encounter, Pieters, Koelemeijer, and Roest (1996) reported evidence supporting their contention that expectations influence service-encounter experiences through *forward assimilation* and experiences can influence recall of expectations through *backward assimilation*. Consequently, the expectancy disconfirmation model of (dis)satisfaction is a perceptual distortion model in which negative disconfirmation is reduced and positive disconfirmation is increased. This distortion through assimilation suggests a nonlinear relationship between actual and perceived performance, and thus a perceptual latitude, though no direct mention of latitudes are made by the researchers.

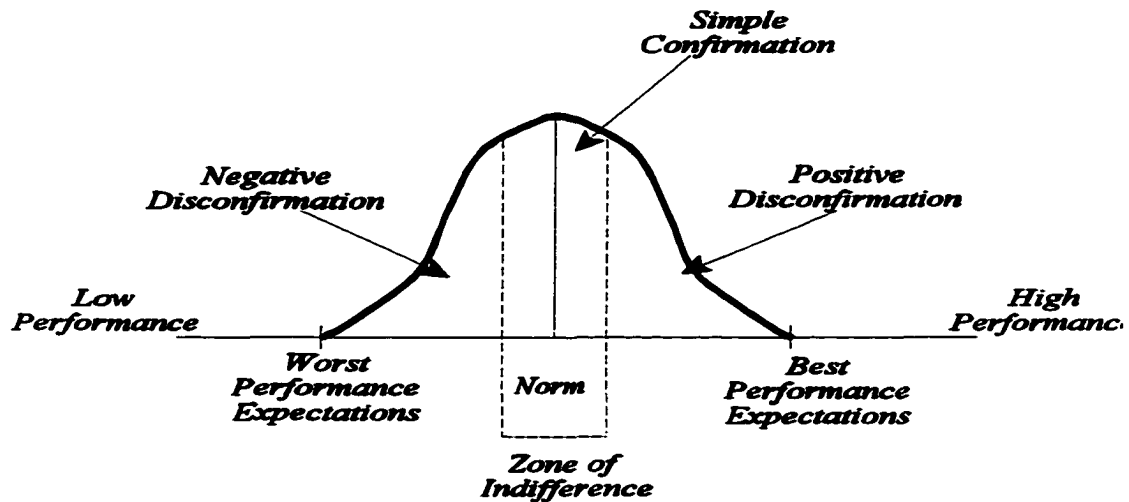
Anderson (1973) examined four theories proposed to account for the disparity between expectations and perceived product performance: cognitive dissonance (assimilation only), contrast-only, generalized negativity (essentially an ideal point model), and combined assimilation-contrast effects (the SJI latitude model). Only the combined assimilation-contrast of SJI was found to account for the non-linear relationship that characterized the perceived discrepancies.

Miller (1977) was probably the first to directly posit the existence of zones or latitudes in the perception of satisfaction. Specifically, he suggested that, instead of viewing satisfaction in terms of points, “it may be helpful to consider ‘distributions of possible points,’ or ‘latitudes,’ similar to the concepts used by Sherif (1967) and hypothesized “latitudes of satisfaction,” “indifference,” and “dissatisfaction”, as the

perceptual outcomes of satisfaction judgements. He did, however, question if an “area of indifference” was possible. Additionally, Miller suggested the existence of multiple comparison standards: ideal, expected, minimum tolerable, and deserved. However, he did not link these different standards of comparison with the notion of latitudes.

Citing Miller (1977), Woodruff, Cadotte, and Jenkins (1983) elaborated on the notion of a “zone of indifference” used in place of a single point of comparison in the disconfirmation model. Like Miller, they distinguished between different standards of comparison but collapsed Miller’s four types of standards into “predictive” (expected) and “normative” (deserved, ideal, or minimum tolerable) categories. In practice, norms represent the *pooled* result of past experiences with the product and/or brand (cf., Helson 1964). While *expectations are used in perception, norms are used as the comparison standard* in disconfirmation judgments. However, “perceived performance within some interval around a performance norm is likely to be considered equivalent to the norm (p. 299).” They call this interval the “zone of indifference” and invoke an assimilation (cf. Olson and Dover) explanation. The model is depicted in Figure 3.7. Positive and negative confirmation occur when perceptions are outside the zone of indifference but within the full range of experience-based possible performances. It is not clear what results if the perception of performance is outside of this latter range. Based on survey data from restaurant-based and lodging-based complaint and compliment data, Cadotte and Turgeon (1988) speculated about the shapes of the distribution of experienced-based norms and the “zone of indifference” within these distributions. They proposed four types of attributes: satisfiers, dissatisfiers, criticals, and neutrals. Satisfiers are attributes, such as exceptional

Figure 3.7 Cadotte, Woodruff, and Jenkins Zone of Indifference Model



Source: Cadotte, Woodruff, and Jenkins 1983

ambience, that lead to compliments if present but do not usually lead to complaints if absent. Dissatisfiers are attributes, such as available parking, that are likely to result in complaints when absent but generally do not result in compliments if present. Criticals are attributes, such as quality of service, that have narrow zones of indifference and will usually result in either complaints or compliments. Neutrals, by contrast, are characterized by wide zones of tolerance and seldom result in either complaints or compliments. In a restaurant setting, an example is quietness of surroundings.

Building on Woodruff, Cadotte, and Jenkins, Oliver (1988) extends their normative distribution model to account for perceptions outside the experience-based boundaries of the norms. As previously noted, Oliver delineates three major (dis)confirmation categories:

1. a region where performance in deviations are considered acceptable;
2. a range of disconfirming performance that is “plausible” and considered

“gratifying” or “disappointing”; and

- 3. levels that are beyond the experience-based norm and are therefore unexpected or “surprising,”**

Like Woodruff, Cadotte and Jenkins, Bleuel (1990) notes that attributes that cause satisfaction are not the same as those which cause dissatisfaction. Also similar to Woodruff, Cadotte and Jenkins, he notes that a zone of uncertainty separates satisfaction and dissatisfaction, and contends that this zone “is the most often overlooked and is certainly the least understood of all the concepts of customer satisfaction (p. 50).”

Hesket et al. (1994) take the concept of latitudes a step further by linking satisfaction and customer loyalty. They propose that the two measures are related by a nonlinear function in which a zone of indifference (high satisfaction and moderate loyalty) separates a zone of defection (dissatisfaction and low loyalty) and a zone of affection (high satisfaction and high loyalty). The model is based on case studies and not tied to any theoretical framework.

Reference Price Research

Latitude models of judgement and evaluation have received the most attention in the investigation of the evaluation of price. By far, most of the empirical studies have been conducted under this rubric. This situation is not entirely surprising for several reasons. First, the stimulus under investigation is easily quantifiable. Consequently, it lends itself more readily to investigation under the quantitative, psycho physical models, such as Weber’s or Fechner’s Law and adaptation level theory, as well as a model with its

foundations in psychophysics, such as SJI. Second, price was one of the stimuli investigated in an early study in the development of SJI. Social judgment-involvement theory, or a prior study grounded in SJI, has provided theoretical foundation for most of the price evaluation studies. Sometimes the additional theoretical foundation, such as adaptation level theory or prospect theory, has been mentioned or integrated with SJI.

In an early test of SJI theory, C. Sherif (1963) employed the own-categories procedure to compare the differential reference scales associated with identical sets of numerals when evaluated in a price and non-price context. Two groups of respondents, which were presumed to differ in economic resources, were first asked to sort the series of numbers into groups that belonged together. Both groups used approximately equally sized categories and equivalent numbers of categories. However, when the respondents were informed that the same numerals were price-tags for garments, and asked to sort them as if they were selecting a garment solely on the basis of price, the number of categories used by the two groups was significantly different. Those respondents with fewer monetary resources used fewer categories for judging the dollar values than did the respondents with relatively more monetary resources. For both groups, the number of categories used for sorting prices was smaller than the number of items used for sorting the same numerals when they were not identified as prices. This difference was attributed to the differential evaluative scales brought into the testing situation by the respondents as result of their prior experiences and the personal relevance of the stimuli (price).

Monroe (1971) used the own-categories procedure of SJI in a partial replication of C. Sherif's (1963) investigation of reference scales for prices associated with clothing

items. He found evidence that buyers have ranges of price acceptability, with prices *both above and below* the acceptable range *judged to be objectionable*. He contended that the finding that prices could be perceived as objectionably low has particular significance for pricing strategies. Specifically, Monroe (1971, p. 463) called into question the previously held belief that “cost is the low constraint in the price decision, with competition and demand providing upper constraints.” He also noted the anchoring role of high, standard, and low offering price, as well as the situational context in the categorizing of price acceptability and objectionability as a function of assimilation and contrast.

In a review of the price perception literature, Monroe (1973) cited the Weber-Fechner law, adaptation-level and the assimilation-contrast effects associated with SJI as explanations for differential price thresholds and pointed out the need for additional research, particularly in the applicability of assimilation-contrast effects. In an update of this review, Monroe (1990) drew heavily on adaptation-level and assimilation-contrast (SJI) theory to explain the perception of price in relation to a reference price. Based on evidence from several studies, Monroe proposes a model in which reference price is equivalent to adaption-level and, together with the endpoints of a price range, serves as one of three anchors used in the judgment of acceptable price. The judgment process is based on assimilation-contrast effects in relation to these anchors.

Building on Monroe (1971) and Weber’s Law, Raju (1977) found that consumers perceived price in three “chunks”: unacceptably low, unacceptably high, and acceptable. Consumers perceived evaluative differences (e.g., between brands) only when prices were within an acceptable range. However, he did not find the negative relationship between

product knowledge and the size of the latitude of acceptable price that they had predicted. Somewhat contrary to these findings, Kosenko and Rahtz (1988), as they predicted, did find a negative relationship between market price knowledge and the size of the acceptable price range. They also found that both the upper and lower limits of this latitude of price acceptability increased with increased market price knowledge. Like Raju, the theoretical framework used by Kosenko and Rahtz were mostly SJI and Monroe's (1971) study, based on the same theory. Similarly, using the same framework, Sorce and Widrick (1991) investigated, but did not find, a predicted negative relationship between price consciousness ("involvement") and the latitude of acceptable price but did find a positive relationship between brand differentiation (perceived similarity of choices available) and the latitude of price acceptability.

In contrast to Sorce and Widrick (1991), Lichtenstein, Block, and Black (1988) predicted and found an inverse relationship between product involvement and price consciousness. They also found a predicted positive relationship between price consciousness and the size of the latitude of price acceptability but did not find a significant relationship between product involvement and the size of the latitude of price acceptability.

Rao and Sieben (1992) used an SJI conceptualization of latitude of price acceptability to investigate the relationship between limits and widths of acceptable price ranges and prior knowledge. They found that upper and lower limits of price acceptability first increased and then leveled off as prior knowledge increased, and that the width of the acceptable price range first increased and then decreased with increased prior knowledge.

Kalyanarum and Little (1994) come closest to a comprehensive integration of the various theories used in the investigation of latitude models--that is, adaptation level theory, prospect theory, and assimilation contrast (SJI)--in their investigation of the latitude of price acceptability around a reference price, which they defined as a "region of indifference" (p. 408). They specify reference price to be equivalent to the adaptation level and a function of past experience. This reference price anchors the stimulus scale used in judgment. It is surrounded by a "reference range," or a "latitude of price acceptance," bounded by upper and lower price thresholds. These thresholds, and therefore the latitude of price acceptance, are the result of assimilation-contrast effects. Prices above and below this latitude are judged to be relatively higher and lower. In line with prospect theory, since the value function for gains is steeper than for losses, responses to price decreases outside the latitude of price acceptance responses should be steeper than for price increases outside the range. They uniquely operationalize the latitude of price acceptability as the variability of the acceptable price about the reference price and find evidence to support their hypotheses that the width of the latitude of price acceptability decreases with (1) increased purchase frequency (2) higher average reference price, and (3) increased brand loyalty.

General Product Class Evaluation

Campbell (1969) coined the term "evoked set" to denote the consideration set, or products that were acceptable to an individual, for a given product class. Naryana and Markin (1975) extended this notion to an exhaustive, tripartite classification schema of an

individual's *awareness set*--those brands known to the individual--that included:

evoked set--those brands of a product that the buyer actually considers when making a brand choice

inert set--those brands in the product category for which the consumer has neither a positive or a negative feeling

inept set--those brands the consumer has rejected from his purchase consideration, either because he has had an unpleasant experience or because he has received negative feedback from other sources

In an empirical investigation, Naryana and Markin found support for the use of this classification schema by consumers. While the classification schema is not tied *a priori* to any of the theoretical frameworks associated with latitude conceptualizations, Naryana and Markin (p. 3) do note the similarity between their evoked, inert, and inept set classification and "the Sherifs' trichotomy: 'acceptance zone,' 'rejection zone,' and 'neutral zone'." Divine (1995) elaborated on the similarities between latitude of acceptance and evoked set in an investigation of the relationship between involvement, "latitude of acceptance for price," "latitude of acceptance for attributes," and consideration set size. He found involvement positively related to LA for price and negatively related to LA for attributes, and both latitudes (price and attributes) to be positively related to consideration set size. These results can be interpreted as indicating that, as involvement increases, the range of prices a consumer is willing to pay increases and the acceptability range of salient attributes decreases, resulting in an increased evoked set. However, it should be noted that latitude of acceptance for price was operationalized as the highest price the respondent would pay and latitude of acceptance for attributes was operationalized as the "minimum

level of performance they would tolerate” on an attribute; both are single-point boundary or anchor measures, not latitude size measures as normally defined.

Service Quality

There are few studies of service quality in the marketing literature that employ a zone or latitude model. Two of them, ZBP (1993) and PZB (1994), are discussed elsewhere. An additional study which should be noted is Strandvik (1994). Using the *a priori* latitude conceptualization employed by ZBP, employs conjoint analysis to investigate the shape of the utility function within the zone of tolerance in a restaurant setting. He operationalizes *desired* or excellent service as the “best you have experienced at this type of restaurant” and *adequate* as “barely acceptable” for a restaurant. Additionally, the *normal*, or expected, level was operationalized as the restaurant where the respondents were interviewed (and had just eaten dinner). The attributes manipulated were (1) Food (taste and look), (2) Menu (variation and assortment), (3) Interaction (service, including speed, friendliness, and flexibility), and (4) Servicescape (interior atmosphere). The utility functions calculated from the conjoint part-worth estimates showed a consistent pattern of nonlinearity for food and personal service interaction. That is, the utility (quality) slope increased rapidly between adequate and normal but much less rapidly between normal and excellent. These two attributes were also rated as most important to the respondents. By contrast, the slopes of the utility functions for menu and servicescape were linear. Strandvik notes the similarity between these results and the classification of criticals, satisfiers, dissatisfiers, and neutrals by Cadotte and Turgeon

(1988). He also notes the similarity between his finding that, for the most important attributes, losses cause more of a negative reaction than gains cause a positive reaction, and the predictions of prospect theory. The study is both innovative in approach and the most to date thoroughly conducted on the role of tolerance zones in service-encounter evaluation. However, as Strandvik (p. 153) notes there are several potential shortcomings:

The three points measured were theoretically determined and operationalized to represent the range of customer experience. This leads to a rather large zone of tolerance, where performance very seldom exceeds the excellent level or the adequate level. Another operationalization may give different results. One explanation why the results show this asymmetric shape in the present study is related to these operationalizations

Further, Strandvik (p. 159) notes

There may be alternative ways of conceptualizing tolerance zones by using other comparison standards than those in the present study. As some kind of customer reaction is assumed to be the result of exceeding a tolerance zone, it was argued that there is a need to define tolerance zones based on what kind of reactions they lead to. One contribution of this study is the proposed distinction between perceptual and behavioral tolerance zones, as this classification at the same time points to the crucial link between the customers' perceptions and actions.

Liljander (1995) conducted a study primarily intended to investigate the relationship between the various standards of comparison proposed in models of consumer satisfaction/dissatisfaction and service quality. However, she also addressed questions of the width of the zone of tolerance and the relative position of standards used in the ZBP model. In general she found that most standards, such as "adequate", "predictive expectations", and various brand and product "norms", were not significantly different from each other but were different from "excellent service." Most of these standards were operationalized in a way which was consistent with previous studies. She did, however,

distinguish between her operationalism of adequate service, “the lowest level of each item that the customer could *accept and still be satisfied*” or “on the *border of what would satisfy the customer*,” which she acknowledged was different from the “minimum tolerable” standard suggested by Miller (1977) and is, therefore, also different from the standard employed as the lower boundary used by Parasuraman, Zeithaml, and Berry (1994). Also, unlike most conventional operationalizations, Liljander uses a 10-point scale anchored at the end-points by “the worst restaurant I have ever experienced” and “as at an ideal restaurant.” For most attributes the size of the zone was calculated as the difference between excellent and adequate service. Interestingly, even with the upper end (10) of the scale defined as ideal, the average location of the ‘desired’ level was usually between seven and nine.

SOME EMERGING PATTERNS AND CONCERNS IN LATITUDE STUDIES

From the above discussion, several assumptions underlying latitude models and/or patterns in the investigation of latitude-related phenomena seem to emerge. Several of the more prominent assumptions and patterns are discussed in the following sections. While highlighted separately, most are related.

Exclusive Investigation of the Latitude of Acceptance

Essentially all of the studies in the marketing literature that employ a latitude model assume the existence of a single latitude and assume the latitude to encompass what is

acceptable. This exclusive focus on acceptability may appear to be so obviously correct as not to be noteworthy. On the other hand, in the disconfirmation of expectations model it has never been entirely clear what kind of judgment results when perceptions of performance exactly match expectations. Usually, the evaluation is seen as mildly positive (e.g., “mild satisfaction”), but how that evaluation is different from slight positive disconfirmation is seldom addressed. In the single-point model of the disconfirmation of expectations, this issue is not particularly critical; presumably, simple confirmation is somewhat rare. However, if the standard of comparison becomes a range or latitude, the meaning of perceptions associated with it is critical. If the latitude encompasses the full range of expectations, as well as acceptability, as implied in the zone of tolerance model of service quality, it becomes unclear what evaluation results from perceptions outside of the latitude. While presumably perceptions falling below the zone are negative, perceptions above the upper boundary of the zone could alternatively be interpreted as “hyperpositive,” negative, surprising and/or nonexistent--i.e. the upper boundary (e.g., desired) is the maximum reaction possible-- (cf. Oliver 1997). Essentially, no investigation of the meaning of “not acceptable” exists. An alternative interpretation that the “zone of tolerance” could be neutral has yet to be investigated.

The Correspondence of Adaptation Level, Zone of Tolerance, Latitude of Acceptance, and Zone of Indifference.

Related to the exclusive focus on the latitude of acceptability is the generally implied notion that all theoretical structures that support a latitude model are concerned

with the same zone; that is, what is acceptable. This assumption does not appear to be well founded. Both adaptation-level and the reference point of prospect theory are explicitly neutral, therefore neither acceptable nor objectionable. They cannot be directly comparable to the normative expectations such as “desired” service of the zone of tolerance model, the “most acceptable position” of SJI (see Sherif, Sherif, and Nebergall 1965, p. 238), or “should” expectations used in various models. Similarly, if zones are the points surrounding, but perceptually equivalent to, adaptation levels and reference points, they must also be neutral. In contrast, perceptions distinct from those considered neutral must be either positively or negatively charged. Logically, positive evaluations are characterized by positive affect and negative evaluations are characterized by negative affect. If these represent evaluative categories or zones around a positive (or negative) anchor which are perceptually equivalent, they must also be affectively positive (negative).

This assumption that zone models are concerned with the same zone (acceptance) may be a product of the internalization of the disconfirmation paradigm, which, in spite of the theoretical possibility of simple confirmation, usually sees every judgment as either positive or negative. That is, evaluation is a binary variable.

However, when taken together, adaptation level theory, prospect theory, the zone of tolerance model, and the various investigations of latitudes discussed above imply the possibility of at least three zones or latitudes: (1) a range of acceptability, (2) a range of objectionability, and (3) a range of neutrality. Only SJI explicitly models evaluative reference scales as including all three of these latitudes. If this tripartite model of evaluative reference scales exists, presumably each latitude may be associated with

different post-purchase behavioral intentions. Thus, investigation of this expanded model may provide significant managerially-relevant insights to consumer behaviors.

Relationship Between Standards and Latitudes

While similar standards are integral to various latitude models, as noted in a previous section, the role they play in defining latitudes fall into several different patterns. Some models see a standard as an evaluative point around which latitudes are formed. These models, previously referred to as “perceptual-displacement” models, require inclusion of some distortion process such as assimilation, contrast, or both. Multiple-standard boundary models, on the other hand, require no such distortion process. They see standards as serving as the boundaries for latitudes. In spite of the fact that SJI is a hybrid model which employs multiple standards and distortion processes, its inclusion in research in the marketing literature is usually limited to the use of a single standard: the most acceptable or most desired evaluative position.

Relationship to Postpurchase Behavioral Intentions and Behaviors

It is fairly obvious that from a managerial perspective, the general interest in the service-encounter evaluative process is based on the possibility of an understanding and predicting consumer behavior following a service encounter. Postpurchase behaviors are generally classified in terms of some modification of Hirshman's (1970) voice, exit, and loyalty classification (for reviews see Singh 1988; 1990; Singh and Howell 1985). Generally, positive postpurchase behavior includes repeat patronage and positive word-of-

mouth. Negative postpurchase behaviors include switching behavior, complaining, and negative word-of-mouth.

Most service-encounter studies employing latitude models only assume or imply that latitudes correspond to behavioral intentions. Presumably, positive intentions and behaviors are associated with latitudes of acceptance and negative intentions are associated with perceptions outside of the latitude of acceptance. However, these relationships are generally not tested empirically. Both Liljander (1995) and Strandvik (1994) do use models based on the *a priori* latitude assumptions of the ZBP zone of tolerance model, and both assess behavioral intentions. However, neither explicitly tests the relationship between perceived performance relative to the zone of tolerance and behavioral intentions. Likewise, Parasuraman, Zeithaml, and Berry (1994b) also use a latitude model and assessed behavioral intentions but are primarily concerned with which disconfirmation scores, perceptions minus adequate service or perceptions minus desired service, are most correlated with behavioral intentions. Generally these studies indicate that different comparison standards may be associated with different types of behavioral intentions. The relationship between latitudes and behavioral intentions needs further investigation. This is especially important if, as suggested, latitudes are not just positive and negative but also neutral.

LATITUDES AND ZONES:

SOME SIMILARITIES, DIFFERENCES, AND PARTIAL SYNTHESSES

Conceptually, empirically, and methodologically, the SJI formulations have immediate appeal as potential contributors to the confirmation and elaboration of zonal models in general, and the ZBP zone of tolerance model in particular. While other latitude models have been offered for the understanding of general evaluative phenomena, they are arguably less directly applicable and comprehensive than SJI. Further, and also arguably, the primary propositions of these alternative models can be subsumed under SJI. In fact, cross-citation among SJI, adaptation-level, and dissonance theory researchers is common. While some of these references are for the purpose of debating differences, these differences are most noteworthy because of the underlying similarities. Prospect theory, developed as an alternative to marginal utility theory and social psychological theories of perception and attitudes, such as SJI, dissonance theory and adaptation-level, are seldom cross-referenced. However, the similarities, especially between SJI and prospect theory, are striking. Prospect theory sees judgment in terms of question framing, in which perceptions of alternative decisions are made in terms of neutral reference points and weighted by anchors which are salient values of norms or evaluative categories (Kahneman 1992). SJI similarly sees judgment in terms of frames of reference in which perceptions of stimuli are assimilated and contrasted with anchors to form evaluative categories.

Social Judgment Theory and the Zone of Tolerance Model

As noted, the SJI formulations have conceptual, empirical, and methodological appeal for the confirmation and elaboration of the ZBP zone of tolerance model. First, the latitude conceptualizations provide both theoretical and empirical support for ZBP's

contentions of judgments of service quality being made in relation to ranges of acceptability (P2). Second, the SJI characterization of contracting and expanding latitudes based on the centrality of, and the related arousal by, the stimulus situation ends support for ZBP's similar zonal expansions and contractions as a function of *enduring and transitory service intensifiers* (P4, P6). Third, the SJI contention of multiple attitudes operating in a given situation provide support for the existence of multiple standards of comparison, as acknowledged by ZBP. Fourth, the emphasis on the role of reference group influence, explicit in SJI's views of attitude formation provides grounds for considerable elaboration of ZBP's recognition of the development of "derived expectations" (enduring service intensifiers P6) and the role of word-of-mouth as an antecedent of desired service (P16). More generally, the established theoretical framework of SJI provides a basis for integrating the sometimes loosely connected propositions of the ZBP model. Further, the extensive empirical evidence confirming many (though not all) of the SJI propositions provides support for the major thrust and many of the specific propositions explicated by ZBP. Finally, the extensive

Figure 3.8a Zone (ZBP) Representation in an Evaluative Domain

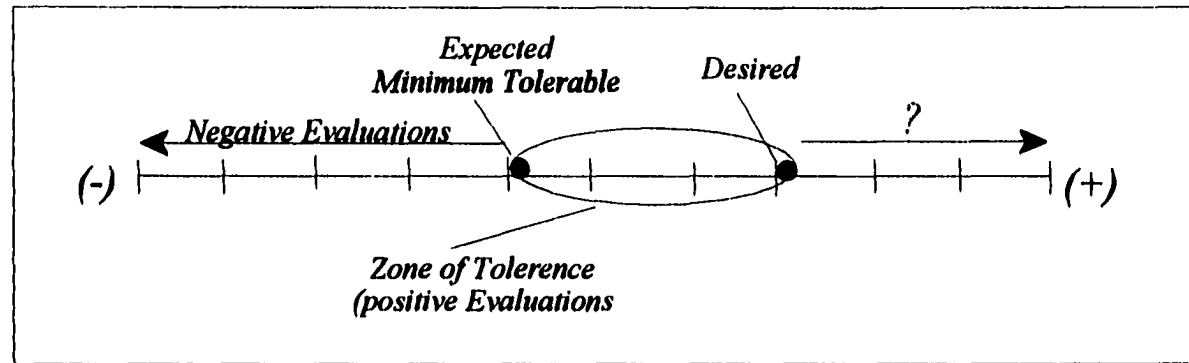
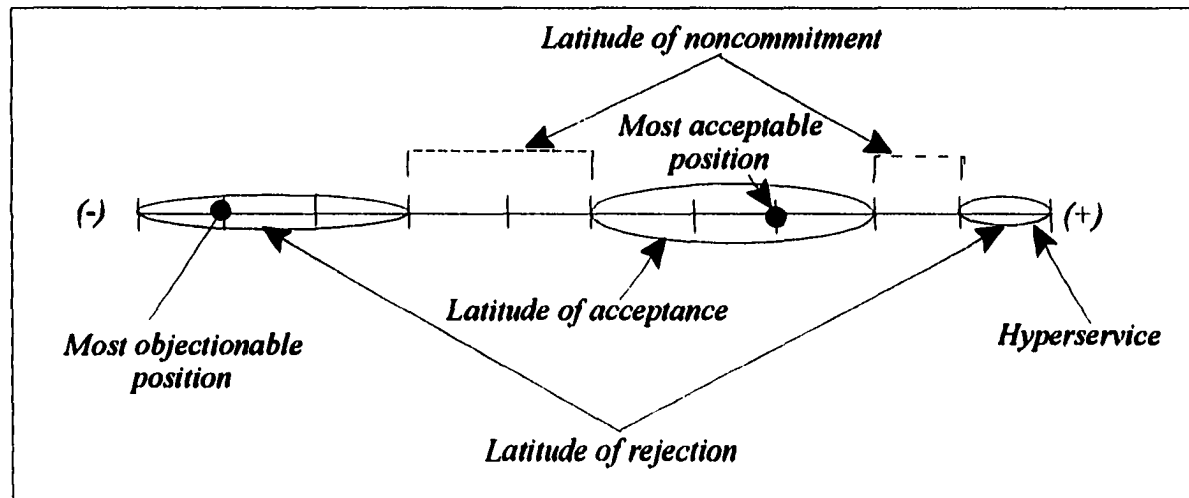


Table 3.8b Social Judgment Latitude Representation of an Evaluative Domain



literature emanating from SJI provides a fertile foundation for the further generation of SQ research.

Figure 3.8a. is a hypothetical representation of the ZBP zone model mapped in terms of SJI latitude formulations. The zone of tolerance represents the latitude of acceptance and is bound by adequate (minimally tolerable) and desired (ideal) service as specified by ZBP. The latitude of rejection (only implied by ZBP) encompasses all of the scale below this zone. The nature of the portion of the upper part of the scale above the zone of tolerance is not specified in the ZBP description and is not labeled. Presumably it is associated with positive evaluations and therefore, how it differs from the zone of tolerance is unclear.

In contrast, a typical SJI representation is shown in Figure 3.8b. The major differences are (1) the inclusion of a latitude of noncommitment (neutrality) both below and above the latitude of acceptance; (2) the specification of a portion of the latitude of objectionability (rejection) at the extreme of the positive portion of the scale, intended to suggest the possibility of an unacceptably high level of service, labeled "*hyperservice*"; and (3) the use of "most acceptable" (desired) service as an anchor within the latitude of acceptance rather than a LA that is bounded by service standards or expectation. As is apparent, while there are strong similarities between the two models, there are also important differences.

However, the SJI conceptualization may provide a more useful perspective from which to understand a portion of the ZBP model that appears contradictory. ZBP (P6) posit that enduring service intensifiers elevate the level of desired service (DS). But

according to their model, an increase in DS would imply an increase in the zone of tolerance, which would be contrary to their contention that DS heightens sensitivity to service (implying a narrowed zone). Similarly ZBP, (P8) posit a positive relationship between transitory service intensifiers (TSI) and AS, resulting in a narrowed zone of tolerance. Arguably, these propositions seem partially driven by a desire to maintain the "GAP 5" feature of their previous model (see Parasuraman, Zeithaml, and Berry 1985) by having the standards (DS and AS) shift in relation to the perceptions. SJI would support a position that DS is an attitudinal anchor equivalent to most acceptable position and that it is, as ZBP imply, a function of "derived expectations", "personal needs", "word-of-mouth", and "past experience", as are other parts of the cognitive structure brought into the judgement task. Whether adequate service is equivalent to the lower boundary of the latitude acceptance, an additional anchor within the latitude, or some point external to the latitude of acceptance remains unclear.

Contrary to the ZBP, SJI would posit that "intensity" is a function of the centrality (ego-involvement) of the attitude as reflected in the size of the LA (zone of tolerance) and, more significantly, of the LR. GAP 5 might therefore be conceptualized as a product of perceptual displacement (contrast) of perceived service rather than a function of shifting anchors and static perceptions as implied by ZBP. Arguably, this conceptualization of contracting (or expanding) adequacy around a more or less stable DS resulting in perceptual shifts of service attributes (assimilation-contrast) is less problematic than the ZBP construal. It is also more consistent with the relative stability of DS and the contracting and expanding nature of AS as suggested by ZBP. It might also obviate the

need to extend the GAP 5 notion to GAPS 5A and 5B, as suggested by ZBP, as a by-product of their zone model.

RESEARCH QUESTIONS

Given these similarities and differences among various latitude models, such as the Weber/Fechner Law, adaptation level, and prospect theory, but in particular SJI theory and the ZBP zonal model of categorical evaluation, a number of research questions become apparent. Among these are:

1. In service-encounters, do respondents form evaluative categories for making judgments concerning the encounter? That is, can the general latitude and zone of tolerance construal of SJI and Zeithaml, Berry, and Parasuraman (1993) be verified?
2. To what extent is the SJI or the ZBP formulation more robust?
3. Do latitudes expand (LR) and contract (LA and/or LNC) as the service encounter becomes more critical to the individual?
4. What are the “boundaries” of latitudes? Specifically, is the latitude of acceptance bounded by “desired service” and “adequate service,” as posited by the zone model, or by upper and lower levels of assimilated perceptions, with desired service serving as an internal anchor, as implied by SJI?
5. Do situational cues (price, servicescapes, etc.) play more of a role in reference scale formation when service-encounter evaluation is relatively ambiguous (e.g. as a function of experience or credence attributes)?
6. How do behavioral intentions (e.g. intentions to switch service providers, word-of-mouth intentions, etc.) relate to latitudes? For example, is there a line of demarcation between positive (toward the service provider) behavior and negative behavior represented by adequate service, or are positive and negative proactive behaviors associated with the LA and the LR, and the LNC associated with “behavioral inertia”, as might be implied by SJI?

7. How do internal (attitudes) and external cues interact in the formation of reference scales used in the service-encounter?

Assessment methods

The latitude assessment methods associated with social judgment theory offer potentially powerful tools for exploring these issues. With few exceptions these instruments have been employed seldom in marketing research. However, their use, both for the testing of the suggested research questions and for the general exploration of the structure and function of evaluative scales used in service-encounter judgments, has potential advantages over alternative approaches. For example, Parasuraman, Zeithaml, and Berry (1995) tested three alternative scales in a partial test of their zone model. However, each of the alternative scales assumed the validity of their proposed model, especially the notion of the zone of tolerance being bound by AS and DS. Consequently, when confronted with evidence of a “logical inconsistency” (p. 206) in responses, they were forced to invoke a respondent “confusion” explanation. A less structured approach, such as the own-categories technique, would allow a more fundamental test of their assumptions concerning zonal boundaries.

Dependent Measures

SJI's own categories technique provide a number of measures useful for addressing many of the above research questions. Additionally, if the method is modified to (1) allow a maximum number of categories (e.g., 11) and (2) to request information about the correspondence between categories and standards (e.g. desired, deserved, adequate, and

expected service) and behavioral intentions (e.g., repeat patronage, complaining, exiting, and word-of-mouth), other useful dependent measures are generated. Among these are:

1. The size in number of categories used of the latitudes of acceptance, objectionability, and noncommitment.
2. The density in number of statements included in the latitudes of acceptance, objectionability, and noncommitment.
3. The relative location (distance in categories and order) among standards.
4. The relative location (distance in categories) between standards and latitude boundaries
5. The latitudinal position associated with each standard
6. The latitudinal position associated with intended behaviors

Independent Measures

The primary independent measure of interest implied by both the SJI and zone of tolerance models is some level of importance or situational criticality. In the specific terms of SJI, this situational criticality is called ego-involvement and represents the arousal or enduring ego attitudes. In the ZBP (1993) model it can be seen as the combination of enduring service intensifiers and transitory service intensifiers. In both cases they affect the expanding and contracting of latitudes. Additionally, SJI suggests that the ambiguity of the stimulus affects the relative size of latitudes. With appropriate manipulation of these variables, specific research hypotheses are indicated.

RESEARCH HYPOTHESES

Based on SJI theory, the zone of tolerance model, and the research questions several hypotheses are suggested. Each of these hypotheses applies to both of the proposed dimensions (response-time and friendliness) of the service-encounter. Stated in terms of the dependent and independent variables associated with the proposed design, they are:

- | | |
|----------------------|--|
| Hypothesis 1. | The total number of categories used to sort the statement will decrease with increased criticality |
| Hypothesis 2. | The total number of categories used to sort the statements will increase with increased situational ambiguity |
| Hypothesis 3. | The size (width) of the LO will increase with increased criticality |
| Hypothesis 4. | The size (width) of the LNC will decrease with increased criticality |
| Hypothesis 5. | The size (width) of the LO will decrease with increased situational ambiguity |
| Hypothesis 6. | The size (width) of the LNC will increase with increased situational ambiguity |
| Hypothesis 7. | The size (width) of the LA will not decrease as a function of increased situational criticality |

Additionally, the design will allow the exploration of several research questions which are specific to services and therefore not addressed by SJI. While exploratory in nature, several additional hypotheses, which might be considered to be implied by SJI, are proposed.

The Relationship Between Standards of Comparison and Boundaries

As noted, a number of standards, defined either as comparison levels, boundaries of latitudes or anchors have been proposed in the CS/D, service quality and SJI literatures. Given these multiple standards (e.g., desired, most acceptable, expected) and interpretations (boundaries or anchors), some implied issues are: (1) whether some or all of these standards are perceived to be equivalent by consumers, (2) how different standards are related ordinally, and (3) whether there is evidence to support an anchor, or perceptual distortion, interpretation as opposed to a boundary, or discreet perceptual shift interpretation, of standards.

There is little theoretical basis or empirical evidence from which to make a prediction about the equivalence or difference among most standards. There is support for a distinction between predictive and normative standards, but not consistent agreement concerning which standards belong to which class. Consequently, while these relationships are explored in the present study, no prediction is made about the relationship between most specific pairs of standards. The exception is the relationship between desired service, which serves as the upper boundary of the ZBP zone of tolerance model, and most acceptable position, which represents the primary positive anchor in the SJI latitude model. Since each of these standards represents what the consumer would most like to experience, they appear to be intended to denote equivalent standards. Thus the following hypothesis is tested:

Hypothesis 8. The standard of desired service (DS) is equivalent to the anchor of “most acceptable position” (MA).

A more critical issue is whether standards represent boundaries or anchors. For latitude models, the equivalence of standards and boundaries would lend partial support for the ZBP zone of tolerance interpretation of the formation of latitudes. On the other hand, a finding that standards are not the same as boundaries would lend partial support for an anchoring role of standards in perceptual categorization as posited by SJI. For reasons previously cited, it appears that the anchor interpretation of SJI has stronger theoretical foundations and empirical support than does a boundary interpretation of ZBP. Consequently, the following hypothesis is proposed:

Hypothesis 9. Comparison standards and anchors are not equivalent to the latitude boundaries of acceptable service

As noted, there has been relatively little investigation of behavioral intentions and behaviors as a function of positive or negative evaluations in either (dis)satisfaction or service quality research. More commonly, there is an implied assumption that negative (from the perspective of the offerer) behaviors (and behavioral intentions) result from negative evaluations of service-encounters and positive behaviors (and behavioral intentions) result from positive evaluations of service-encounters. This issue is actually three related issues: (1) Is there a relationship between positive and negative evaluations and positive and negative (from the perspective of the service provider) behavioral intentions? (2) Is there a relationship between behavioral intentions and behavior? And (3) do non-positive evaluations necessarily result in negative behavioral intentions? The second issue is related to the correlation of behavioral intentions and behaviors and is not addressed in this study. The first and third issue are investigated. Again, the tentative

hypotheses reflect the more general orientation of SJI, which largely guides the present study. The latitude conceptualization of SJI is an attitude-based conceptualization and implies a relationship between latitudes and behavioral intentions. Further, the tripartite conceptualization of SJI implies that non-positive evaluations (perception outside of the latitude of acceptance) do not necessarily imply negative behavioral intentions as would be implied by the ZBP zone of tolerance model or most disconfirmation of expectations based models. Consequently, in addition to serving as a test of the relationship between (or among) latitudes and behavioral intentions, the following hypotheses may also be considered a test of the robustness of the binary models, such as disconfirmation of expectations and latitude of acceptance-only models, versus tripartite latitude conceptualizations.

Hypothesis 10. Positive behavioral intentions (e.g., positive word-of-mouth) will be more frequently associated with LA than with the LO or LNC

Hypothesis 11. Negative behavioral intentions (e.g., negative word-of-mouth) will be more frequently associated with LO than with the LA or the LNC

Hypothesis 12. No specific behavioral intentions will be associated with LNC

No specific predictions are made concerning the placement of “expected” or ideal service.

SUMMARY

Latitude models are characterized by a nonlinear relationship between a stimuli and

perceptions of that stimuli. Recently, a latitude, or zone of tolerance, model has been proposed in the service quality literature by Zeithaml, Berry, and Parasuraman (1993). Similar models can be found throughout the marketing literature, particularly in satisfaction and price evaluation research. Usually, this research is based on some combination of the Weber/Fechner Law, adaptation-level theory, dissonance theory, and/or social judgment theory. Drawing heavily on social judgment theory, a number of the commonalities and differences among the theoretical foundations are reviewed and a series of research questions are suggested. Finally, a series of testable hypotheses developed from the review and research questions are developed.

CHAPTER IV

METHOD

INTRODUCTION

While service-encounter evaluation has been previously conceptualized in terms of latitudes, zones, or evaluative categories, to date these conceptualizations remain essentially untested. Consequently, there is relatively little procedural precedence on which to base a research design. Previous empirical investigation of SJI propositions does provide considerable guidance. However, neither the methods nor the specific results, which were tied to the investigation of social issues, are directly transferable on a wholesale basis to the investigation of the service-encounter. Even the more directly marketing-related investigation of latitudes under the rubric of reference price can only provide moderate guidance given its limited amount, singular dimension, and restriction to the latitude of acceptance. Thus, the initial design elements were viewed as tentative and subject to change based on pilot and pretest results. Further, while testable hypotheses are proposed and investigated empirically, the research is also exploratory.

The focus of this research is the understanding of the evaluation process in a service-encounter. The general purposes are to test the viability of a latitude model of

service encounter, to establish empirically the relationships among various standards used in (dis)satisfaction and service quality research and between these standards and latitudes, and to investigate empirically the relationship between latitudes and behavioral intentions. The specific purposes are to test a series of twelve research hypotheses and to serve as an exploratory study for the generation of further research questions about the use of categories or latitudes in service-encounter evaluation.

This chapter explains the research design and the research procedures used to test these hypotheses and to further explore the relationships among latitudes, standards, and behavioral intentions. First the research hypotheses are reviewed. Then the general research approach and research design are outlined. The development and pretest of the procedures and materials are then explained. Finally, the respondents, the materials, and the specific procedures used in the primary study are provided.

RESEARCH HYPOTHESES

The research hypotheses developed in the previous chapter are:

- | | |
|----------------------|--|
| Hypothesis 1. | The total number of categories used to sort the statement will decrease with increased criticality |
| Hypothesis 2. | The total number of categories used to sort the statements will increase with increased situational ambiguity |
| Hypothesis 3. | The size (width) of the LO will increase with increased criticality |
| Hypothesis 4. | The size (width) of the LNC will decrease with increased criticality |

- | | |
|-----------------------|---|
| Hypothesis 5. | The size (width) of the LO will decrease with increased situational ambiguity |
| Hypothesis 6. | The size (width) of the LNC will increase with increased situational ambiguity |
| Hypothesis 7. | The size (width) of the LA will not decrease as a function of increased situational criticality |
| Hypothesis 8. | The standard of desired service (DS) is equivalent to the anchor of “most acceptable position” (MA). |
| Hypothesis 9. | Comparison standards and anchors are not equivalent to the latitude boundaries of acceptable service |
| Hypothesis 10. | Positive behavioral intentions (e.g., positive word-of-mouth) will be more frequently associated with LA than with the LO or LNC |
| Hypothesis 11. | Negative behavioral intentions (e.g., negative word-of-mouth) will be more frequently associated with LO than with the LA or the LNC |
| Hypothesis 12. | No specific behavioral intentions will be associated with LNC |

RESEARCH APPROACH AND DESIGN

The research hypotheses impose several requirements on the research design. Among these are: the identification of a service setting for investigation, the identification and selection of appropriate dimensions of that service setting, a means of manipulation of the primary independent variables, the selection of a respondent sample, and the development and refinement of an instrument for measuring the dependent variables.

Service-encounter Setting

The service encounter employed in this research is restaurant service. This choice was based on several factors. The two most important factors are the availability of respondents with “product knowledge” and the ability to use the results of previous studies in the development of the present design for comparison with the results of the present study. Given the wide-spread familiarity and experience with restaurant patronage in the general population, it represents a service-encounter setting with considerable flexibility in the definition of a sampling frame. Additionally, and probably related, restaurant service has been the focus of a significant number of service-encounter related studies (e.g., Cadotte and Turgeon 1988a; Cadotte and Turgeon 1988b; Dube, Renaghan, and Miller 1994; Filiatrault and Ritchie 1988; Stevens, Knutson, and Patton 1995; Liljander 1995; Strandvik 1994; Woodruff, Cadotte and Jenkins 1987). Consequently, the choice of a restaurant setting allows the use of this previous research in the identification and selection of specific independent and dependent variables, as well as some of the situational factors which should be controlled. It also allows relatively direct comparison with related studies, including two (Liljander 1995; Strandvik 1994) of the three that investigate some aspect of the zone of tolerance model of Zeithaml, Berry, and Parasuraman (1993).

Required Manipulations

The research hypotheses require two primary manipulations. First they require manipulation of the level of criticality or “situational importance” in which evaluations of service-encounters are made. Second, they requires manipulation of the ambiguity or ease

of evaluation of the service-encounter dimension. The basic research design is shown in Figure 4.1. These manipulations require the identification of definable, situationally-specific variables which can be varied and/or must be controlled.

Figure 4.1 Initial Design Matrix		
	Low Ambiguity	High Ambiguity
Low Criticality		
High Criticality		

Manipulation of Independent Variables

Manipulation of the independent variables is by written scenario. Scenario manipulation requires respondents to imagine themselves in a situation described by the researcher and to respond accordingly on some instrument intended to assess the dependent variable(s) of interest. Interestingly, while manipulation by scenario is a common means of quasi-experimental investigation in the marketing literature, (Dabholkar 1994; Surprenant and Churchill 1984; Surprenant and Solomon 1987; Solomon 1985) there is no reference which provides general guidelines for scenario construction. Watson and Cox (1996, p. 160) do outline a series of steps for scenario construction but these are very general--e.g., "make a list of elements that affect the variables of interest"-- and do not provide any systematic approach to capturing, classifying, or treating these variables. Campbell and Stanley (1963) and Cook and Campbell (1979) do provide guidelines for

dealing with threats to internal and external validity in quasi-experimentation in general, but do not specifically address scenario construction.

There are four alternatives to the treatment of variables in scenarios.

1. Manipulate--vary them across scenarios--i.e. treat them as independent variables.
2. Control--specifically include them in the scenario but do not vary them among alternative scenarios.
3. Ignore--assume they are unimportant or will “on average” cancel themselves out with random (or at least unbiased) assignment of respondents to treatment conditions.
- 4.. Measure--assess their presence (level) and use in one of two ways
 - Covary--control them statistically.
 - Make them dependent variables

The research design dictates which variables should be manipulated (i.e. independent variables) or treated as dependent variables. Thus, the central tasks in scenario building are (1) identification of which variables need to be specifically ignored, or if necessary covaried, and (2) deciding how to incorporate these controlled variables in the context of the service-encounter scenarios of interest. The alternative scenarios should then be tested and the effects of the manipulation be assessed by use of manipulation checks. Following is a review of the restaurant-related literature that is of assistance in the identification of these variables and how they should be treated.

REVIEW OF RESTAURANT-RELATED SITUATIONAL VARIABLES

Belk(1975) provides the following general definition of *situation* as it applies to the study of consumer behavior: “all of those factors particular to a time and place of observation which do not follow from knowledge of personal (intra-individual) and stimulus (choice alternative) attributes, which have a demonstrable and systematic effect on current behavior.” Specifically, he delineates the following factors.

1. Physical Surroundings: readily apparent features, e.g. location, decor, visible configurations, etc.
2. Social Surroundings: variables that provide additional depth, e.g. others present, their characteristics, roles and interactions.
3. Temporal Perspective: a dimension of situations which may be specified in temporal units, e.g. time of day, season, time since last purchase, etc.
4. Task Definition: purpose or intention of purchase situation.
5. Antecedent States: acute mood and emotional states which exist immediately prior to the situation.

From the perspective of social judgment theory, the zone of tolerance model of ZBP (1993), and adaptation-level theory (Helson 1964) these situationally specific variables are seen as interacting with previous experiences and previously formed attitudes to form a “frame of reference.” This frame of reference partially defines the latitudes, categories, or zones that form the underlying reference scale with which the individual makes evaluative judgments. Following is a summary of the relevant situational variables that have been found to have a differential impact in restaurant settings.

Restaurant Types

Muller and Woods (1994, p.28) note that the *traditional typology* of independent restaurants includes three segments: *quick service*, *midscale*, and *upscale*. However, they suggest that this classification does not adequately fit a “multiunit environment,” and propose a broadened classification system for restaurants. This classification provides a series of “consumer decision attributes,” as well as strategic and operational characteristics associated with each restaurant type. The five restaurant types and the associated consumer decision variables are:

- | | |
|-------------------------------|---|
| 1. Quick Service (fast-food): | low price, <i>speed and time savings</i> , consistency |
| 2. Midscale | menu mix, value (price and portion size), comfort, <i>service</i> |
| 3. Moderate upscale | fashion statement, ambience, flexibility of use |
| 4. Upscale | style, ambience, <i>service</i> , dining <i>experience</i> |
| 5. Business Dining | location, price and value, ease of purchase decision |

Iacobucci, (1992) had respondents rate various offerings on a number of dimensions often associated with “goods-services” continua and found significant differences between “fast foods” and “dinner at a nice restaurant” for dimensions of :

1. Complexity of item purchased (fast food less than nice restaurant)
2. Heterogeneity (level of standardization) of purchase (fast food greater than nice restaurant)
3. Extent to which purchase is a product or service (fast food more of a product than is dinner at a nice restaurant)

She also found differences for:

4. Search-credence-experience properties (fast food less experiential)

5. Tangibility of purchase (both relatively tangible, but fast food more so)

but given the presentation of data, the significance of the differences within these last two dimensions was indeterminable. It should also be noted that the focus of the Iacobucci study was on the “purchase”, rather than the encounter associated with the purchase. It was also not the intent of the study to test the dimensional differences among an exhaustive categorization of restaurant types.

Service-encounter Dimensions

Parasuraman, Zeithaml, and Berry, (1988), as previously noted, used factor analysis to identify five “generalizable” dimensions of service quality:

- | | |
|--------------------|---|
| 1. tangibles: | physical goods and facilities |
| 2. reliability | ability to perform the promised service dependably and accurately |
| 3. responsiveness: | willingness to help customers and provide <i>prompt service</i> |
| 4. assurance | knowledge and <i>courtesy</i> of employees |
| 5. empathy | caring and individualized <i>attention</i> |

Cadotte and Turgeon (1988), based on survey of managers of food-service units, ranked 25 food-service attributes in terms of relative basis for complaints and compliments. The highest ranking attributes for each are shown in table 4.2. They suggested a distinction among attributes that could be considered “satisfiers,” “dissatisfies,” “criticals,” and “neutrals” (distinguished by skewness of distribution and

width of a “zone of tolerance”), reflecting their likelihood of leading to complaints or compliments. It should be noted that “quality of service”, which was not explicitly defined, ranked high as both a “complaint” and “compliment” attribute, implying that it is a “critical” attribute. No separate category is provided for “friendliness” or “response-time”. Presumably, these are implicitly included in quality of service. No

Table 4.2 Restaurant Service Attributes Resulting in Complaints and Compliments

Attribute	Complaint Rank	Compliment Rank
Availability of Parking	1	19
Traffic congestion in establishment	2	26
Quality of Service	3	1
Price	4	10
Noise Level	5	24
Food quality	7	2
Helpful attitude of employees	6	3
Cleanliness of establishment	14	4
Neatness of establishment	11	5 (tie)
Size of portion	12	5 (tie)

Source: Cadotte and Turgeon 1988

attempt at data reduction (e.g. factor analysis) is reported. A separate category is provided for “quantity of service” (also not defined), but it is not ranked in the top five attributes for either complaints or compliments.

Martin (1991) identified four factors that apply to judgment of the dining

experience:

1. **Product Quality:** reaction to the food (usually ranks low as consumer irritant, p. 17)
2. **Value Perception:** perception of “money’s worth”
3. **Surroundings:** environmental variables such as decor, lighting, colors, etc.
4. **Service**

For service, which he designated “the Achilles’ heel of the entire food-service industry” (p. 20), he further identified two sub-components: (1) *Procedural*: the mechanism by which the consumer’s product needs are met (including promptness), and (2) *Conviviality*: the “personality” and interpersonal skills of the service staff which fulfills psychological needs. Conviviality includes attitudes, attentiveness, body language, verbal skills, “saying the right thing”, complaint handling, name use, and helpful knowledge of wait staff.

Strandvik, (1994) distilled four restaurant service-encounter attributes from reviews of previous research (Cadotte, Woodruff, and Jenkins 1983; Prakash and Lounsbury 1984; Swan and Trawick 1982) and developed the following classification of restaurant service attributes:

1. **Food:** taste and look of the food
2. **Menu:** variation and assortment
3. **Servicescape:** interior of restaurant (atmosphere, size, light, and smell)
4. **Interaction:** personal service (*speed, friendliness, and flexibility*)

Additionally, he identified “value” as a hybrid variable based on satisfaction (or quality) and price.

Liljander (1995), in a pilot study, reduced 36 restaurant-related service-encounter attributes to 21 attributes based on importance in a “casual dining” situation and then used factor analysis to condense these 21 attributes to three dimensions:

1. *servicescape*: (e.g. decor and lighting, atmosphere, cleanliness);
2. *personnel*: (including *response time* and *friendliness*);
3. *food*: (e.g. menu variety, taste, serving size);

Additional attributes classifications of restaurant service encounters are discussed in the following section.

Situation/Attribute Interaction

Miller and Ginter (1979) delineated the attribute associated with a restaurant setting as:

1. *speed of service*
2. variety of menu
3. popularity with children
4. cleanliness
5. taste of food
6. price.

They investigated the relationship of the importance among these attributes and eating occasion, which they defined as: lunch on a weekday, snack during a shopping trip, evening meal when rushed for time, and brand choice for five fast-food restaurants (mostly hamburger chains). They found a significant interaction between attribute importance and eating occasion. However, they noted that *speed of service* is most different across the situations and that the importance of taste of food, cleanliness, and price do not vary with

the situation.

June and Smith (1987) used conjoint analysis to investigate relationships between five situational dining contexts, based on Belk's (1975) and others' classifications of situational variables. Specifically, they used:

1. an intimate dinner with a friend
2. dinner with a group of friends to celebrate a birthday
3. lunch with business associates
4. dinner with the family

and six attributes of restaurant evaluation:

1. price (three levels)
2. atmosphere (level of privacy)
3. liquor license (yes/no)
4. *service* (attentiveness of servers)
5. food quality (average, above average, excellent).

They found a consistent relative importance pattern of (1) liquor license, (2) service, (3) price, (4) food quality, and (5) atmosphere across dining situations for the relatively homogeneous "convenience" sample used. They also noted the willingness of the respondents to "give up" a higher quality of food for higher levels of all other attributes, suggesting a compensatory relationship among at least some variables in the evaluation process.

Filiatrault and Ritchie (1988), used conjoint, self-explicated, and "reformulated Fishbein" models to examine the influence of three dining situations:

1. A weekday lunch with associates and/or friends with individuals paying their own bills;
2. An important business dinner with a prestigious guest with expenses paid from company funds;
3. An evening weekend meal with spouse and two children under 12 years of age;

These dining situations were evaluated on five attribute-level criteria:

1. type of cuisine (European, Asiatic, Specialty, North American)
2. price (three levels)
3. *quality of service*
4. *ambiance* (cozy and pleasant, lively and busy)
5. *quality of food* (always excellent, good).

They found attribute level importance varied significantly across situations and concluded that “if the context of data collection is not clearly defined in situational terms, then measured attitudes are at best equivalent to an average attitude across several situations” (p. 35).

Morgan (1993) used principal components analysis of aggregate (modal) data from a 1992 *Consumer Reports* study of “family”, “steak-house”, and “casual-dining” restaurants to reduce 13 food-service attributes to three dimensions.

- | | |
|---------------------------------|--|
| 1. <i>Food-service quality:</i> | tasty food, menu selection, friendly staff, knowledgeable staff, pleasant atmosphere, low noise level, fun, cleanliness, and size of chain |
| 2. <i>Family price-value:</i> | ability to accommodate children, good value for price, good prices |
| 3. <i>Time convenience:</i> | prompt seating and service, low noise level |

He found a significant effect of “food-service quality” on the overall rating for all three types of restaurants, but “family price-value” and “time convenience” were significant only for “family restaurant” ratings. Fast-food restaurants were not investigated. It should be noted that the use of aggregate data may present a major methodological problem which may be compounded by limiting the study to (1) a restricted range of restaurant types and (2) evaluation of only “chain” restaurants (cf., Liljander 1995)

Dube, Renaghan, and Miller (1994), based on exploratory factor analysis, first reduced 35 food-service satisfaction attributes to seven dimensions. They then had respondents rate relative importance (100 point basis) of these dimensions in “pleasure” and “business” situations in upscale restaurants and found the attributes rated as follows:

Table 4.3 Relative Importance of Service Attributes		
Service Attribute	Relative Importance	
	Pleasure	Business
Tasty Food	39.0	33.7
Consistent food	10.8	14.1
Atmosphere	13.1	15.2
<i>Attentive server</i>	14.4	18.3
Helpful server	13.5	8.5
<i>Waiting time</i>	3.9	8.5
Menu variety	5.2	1.7
Source: Dube, Renaghan, and Miller 1994		

They also noted the compensatory nature of attribute evaluation in satisfaction judgments.

That is, low performance on one attribute can be compensated with higher performance

on another attribute.

Using conjoint analysis, Ostrom and Iacobucci (1995) found that various attributes (price, quality, friendliness, and customization) have greater salience (utility) in satisfaction evaluations under different levels of situational criticality, as well as for the credence/experience characterization of the service. For instance, friendliness had greater relative importance under conditions of high criticality for experience services. Their “criticality factor” was similar to the ego-involvement concept of SJI and the “transitory service intensifiers” of ZBP.

Pre-process, In-process, and Post-process differences

Dube-Rioux, Laurette, Schmitt, and Leclerc, (1987), conducted two experiments intended to investigate the reactions to waiting-time in a restaurant based on (1) the “point of delay” (in the dinning process) and the certainty or uncertainty of the delay (whether informed beforehand) and (2) point of delay and level of need (degree of hunger). Those distinguished between points of delay in terms of:

1. Pre-process: time between entering the restaurant and being seated
2. In-process: time between ordering food and receiving food
3. Post-process: time between asking for bill and receiving bill

They found that respondents are more upset from pre-process and post-process waiting than for in-process waiting. No significant main effect for certainty and no interaction effects were found. They also found that an in-process delay resulted in a more negative evaluation in a “low need” (e.g., low hunger) condition and a pre-process delay was more

important in a “high need” condition. The lengths of waiting times were arbitrarily defined and held constant in the three “points of delay”.

Episodic Versus Relational Basis for “Service Quality” and “Satisfaction”

One of the distinctions that has been suggested for differentiation between service quality and satisfaction is that service quality is a *relational* notion and satisfaction is an *episodic* evaluation. However, both Liljander (1995) and Strandvik (1994) argue that either of these constructs can be (and often are) conceptualized in terms of episode or relationship and that these dimensions (episodic or relationship) are more useful and more easily operationalized than are the service quality and satisfaction constructs.

Cadotte, Woodruff, and Jenkins (1987) investigated three “experience-based” norms that potentially serve as comparison standards in the evaluation of satisfaction: “brand expectation” (i.e., the expectation based experience with the specific brand), “best brand norm” (i.e., the best possible performance in the service/product category), and “product norm” (i.e., the average of similar products in the category). They found that while “best brand” is used as the comparison standard in the evaluation of upscale restaurants, “product norm” is used as a comparison standard in the evaluation of fast food and family restaurants.

VARIABLE SELECTION AND TREATMENT

Restaurant Types

The basic design calls for differentiation of the offering (restaurant) based on the general ambiguity of the evaluative criteria. SJI theory implies that an increase in ambiguity should increase reliance on internal and external cues, which will be reflected in item displacement. This ambiguity is essentially equal to the level of heterogeneity dimension (standardization) and similar to the complexity dimension of Iacobucci (1992). In fact, Iacobucci found these dimensions to be relatively highly correlated ($-.751$, reverse coded). She also found fast-foods and dinner at a nice restaurant to be significantly different on these dimensions. These distinctions are also supported by Muller and Woods' (1994) emphasis on "consistency" as a consumer decision variable for fast food and "uniqueness" and "differentiation" as "keys to operation" and "strategic focus" for fine dining. Thus, the originally intended restaurant categories were fast food and fine-dining.. However, at least for the criterion of response-time, a pretest that was intended to establish the pre-process and "in-process" parameters of temporal acceptability suggested that respondents make distinctions between "fast food," "family restaurant", and "fine dining". Consequently, the design was expanded to this three level classification, which is essentially identical to the traditional classification for independent restaurants (Muller and Woods 1994).

Criticality/Involvement

Situational criticality, under a variety of names (e.g. ego-involvement, importance, transitory service-intensifiers), has consistently been shown to impact both attribute level and overall evaluative judgments (e.g., Ostrom and Iacobucci 1995; Sherif, Sherif, and Nebergall 1965). In fact it is the differential perceptual bias that is posited to occur under

high involvement that provides the basis for a critical test of the existence of an evaluative reference scale consisting of dynamic latitudes. While there are few specific guidelines in the literature to suggest how best to manipulate criticality in a dining situation, based in part on the work of Filiatrault and Ritchie (1988) and June and Smith (1987), an initial decision was made to manipulate criticality by specification of a combination of (1) the person with whom the respondent is dining, casual acquaintance vs. very important friend; and (2) the situation in which the dining is taking place, casual meal vs. very special occasion. The two resulting situations are a casual diner with a casual acquaintance (low criticality) and dinner with a very special friend on a special occasion (high criticality).

Dependent variable dimensions

Based on the previous review of the restaurant service attribute literature, the most commonly agreed upon dimensions of restaurant evaluation are:

1. Servicescape/atmosphere
2. Food
 - taste
 - menu variety
 - quantity
3. Service-encounter
 - promptness/efficiency
 - friendliness/helpfulness
4. Price

The role of price as an evaluative variable in restaurant dining is less clear than for the other three variables. To some extent price may be alternatively viewed as a surrogate

variable, a variable that partially defines the restaurant type; a separate dimension to be evaluated, and/or a component of “value”. Value is normally defined as a derived variable which is a function of composite satisfaction with the first three attributes relative to what is given up or sacrificed-- usually price (e.g. Liljander 1995).

The intent of the present research is to *focus on the service-encounter*. In a restaurant setting, the cited literature supports the distinction between dimensions of *promptness/efficiency* and *friendliness/helpfulness* in the service-encounter (cf. Martin’s 1991, *procedural-conviviality* distinction). Consequently, waitperson *response-time* and waitperson *friendliness* were selected as dimensions for the dependent variables. Arguably, these dimensions represent not only two dimensions of the service-encounter (at least in restaurants), but also two different levels of evaluative ambiguity. These dimensions are investigated independently for purposes of replication and generalizability; no relationships between these dimensions are investigated.

As noted, in relation to response-time, Dube-Rioux, et al.(1987) pointed out the differential importance of pre-process, in-process, and post-process delays in the evaluation of restaurants. They also demonstrated that the “point in process” at which a delay occurs may interact with other situational variables (e.g. level of hunger). In spite of the fact that they found in-process (between ordering and receiving food) delays to be less likely to cause negative restaurant evaluations, the in-process period is used in the present research. The post-process period (between asking for and receiving a bill) does not apply directly to the fast food setting and the impact of pre-process waiting (between entering and being seated or waited on) can be influenced by a number of other variables,

such as the degree to which, and the way in which, the time is filled and attributions of causality for the required waiting (Taylor 1994). These confounding variables also impact the perception and acceptability of delays in-process. However, at least intuitively, it seems that there are more potentially confounding variables which are more difficult to control by scenario in pre-process waiting (e.g. differentially acceptable ways of filling the time, differential attributions of causality for the waiting, etc.) than in in-process waiting.

Controlled Variables

The distinction between episodic and relational evaluation is an important one (Liljander 1995; Strandvik 1994) because it affects the kinds of expectations or standards used (a *comparison standard* in the terms of the disconfirmation of expectations paradigm and as an *anchor* in the SJI model). A similar distinction is also implied by Cadotte, Woodruff, and Jenkins (1987) in their study of “brand expectation”, “best brand norm,” and “product norm” as comparison standards for satisfaction judgments. To avoid excessive confounding of the types of expectations (or anchors) used in evaluation, the scenario in the present research specifies service-encounter as a single episode. That is, the restaurant used in each scenario is defined as one in which the respondent has not been, and a “brand” with which the respondent has not had experience.

Past research also consistently indicates the presence of an interaction between attribute and situational variables and a compensatory relationship among attributes as a function of situational variables (e.g., Filiatrault and Richie 1988; Ostrom and Iacobucci 1995; Miller and Ginter 1979; Morgan 1993). These relationships suggest that the

dimensions of service-encounter evaluation which are not used as independent variables should be controlled. Therefore, “servicescape/atmosphere” and food (taste, menu-variety, and quantity) are specifically defined as acceptable (within the zone of tolerance). Price is somewhat more problematic. Because several studies indicate that it is the relationship between price and the other evaluative attributes that produce perceptions of value, price is controlled by defining it as “acceptable” in relation to the other controlled dimensions (i.e. servicescapes and food).

Summary of design variables

Measured dependent variables. Dependent measures specific to the instrument used in this study (e.g., number of categories used, latitude widths, etc.) are discussed in the previous chapter. The specific isolated dimensions of the service-encounter for all restaurant types are:.

1. Friendliness
2. Response-time

Manipulated independent variables. The following situational variables are manipulated to form the independent variables:

1. Situational criticality
 - relationship of dining companion (casual acquaintance vs. important close friend)
 - dining situation (casual meal vs. very important occasion)
2. Ambiguity (complexity) of evaluative judgment
 - restaurant type
 - fast food

- family dining
- fine dining

Controlled variables. The following variables are controlled by holding them constant across scenarios:

1. Episodic vs. relational evaluation
 - episodic--i.e., no past experience with restaurant or “brand”
2. Servicescape/atmosphere
 - acceptable for restaurant type
3. Food (taste, menu-variety, quantity)
 - acceptable for restaurant type
4. Price--tied to judgment of value
 - acceptable for atmosphere and food

The final research design is shown in Figure 4.4. The construction and pretest of the scenarios is discussed in a later section.

Covariates. Both SJI and the zone of tolerance model specifically point out the importance of prior experience and or previously formed attitudes brought into an evaluation in the determination of situational tolerance. However, there are few guidelines to suggest exactly what these variables might be for restaurant service-encounters. No specific covariates are included in the design. However, the following data are captured for possible use as covariates:

1. Information about self-perception of previous experience with the restaurant type was captured.
2. Experience working in a restaurant
 - type
 - total years

Table 4.4 Design Matrix			
	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)
Low Criticality (casual acquaintance)	1	3	5
High Criticality (close friend)	2	4	6

Note: This design is replicated for both dimensions of the service-encounter: waitperson friendliness and response-time

INSTRUMENT DESIGN

As discussed in the previous chapter, there are three methods generally associated with latitude assessment: own-categories, imposed-categories, and the method of ordered-alternatives. The own-categories procedure is information rich and probably more externally valid, but is relatively difficult to administer and analyze. Conversely, the method of ordered-alternatives is much easier to construct, administer, and analyze but probably less externally valid. The imposed categories technique shares the difficulty of construction and administration (partially) with own-categories, but is potentially easier to analyze since category scale values are easier to quantify. A modified form of the own-categories procedure was used in this study. The modification consists of the provision of eleven categories, with the end categories (1 and 11) labeled as the extremes of the dimensions under investigation, and instructions that these 11 categories represent the *maximum* number of categories rather than a required number. The specific instructions are discussed below.

The modified own categories technique requires the generation of approximately 50 statements representing varying levels of the dimension under investigation, in this case waitperson friendliness and response-time. These statements were generated and selected as part of a pretest.

Participants

The respondents used in the item-generation and selection process were

members of the researcher's upper-division marketing class. All responses were provided on a voluntary bases for which extra credit was awarded. Forty to 50 students (mostly the same students) participated in various phases of the item development and initial pilot testing. Fifty-nine different respondents participated during the final pretest and manipulation check. All respondents were members of upper-division business administration classes at the University of Oklahoma.

Waitperson Friendliness Item Generation and Selection for Modified Own Categories Procedures

To generate an initial item pool of statements to be used with the own categories procedure for waitperson friendliness, respondents were first asked to provide a list of statements representing experienced or conceivable waitperson behaviors in a restaurant. Each respondent was asked for a minimum of 22 statements, two for each point on an 11-point scale ranging from extremely unfriendly to extremely friendly. The type of restaurant was undefined. Specific instructions are shown in Appendix I. After the responses were turned in, they were edited by the researcher to eliminate duplicates, insure all statements were written in the present tense, and de-gendered. The result was an initial pool of 151 statements. The complete list is shown in Appendix I.

These 151 refined statements were put on small cards and returned to the original respondents, along with eleven cards numbered one to 11 and instructions to

sort the statements about waitperson behavior into 11 stacks (1-11) based on the level of unfriendliness or friendliness. The instructions for this card-sort are also shown in Appendix I.

Item Selection Procedures for Final Sort. Based on a review of the SJI literature, there does not appear to be any standard procedure for selection of items for the final instrument. A number of the early studies (e.g. Hovland and Sherif 1952; Sherif and Hovland 1953, p. 137) used the 114 items from the original item pool used by Hinckley (1932) in Thurston scaling. They noted that "the statements were originally compiled to represent a range from very pro-Negro to a very anti-Negro stand, with a large number representative of the middle range where variability of judgment is greater. The original items included a fair number which were too ambiguous to use in the final versions of the Hinckley scale, but were of interest for the present study." C. Sherif (1961) does not state the original source of her statements. She had students rate (most of) her behavioral statements on an 11cm scale and found the median, and interquartile range (Q1 and Q2) scores for each item. She (Sherif 1961, p. 59) then selected 50 items "designed to form an approximately rectilinear distribution for the three classifications 'perfectly acceptable,' 'intermediate,' and 'very 'unacceptable,'" plus some "new" statements. Reich and Sherif (1963) chose 60 statements from a pretested pool of 120, of which 15 had been consistently judged as favorable, 15 consistently judged as unfavorable, and 30 had been rated with high variability (Sherif, Sherif, and Nebergall 1965). Sherif, Sherif and Nebergall (1965, p. 125) do not give specific

selection procedures, but emphasize the need for "...a sufficient number of clear-cut statements at the extremes" and indicate that "a large number intermediate items should be included, especially items with alternative interpretations (*judged with great variability*) or which are in some respect indeterminate."

It should be noted that in one sense the purpose is not to scale items. In fact, what is partly required is to identify statements which *are not reliably scalable*, but are instead ambiguous and subject to displacement (assimilation-contrast) as a function of perceptual anchors. Therefore, a primary purpose is to identify which items would be eliminated because of low reliability if they were being scaled using traditional Thurston techniques. These are the items which have a high degree of variability in placement. The exception to this "non-scaling" requirement is the need to identify a few items that are consistently rated (i.e., have very low variability) at the extremes. These items serve as anchors of extremity.

Given the above, the following guidelines were used for item selection:

1. A goal of approximately 50 items.
2. Select approximately four items at each extreme with medians close to the extremes (1 or 11) and with the *lowest variability possible*.
3. Select the maximum possible number of items with medians within one position of the midpoint (i.e. 5, 6, 7) and *high variability*.
4. Select as many items as necessary to reach the target number with medians of 2,3, or 4 and 8, 9, or 10 with *high variability* (keeping the positive and negative items approximately equal in number).
5. Fill in any unrepresented points with items having that median and the maximum variability possible.

Arguably, there are a number of reasonable variations of the above criteria which could be used while still following the strategy of first anchoring the extremes and then selecting the remainder of the items with the goal of maximizing the variability. For example, means could be used in lieu of medians for measures of central tendency. However, medians may be preferred to means since they are less influenced by outliers.

These guidelines do not specify a measure of variability. SJI studies typically used the interquartile range. This statistic could be used in the present study. Other candidates are variance (or standard deviation) and range. Additionally, because the overall goal is to select anchors on the basis of non-ambiguity or relative certainty and to select non-anchor items on the basis of their relative ambiguity or uncertainty, a measure reflecting the *entropy* in item placement could also be used. A similar measure is the kurtoses (flatness or peakedness) of the distribution of item placement. There is no clearly superior option.

For this study, entropy was used as the measure of relative ambiguity or uncertainty with which an item was judged to be friendly or unfriendly. Arguably, it is a more pure measure of what interquartile range was intended to measure--that is, dispersion after adjusting for outliers. In fact, Thurston and Chave (1929, p. 55) originally defined ambiguity in scaling as "the degree of uniformity in the sorting of the statements." In the case of Thurston scaling, the interquartile range was intended as a measure of ambiguity for the purposes of item elimination (see also Edwards 1957). However, a high interquartile range could result from a distribution which is bimodal

but flat in the middle, a condition which would reflect ambivalence rather than ambiguity. Kurtosis, only measures flatness. Consequently, a flat distribution with a small range (or interquartile range) would produce a low measure of kurtosis, reflecting uncertainty. Entropy, however, may be viewed as a simultaneous measure of flatness and dispersion. As noted by Weisberg (1992):

Entropy statistics are little used...However, the theoretical basis of these statistics is very strong. Other nominal measures of spread have an *ad hoc* basis to them, whereas entropy statistics are elegantly based on information theory. A further advantage is that entropy statistics generalize readily to multiple variables, so uncertainty-based measures can be used to determine how much an explanatory variable helps reduce uncertainty as to the dependent-variable category in which a case belongs.

The entropy measure used in this study is the standardized form

$$S = -k \sum_{i=1}^n p \ln p$$

where S is entropy, k is a constant representing the maximum entropy possible (i.e., a statement had equal likelihood of being judged as belonging to each of its categories), and p is the probability that a statement will be judged as belonging to category its. At least in the present study, the items selected as anchors and ambiguous stimuli were extremely similar with all three alternative indices. The relevant statistical information for each statement is shown in Appendix I.

Based on the above criteria and procedures, 54 statements were chosen for use in the modified own-categories instrument employed in this study. The statements and their median values are shown in Table 4.4.

Table 4.4 Scale Values of Selected Friendliness Statements

Median Value	Number	Statement
1	(9)	The waitperson comments that your clothes are out of fashion.
1	(40)	The waitperson swears at you
1	(61)	The waitperson comments s/he really dislikes waiting on you.
1	(81)	The waitperson comments that your dress is inappropriate.
11	(87)	The waitperson comments that s/he likes the way you are dressed.
11	(90)	The waitperson tells you that you made (his)her night very pleasant.
11	(98)	The waitperson writes a personal note of thanks on the check.
11	(137)	The waitperson tells you that you were wonderful customers.
3	(5)	The waitperson begins talking to someone else while you are ordering.
3	(10)	The waitperson complains about the problems s/he is having today.
3	(26)	The waitperson makes teasing and joking comments.
3	(28)	The waitperson makes insulting jokes about the other staff.
3	(38)	The waitperson seems especially attracted to your companion.

Table 4.4 Scale Values of Selected Friendliness Statements

3	(47)	The waitperson laughs when s/he accidentally spills a drink on you.
3	(89)	The waitperson tells you about a lot of personal problems s/he has been having.
3	(99)	The waitperson comes to your table once during your meal.
3	(101)	The waitperson says: "What you are ordering is not on the menu!"
3	(109)	The waitperson tells you that you should order from the light menu.
3	(114)	The waitperson stands next to your table and watches you eat.
3	(130)	The waitperson tells you to hurry up and order.
3	(134)	The waitperson says: "What do you want?"
6	(2)	The waitperson asks your first name.
6	(41)	The waitperson takes your order without smiling.
6	(46)	The waitperson suggest that there is a better restaurant down the street.
6	(50)	The waitperson asks what your plans are for the evening.
6	(68)	The waitperson points out the least expensive items on the menu.
6	(69)	The waitperson (of the opposite sex) flirts with you.
6	(82)	The waitperson asks when your birthday is.
6	(86)	The waitperson suggests you may not like what you are ordering.

Table 4.4 Scale Values of Selected Friendliness Statements

6	(103)	The waitperson asks a lot of personal questions.
6	(113)	The waitperson stands next to your table and talks to you throughout your meal.
6	(126)	The waitperson touches you when talking to you.
6	(133)	After you make your selection, the waitperson suggests that you have an additional item.
6	(136)	The waitperson explains that s/he went to a great party last night and has a terrible hangover.
6	(138)	The waitperson says: "Let me know when you have made up your mind."
6	(141)	The waitperson gives you a dessert you did not order and insists: "You must try this."
9	(7)	The waitperson comments: "I've enjoyed serving you tonight."
9	(21)	The waitperson introduces you to another waitperson who is a friend of his(her's)
9	(22)	The waitperson is very efficient.
9	(55)	The manager of the restaurant stops by the table and asks: "How is everything?".
9	(66)	The waitperson is very quick and efficient.
9	(67)	The waitperson comes to the table every five minutes to see if everything is OK.
9	(72)	The waitperson (of the opposite sex) gives you a kiss on the cheek when you leave.
9	(78)	The waitperson (of the opposite sex) hugs you when you leave.
9	(104)	The waitperson gives you his/her phone number and asks you to call.

Table 4.4 Scale Values of Selected Friendliness Statements		
9	(112)	The waitperson sits down at the table and talks with you.
9	(139)	The waitperson brings you some food you did not order and does not charge you.

Item Generation and Selection--Response-time

The generation of items for response-time is relatively straightforward and similar to the procedures used by Sherif (1961) in the study of price. The same respondents used for the selection of friendliness items were used to establish the parameters for response-time statements. Respondents were asked to indicate the average and maximum amount of time they would expect to wait “between entering the restaurant and being asked for your order,” (pre-process) and to wait “between placing your order and receiving your food,” (in process) if they were in a fast food, family, or a fine-dinning restaurant. Additionally, they were asked for the maximum amount of time they would expect to wait to place an order and to receive food before leaving in each of these restaurant types. The full questionnaire is shown in Appendix 1. The mean responses are shown in table 4.5.

For reasons previously discussed, in-process response-time, the time between ordering and receiving food, is the dimension of interest in this study. In order to keep the stimulus materials the same for all restaurant types, the lower extreme of the range for lowest expected response-time and the higher extreme of the range for the highest average time were used. The stimulus range for response-time was therefore set from one minute to 90 minutes. To keep the number of stimulus items for response-time and friendliness approximately the same, the 55 individual response-times in this range were selected. Because response-time discrimination is finer at the lower end of the range, one minute intervals were used from one to 10 minutes. For symmetry, this one minute interval was also used at the high end of the range (80-90 minutes). The remainder of

**Table 4.5 Response-Time Pretest--Pre-process and In-process
Parameter Estimates (Minutes)**

Variable	Mean	Std Dev	Range	Min	Max	N
Fast Food						
Pre-process-- Avg	3.01	2.46	7	3	10	48
Pre-process--Max. Accept	5.19	3.42	14	1	15	48
Pre-process--Leave	7.80	50.60	23	2	25	46
In-process--Avg	3.29	1.93	9	1	10	48
In-process--Max. Accept	5.62	2.18	8	2	10	24
In-process--Leave	8.85	4.93	16	4	20	48
Family Restaurant						
Pre-process-- Avg	9.21	7.26	34	1	35	48
Pre-process--Max. Accept	14.94	11.03	57	3	60	48
Pre-process--Leave	19.50	16.81	86	4	90	46
In-process--Avg	15.06	10.10	56	4	60	48
In-process--Max. Accept	20.17	7.60	33	7	40	24
In-process--Leave	25.88	11.53	35	10	45	48
Fine Dining						
Pre-process-- Avg	15.56	15.51	88	2	90	48
Pre-process--Max. Accept	24.40	21.49	115	5	120	48
Pre-process--Leave	28.78	25.22	114	6	120	46
In-process--Avg	22.00	10.13	50	10	60	48
In-process--Max. Accept	29.92	12.93	45	15	60	24
In-process--Leave	38.96	19.21	75	15	90	48

the range was divided into two minute intervals. Thus, the response-times were 55 items consisting of:

1. 10 items in one minute intervals in the range 1-10
2. 35 items in two minute interval in the range 11-80
3. 10 items in one minute intervals in the range 81-90.

Scenario Construction

The design called for the construction of six scenarios reflecting the manipulation of two levels of criticality, high and low, and three levels of restaurant types: fast food, family , and fine dining restaurants, while holding variables such as price, food quality, and servicescape constant. The construction of these six scenarios was an iterative process which involved writing scenario descriptions intended to create the desired manipulations, which were tested against the following four manipulations checks:

1. How realistic do you find the situation you were presented?

Extremely realistic _____ : _____ : _____ : _____ : _____ : _____ : _____ **Extremely unrealistic**
1 2 3 4 5 6 7

2. Given the situation presented to you, how critical is it that everything at the restaurant is exactly as you would like it to be?

Extremely critical _____ : _____ : _____ : _____ : _____ : _____ : _____ **Not at all critical**
1 2 3 4 5 6 7

3. Given the situation presented, how important is the dining experience to you?

Extremely important _____ : _____ : _____ : _____ : _____ : _____ : _____ **Extremely unimportant**
1 2 3 4 5 6 7

4.. How difficult is it to imagine yourself in the situation presented?

Extremely difficult _____ **Not at all difficult**
1 2 3 4 5 6 7

Adjustments were made to the scenarios after each administration. The process was repeated until, based on the manipulation checks, the scenarios appeared to be accomplishing the desired manipulations. The final pretest of the scenarios was a pretest of the complete instrument. The mean responses for the manipulation checks from this pretest are shown in Appendix I. The pretest process resulted in the following six scenarios:

Fast Food, Low Criticality (Design Cell 1)

You and a casual acquaintance run into each other and begin to chat. In the course of the conversation your acquaintance mentions that s/he is hungry; you realize that you are also hungry. On several occasions you have noticed a relatively new fast food restaurant across the street from where you are. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you walk over and try it. Your acquaintance agrees.

When you enter the restaurant you find that it looks about as you have anticipated, with Formica tables, attached seating, and a self-service counter which has the menu and prices posted above. You observe that the menu is sufficiently varied so that each of you should be able to find something you would like to eat. As you approach the counter you see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a fast-food restaurant. You also notice that the prices appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to get to the front of the line to place your order is reasonable.

Fast Food, High Critical (Cell 2)

You have invited a very close friend out for a special evening to celebrate your friend's birthday. Unfortunately, you do not have the opportunity to spend an evening out with this friend as often as you would desire. Consequently, you would like it to be as nice an evening as possible. The plan is to attend a special event that is of interest to both of you.

In a late afternoon discussion to confirm your plans your friend mentions that s/he has been so busy that s/he has not had a chance to eat since breakfast; you realize that you are hungry also. You also realize that having dinner together would give you additional time to spend with your friend, so you decide to add dinner to your invitation for a special evening for you and your friend.

Your friend accepts your invitation and says s/he would prefer a fast-food restaurant to family-dining or a fine-dining restaurant on this particular evening. While this may not be your first choice, it is most important to you that the evening is special to your friend; you agree to your friend's preference. You recall that on several occasions you have noticed there is a relatively new fast-food restaurant in the vicinity of where the event is being held. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you try this new restaurant. Your close friend agrees.

(The last paragraph previous scenario is repeated)

Family Restaurant, Low Criticality (Design Cell 3)

You and a casual acquaintance run into each other and begin to chat. In the course of the conversation your acquaintance mentions that s/he is hungry; you realize that you are also hungry. On several occasions you have noticed a relatively new family restaurant across the street from where you are. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you walk over and try it. Your acquaintance agrees.

When you enter the restaurant you find that it looks about as you have anticipated, with a simple but pleasant atmosphere, a sign asking you to "please wait to be seated", and a combination of booth and table seating with no tablecloths. You can see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a family restaurant. You ask to see a menu and observe that it is sufficiently varied so that each of you should be able to find something you would like to eat. The prices appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and

atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to be seated is reasonable.

Family Restaurant, High Criticality (Design Cell 4)

You have invited a very close friend out for a special evening to celebrate your friend's birthday. Unfortunately, you do not have the opportunity to spend an evening out with this friend as often as you would desire. Consequently, you would like it to be as nice an evening as possible. The plan is to attend a special event that is of interest to both of you.

In a late afternoon discussion to confirm your plans your friend mentions that s/he has been so busy that s/he has not had a chance to eat since breakfast; you realize that you are hungry also. You also realize that having dinner together would give you additional time to spend with your friend, so you decide to add dinner to your invitation for a special evening for you and your friend.

Your friend accepts your invitation and says s/he would prefer a family-dining restaurant to either a fast-food or a fine-dining restaurant on this particular evening. While this may not be your first choice, it is most important to you that the evening is special to your friend; you agree to your friend's preference. You recall that on several occasions you have noticed there is a relatively new family restaurant in the vicinity of where the event is being held. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you try this new restaurant. Your close friend agrees

(The last paragraph previous scenario is repeated)

Fine Dining, Low Criticality (Design Cell 5)

You and a casual acquaintance run into each other and begin to chat. In the course of the conversation your acquaintance mentions that s/he is hungry; you realize that you are also hungry. On several occasions you have noticed a relatively new fine-dining restaurant across the street from where you are. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you walk over and try it. Your acquaintance agrees.

When you arrive at the restaurant you see a menu posted by the door and observe that it is sufficiently varied so that each of you should be able to find something you would like to eat. When you enter the restaurant you find that it looks about as you have anticipated, including a elegant atmosphere; a *maitre d'hotel* station by the front door; waitpersons dressed in black and white; and

table seating with linen tablecloths, china, and crystal. You can see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a fine-dining restaurant. The prices that you recall from the menu appear to be in line with the menu variety, the appearance, and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to be seated is reasonable.

Fine Dining Restaurant, High Criticality (Design Cell 6)

You have invited a very close friend out for a special evening to celebrate your friend's birthday. Unfortunately, you do not have the opportunity to spend an evening out with this friend as often as you would desire. Consequently, you would like it to be as nice an evening as possible. The plan is to attend a special event that is of interest to both of you.

In a late afternoon discussion to confirm your plans your friend mentions that s/he has been so busy that s/he has not had a chance to eat since breakfast; you realize that you are hungry also. You also realize that having dinner together would give you additional time to spend with your friend, so you decide to add dinner to your invitation for a special evening for you and your friend.

Your friend accepts your invitation and says s/he would prefer a fine-dining restaurant to fast food or family-dining restaurant on this particular evening. While this may not be your first choice, it is most important to you that the evening is special to your friend; you agree to your friend's preference. You recall that on several occasions you have noticed there is a relatively new fine-dining restaurant in the vicinity of where the event is being held. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you try this new restaurant. Your close friend agrees.

(The last paragraph previous scenario is repeated)

The full set of instructions are shown in Appendix II.

Card-sort Procedures

The modified own categories card-sort technique used in this study involves asking respondents to first sort the statements into as few or as many categories as they

feel appropriate, up to a maximum of 11 total categories, based on their *similarity* in the level of the dimension in the context of a situational scenario. Following the sorting of all statements for their respective scenarios, respondents are then asked to indicate the following:

1. The stack of statements which represents the *most desirable service level* for the scenario.
2. All *other* groups of statements that also represent *acceptable levels* of service for the scenario.
3. The stack of statements which represents the *most undesirable service level* for the scenario.
4. All *other* stacks of statements that also represent *unacceptable levels* of service for the scenario.
5. Which stack of statements represent the service levels they would *expect* to receive given the scenario
6. Which stack of statements represent the service levels they feel they would *deserve* (should receive) given the scenario.
7. Which stack of statements represent the service levels they feel they would *desire* (should receive) given the scenario.
8. Which stack of statements represent the service levels they feel they would find *minimally tolerable* given the scenario.
9. Which group(s) of statements they would associate with various *behavioral intentions*, for example:
 - complaining behavior*--e.g., would they complain to the waitperson or manager about the service given the scenario
 - negative word-of-mouth*--e.g. would they tell others not to patronize the service provider given the service level
 - switching of service providers*---e.g. would they be likely to find another service provider (or never return) given a similar

scenario

-repeat patronage--e.g. would they be likely to find another service provider given a similar scenario

-exit behavior--e.g., would they be likely to leave without completing the dining process.

The first four of these tasks are typical of all three of the social judgment latitude assessment methods. The remainder of them are intended to provide the dependent variables which allow the determination the relationships among latitudes, standards, and behavioral intentions specified in the hypotheses. Specific instructions for all of these tasks are adopted from the original instructions used in social judgment studies employing own categories and imposed categories methods (see Sherif, Sherif, and Nebergall 1965). The final form of the instructions can be seen in Appendix II.

Stimulus Materials for Primary Study

All scenarios, manipulation checks, sorting instructions, and background and demographic questions were printed on letter-sized paper and assembled in the following order:

1. Institutional review board for use of human subjects consent form.
2. Scenario (one of six).
3. Manipulation check questions.
4. Card sort instructions for waitperson friendliness items.
5. Instructions for indicating meaning of categories used (e.g., acceptable, desired, would complain, etc.) in response-time item sort.

6. Card sort instructions for response-time items.

7. Instructions for indicating meaning of categories used (e.g., acceptable, desired, would complain, etc.) in response-time item sort.

8. Background and demographic questions.

In half of the packets instruction items three and four were reversed with instruction items six and seven. That is, respondents were asked to perform all tasks associated with response-time prior to performing tasks associated with waitperson friendliness.

Statement cards All items to be sorted were printed on 8 1/2 by 11 inch card stock with four statements across and five statements deep. The sheets were cut resulting in statement cards approximately 43 mm by 69 millimeter. In addition to the specific stimulus (i.e., a single waitperson behavior or a specific response-time), the words "Statement Card" were printed at the top of each card. For the response-time cards, the word "minutes" was printed following the number on the card. All statement cards for waitperson friendliness were printed on gray card stock and all statement cards for response-time were printed on pink card stock. All waitperson statement cards had a small number representing the statement code printed in parentheses in the bottom right-hand corner. No such number was printed on the response-time cards, since the actual time could serve as the code for these stimuli.

Category Cards In a manner identical to the printing of statement cards and, therefore, yielding cards of the same size, individual cards were printed with the numbers “1” through “11.” The words “Category Card” were printed at the top of each card. Additionally, on the card numbered “1,” the words “Extremely Slow” (for response-time category cards) or “Extremely Unfriendly” (for waitperson friendliness category cards) were printed; on the card numbered “11,” the words “Extremely Fast” or “Extremely Friendly” were printed. Waitperson category cards were printed on gray card stock and response-time category cards were printed on pink card stock.

PRIMARY STUDY

Participants

Sampling Frame. The sample used in this study was drawn from upper-division and graduate students at the University of Oklahoma. It is acknowledged that the generalizability of research findings *may* be limited by the restriction of the sampling frame to a student population. However, the purpose of the present study is to investigate the overall viability of latitude models, not the estimation of the specific categories employed for a specific type of service-encounter. Students are consumers. As long as the service-encounter type(s) is one with which students can be expected to be sufficiently familiar to allow the intended manipulation, generalizability of the underlying process should not represent a restriction. Importantly, a student sample has

the advantage of being found in settings which are conducive to the administration of the relatively complex instrument used for this research.

Target Sample-size. A target sample size was determined by power analysis. Using procedures developed by Price and Nicewander (1994), the upper and lower bound (see Pearson and Hartley 1951) for sample size with $\alpha=.05$, effect size equal to one-half of one standard deviation, and power set at .80 are 30 and 40 per cell or 180 and 240, respectively. The upper bound was used and, for safety, a target sample of 300 was set.

Sample. The sample consisted of 290 upper division and graduate students from the University of Oklahoma. Eight respondents did not complete all tasks and their responses were eliminated. Thus, the usable sample was 282. The average age was 22.97 years. Forty four percent of the sample was female. Forty nine percent of the respondents had worked or were working in some type of restaurant. Of those that had worked in a restaurant, 48 percent were male and 52 percent were female. Of the total sample, 23 percent had worked in a fast food restaurant, 31 percent had worked in a family restaurant, and 15 percent had worked in a fine dining restaurant. These figures indicate that a number of the respondents had worked in more than one type of restaurant. Participation was voluntary. All respondents who completed all tasks received extra credit in their respective courses for their participation.

Materials

The materials used in this study consisted primarily of the instrument described in the previous section. The statement cards for the modified own categories card sort for waitperson friendliness were shuffled, banded with a rubber band, and put into a 6 ½ inch by 3 ¼ inch clear plastic bag. The category cards were banded together unshuffled, and put into the same bag. Using a separate plastic bag of the same size, the same procedure was followed for the statement cards and category cards for response-time. Both of these plastic bags were put into a 10 ½ by 11 ¾ inch clear plastic bag together with the assembled written scenario, manipulation-check questions, sorting instructions and questionnaire items, as described in the previous section and shown in Appendix II.

Procedures

With the exception of a few respondents who performed the sorting tasks and responded to the questionnaire individually, all responses were obtained during regular class times in the presence of both the student's instructor and the researcher. When necessary, the classes were relocated to rooms with work-space suitable for the sorting tasks.

Respondents were informed that the purpose of the study was to better understand how people evaluate the services they receive, in this case in a restaurant setting, and were reminded that their participation was entirely voluntary. They were also informed that while it would appear that everyone would be doing the same tasks,

in fact both the specific instructions and the order in which the tasks were completed had many variations. Therefore, they should not be concerned if someone around them appeared to be working in a different order or at a different speed. The students were told not to open the materials until instructed to do so and the plastic bags containing the materials were distributed.

The respondents were then asked to open the bags, take out the questionnaire, and read the institutional review board consent form on the front of the questionnaire, but not to look through the rest of the materials. They were then asked to sign the consent form if they agreed to participate. They were told that it was very important that they read the rest of the instructions very carefully and to complete all tasks in the exact order indicated by the instructions. Again, they were reminded that not everyone was doing exactly the same tasks in the same order. They were further told that if they had any problem understanding or completing any of the tasks to raise their hand and the researcher would assist them. They were reminded that the first instruction was to note the time they started so that they could calculate how long it had taken to complete all of the tasks once they were finished. They were told to begin and to work at their own pace. The researcher was present during the entire time that the respondents were completing the required tasks to answer questions. Additionally, he circulated through the classroom to see if it looked as if anyone was having difficulty. Most respondents completed all tasks without assistance. A few respondents asked questions about further definitions of the scenario, such as the gender of the waitperson, or about specific waitperson friendliness behaviors. The researcher

explained that neither the scenario nor the stimulus materials could be defined beyond the information provided. In some instances it appeared to the researcher that respondents were having a problem with the required tasks. For example, some respondents were observed putting the materials from a card-sort back into the bag without sorting all of the items or taking the materials out of the bag for the second card-sort without completing the first card-sort. In these cases the researcher intervened to correct the situation. In most instances, these problems occurred because the respondent inadvertently skipped one or more instructions. These relatively infrequent problems appeared to occur with more frequency among foreign students.

The time required to complete all tasks ranged from 15 minutes to 60 minutes. The mean completion time was 36.62 minutes.

SUMMARY

To test the hypotheses developed in the previous chapter, a research design using three types of restaurants (fast food, family restaurant, and fine dining) and two levels of situational criticality was specified. Variables which required manipulation and control were identified and tests to assess the effectiveness of the manipulations were constructed. Scenarios for the manipulation of the variables of the research design were developed. An instrument, based on the “own-categories” procedure developed by social judgment theory researchers, for detecting the underlying reference scale used in evaluation was also developed. These scenarios and the evaluative scale assessment

instrument were pretested. Based on the pretests, the instrument and the manipulation checks were administered, in conjunction with the six scenarios, to a sample of 290 upper division and graduate students.

CHAPTER V

RESULTS

The hypotheses that this study is designed to answer can be categorized as hypotheses about (1) the relationship between the number of categories used and situational criticality and restaurant type, (2) the relationship between latitude size and density and situational criticality, (3) the relationship between latitude width and density and restaurant type, (4) the relationship among comparison standards and latitude boundaries, and (5) relationships among latitudes and behavioral intentions. Following the presentation of the results of manipulation checks, the organization of this chapter will follow the above categories.

MANIPULATION CHECKS

Two questions were used to assess the overall realism of the scenarios: “How realistic do you find the situation you were presented?” (REAL) and “How difficult is it to imagine yourself in the situation presented?” (IMAGINE). Responses were assessed

using seven-point scales (see Appendix II). The ANOVA results are shown in Table 5.1. The cell and marginal means are shown in Table 5.2a and 5.2b. For REAL, all F-ratios are nonsignificant, as desired. For IMAGINE, the main effects for criticality are not significant. Based on the Ryan multiple comparison procedure (e.g., Toothaker 1993), the marginal mean for family restaurant is significantly larger (less difficult to imagine) than for fine dining, but not larger than for fast food. In the simple effects test (cell means model), fine dining in a non-critical situation was significantly less easy to imagine than were most other situations.

The checks for the effectiveness of the manipulation by written scenario (situational criticality) were questions asking “Given the situation presented, how important is the situation to you? (IMPORT) and “Given the situation presented, how critical is it that everything is exactly as you would like it to be?” (AS LIKE). Both are seven-point scales. The results of the ANOVA tests are shown in Table 5.1. The cell and marginal means for these questions are shown in Tables 5.3a and 5.3b. For IMPORT, the main effect for situational criticality is significant. However, for AS LIKE, the main effect of CRITICAL is not significant.

The use of different restaurant types was intended to capture relative difficulty or ambiguity of judgment for the two dimensions of interest, waitperson friendliness and response-time. Questions of whether the respondent felt confident in making judgments about “whether the waitperson is appropriately friendly” (CON FRIEND) and “whether the time between ordering and receiving food is appropriate” (CON R-TIME) were used. Both used seven-point scales. Additionally, respondents were asked

whether they felt confident in making judgments about the “overall quality of the dining experience” (CON QUALITY). Table 5.1 shows the results of ANOVA tests. The cell and marginal means for these questions are shown in Tables 5.4a, 5.4b, and 5.4c. The means for CON FRIEND and CON R-TIME as a function of restaurant type were not significantly different. However, the effect of restaurant type on the more global measure of CON QUALITY was significant. Ryan multiple comparison tests showed the differences between the means for CON QUALITY were between fast food and family restaurants, and fast food and fine dining, but not between family restaurants and fine dining. However, the difference was not in what may be considered the expected direction (no direction was explicitly predicted). That is, the respondents had less confidence in judging the overall quality of the fast food dining experience than in judging the overall quality of the dining experience in either family or fine dining restaurants.

Table 5.1 Analysis of Variance Tests for Manipulation Checks

Dependent Variable/Comparison	F	R²	Pr > F
Realistic	10.66	0.038	0.057
Critical	0.81		0.368
Restaurant	4.00		0.149
Critical x Restaurant	1.03		0.359
Imagine self in situation	2.79	0.0481	0.018
Critical	0.07		0.800
Restaurant	4.60		0.011
Critical x Restaurant	2.34		0.098
Important	2.44	0.042	0.035
Critical	10.52		0.001
Restaurant	0.44		0.644
Critical x Restaurant	0.40		0.670
Critical everything as would like	1.25	0.022	0.287
Critical	2.05		0.153
Restaurant	0.50		0.606
Critical x Restaurant	1.59		0.205

Table 5.2a Means Standard Deviations for Realism Manipulation Check--Realistic Situation*

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	2.60 _a (1.25)	2.38a (1.33)	3.11a (1.66)	2.70a (1.30)
High Criticality (close friend)	2.77a (1.63)	2.24a (1.41)	2.67a (1.31)	2.54a (1.46)
	2.68a (1.44)	2.31a (1.37)	2.89a (1.51)	

*How realistic do you find situation? (7-point scale--low=realistic)

Table 5.2b Means and Standard Deviations for Realism Manipulation Check--Imagine Self in Situation*

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	6.08a (1.05)	6.11a (1.13)	5.34b (1.56)	5.85a (1.30)
High Criticality (close friend)	5.68ab (1.63)	6.17a (1.29)	5.78ab (1.36)	5.89a (1.37)
	5.89ab (1.27)	6.13a (1.21)	5.56b (1.47)	

How difficult to imagine self in situation? (7-point scale--high=not difficult)

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.3a Means and Standard Deviations for Criticality Manipulation Check--Importance*

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	3.04a (1.47)	2.81a (1.15)	2.94a (1.45)	2.93a (1.36)
High Criticality (close friend)	2.52a (1.17)	2.49a (1.33)	2.29a (.99)	2.44b (1.18)
	2.79a (1.35)	2.64a (1.25)	2.62a (1.28)	

*Importance of Dining Experience (7-point scale--low=important)

Table 5.3b Means and Standard Deviations for Criticality Manipulation Check--Exactly as you would like*

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	3.46a (1.34)	3.83a (1.27)	3.83a (1.46)	3.70a (1.36)
High Criticality (close friend)	3.59a (1.42)	3.57a (1.40)	3.24a (1.28)	3.47a (1.37)
	3.52a (1.37)	2.69a (1.34)	3.54a (1.40)	

*Critical everything as you would like it (7-point scale--low=critical)

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.4a Means and Standard Deviations for Confidence in Judging Friendliness Manipulation Check*

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	2.39 _a (1.30)	2.00a (1.10)	2.06a (1.03)	2.15a (1.16)
High Criticality (close friend)	2.16a (1.03)	1.98a (1.01)	2.02a (1.31)	2.05a (1.01)
	2.28a (1.18)	1.99a (1.05)	2.04a (1.01)	

How confident would you feel making judgments about whether a waitperson is appropriately friendly? (7-point scale--low=unconfident)

Table 5.4b Means and Standard Deviations for Confidence in Judging Response-time Manipulation Check

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	2.23a (1.17)	2.34a (1.15)	2.09b (1.02)	2.20a (1.11)
High Criticality (close friend)	2.14a (1.06)	2.25a (1.19)	2.11a (0.88)	2.06a (1.37)
	2.22a (1.11)	2.24a (1.21)	1.17a (1.47)	

*How confident would you feel making judgments about whether the time between ordering and receiving food is appropriate? (7-point scale--high=Extremely unconfident)

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.4c Means and Standard Deviations for Confidence in Judging overall Quality Manipulation Check*				
	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	2.38ab (1.21)	2.19ab (1.06)	1.87b (0.77)	2.14a (1.04)
High Criticality (close friend)	2.55b (1.33)	1.90b (1.04)	1.84b (0.80)	2.09a (1.12)
	2.45a (1.27)	2.04b (1.05)	1.86b (0.49)	
*How confident would you feel making judgments about the overall quality of the dining experience? (7-point scale--high=Extremely unconfident)				
Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$				

Summary of Manipulation Checks

In general, all manipulations were perceived to be positively and equally realistic by the respondents. They were also viewed as situations in which the respondents could imagine themselves, although fine dining in a “low critical” situation was less easy to image than most other situations.

The manipulation checks for criticality of the situation revealed a mixed pattern. As anticipated, the marginal means for the low criticality situation were lower than for the high criticality situation, although the effect size was smaller than might be desired. However, the within restaurant types, the individual cell means were not significantly different, although each trend was as predicted. However, neither the marginal means nor the cell means within restaurant type for the question which asked how critical it is that everything is “as you would like it” were significant.

Confidence in judging the appropriateness of waitperson friendliness did not vary with restaurant type. However, respondents were more confident making quality judgments about fast-food restaurants, especially in low criticality conditions, than about the other restaurant types.

HYPOTHESES TESTS

Number of Categories used as a function of Criticality and Restaurant Type

The following hypotheses address the relationship between the number of categories used as a function of situational criticality and restaurant type. Each is

predicted for both waitperson friendliness and response-time.

Hypothesis 1. **The total number of categories used to sort the statement will decrease with increased criticality**

Hypothesis 2. **The total number of categories used to sort the statements will increase with increased situational ambiguity**

The ANOVA test results for both waitperson friendliness and response-time are shown in Table 5.5.

Waitperson Friendliness. The cell and marginal means of the total number of categories used to sort the waitperson friendliness items are shown in Table 5.8a.

Neither the main effects of criticality nor the main effects of restaurant type (see Table 5.5) are significant. Thus, Hypotheses 1 and 2 are not supported for waitperson friendliness.

Response-Time. The cell and marginal means of the total number of categories used to sort the response-time items are shown in Table 5.8b. Neither the main effects of criticality nor the main effects of restaurant type (see Table 5.5) are significant. Thus, Hypotheses 1 and 2 are also not supported for response-time.

Latitudes of Objectionability and Noncommitment as a Function of Criticality

The following hypotheses address the relationship between latitude width, latitude density, and situational criticality. Each is predicted for both waitperson

friendliness and response-time.

Hypothesis 3. **The size (width and density) of the LO will increase with increased criticality**

Hypothesis 4. **The size (width and density) of the LNC will decrease with increased criticality**

The ANOVA test results for waitperson friendliness are shown in Table 5.6. The ANOVA tests for response-time are shown in Table 5.7.

Waitperson Friendliness. The cell and marginal means of latitude width and latitude density for the latitude of objectionability (LO) as a function of situational criticality are shown in Table 5.9a. and Table 5.9b, respectively. The main effects of criticality (see Table 5.5) are not significant for either latitude width or latitude density. The cell and marginal means of latitude width and density for the latitude of noncommitment (LNC) are shown in Tables 5.10a and 5.10b, respectively. The main effects of criticality (Table 5.7) are not significant for either latitude width or density. Thus, the null hypotheses of no difference between mean LO or LNC as a function of situational criticality are retained for waitperson friendliness. Hypotheses 3 and 4 are not supported for waitperson friendliness.

Response-Time. For response-time, the comparable cell and marginal means for the latitude width and density of LO as a function of situational criticality are shown in Tables 5.11a and Table 5.11b, respectively. The data for the width and density of the

LNC are in Tables 5.12a and 5.12b, respectively. As with waitperson friendliness, the main effects for criticality are not significant for either latitude width or latitude density for either LO or LNC. The null hypotheses of no difference between the size (width) of LO and LNC as a function of situational criticality are thus retained for response-time and, consequently, Hypotheses 3 and 4 are not supported for response-time.

Latitudes of Objectionability and Noncommitment as a Function of Restaurant Type

The following hypotheses address the relationship between latitude width, latitude density, and restaurant type. Each is predicted for both waitperson friendliness and response-time.

Hypothesis 5. **The size (width and density) of the LO will decrease with increased situational ambiguity**

Hypothesis 6. **The size (width and density) of the LNC will increase with increased situational ambiguity**

The ANOVA test results for waitperson friendliness and response-time are shown in Tables 5.6 and 5.7, respectively.

Waitperson Friendliness. The cell and marginal means of latitude width and latitude density for the latitude of objectionability (LO) as a function of restaurant type (situational ambiguity) are shown in Tables 5.9a. and 5.9b, respectively. The main

effects of criticality are not significant for either latitude width or latitude density.

The cell and marginal means of latitude width and density for the latitude of noncommitment (LNC) for restaurant type (situational ambiguity) are shown in Table 5.10a and 5.10b, respectively. The main effects of criticality are not significant for either latitude width or density. Thus, the null hypotheses of no difference between mean LO or LNC as a function of situational criticality are retained for waitperson friendliness. Hypotheses 5 and 6 are not supported for waitperson friendliness.

Response-Time. For response-time, the comparable data for the width and depth of LO as a function of dining occasion (situational criticality) are shown in Tables 5.11a and 5.11b, respectively. As with waitperson friendliness, the main effect of restaurant type on LO is not significant (see Table 5.7) for latitude width. Thus, the null hypotheses of no difference between mean *width* of LO and LNC as a function of restaurant type are retained for response-time. However, the null hypotheses of no difference between the mean *density* of LO and LNC as a function of restaurant type is not retained. Therefore, Hypotheses 4 and 5 are partially supported in the case of response-time.

Ryan's multiple comparison procedures show that for the marginal means, the significant differences are between fast food and both family restaurants and fine dining but not between the latter two restaurant types. The mean size of the latitude density for fast food is larger for LO but smaller for LNC than those of the other restaurant types (see Table 5.11 and Table 5.12).

Latitudes of Acceptance as a Function of Situational Criticality and Restaurant Type

The following hypothesis addresses the relationship between latitude of acceptance (LA) for situational criticality and situational ambiguity. It applies to both waitperson friendliness and response-time.

Hypothesis 7. The size (width and density) of the LA will not decrease as a function of increased situational criticality

Waitperson Friendliness. For waitperson friendliness, the cell and marginal means of latitude width and latitude density for the latitude of acceptance are shown in Tables 5.13a. and 5.13b, respectively. The ANOVA test results are shown in Table 5.7. The main effect for criticality is not significant for latitude density but is significant for latitude width. Ryan's test of paired comparisons confirm this latter effect for the marginal means; the mean width of LA is larger for the low criticality situation than for the high criticality situation (see Table 5.13a). Thus, the hypothesis of no difference between mean LA as a function of situational criticality is supported for latitude width but not for latitude density; Hypothesis 7 is partially supported for the dimension of waitperson friendliness.

Response-time. For response-time, the comparable data are shown in Tables 5.14a and 5.14b. The main effects for criticality are not significant for either latitude width or latitude density for LA. Thus, the hypothesis of no difference between the size

of LA as a function of situational criticality is supported.

Table 5.5 Analysis of Variance Tests for Number of Categories Used			
Dependent Variable/Comparison	F	R²	Pr > F
Categories Used--Waitperson Friendliness	0.72	0.013	0.608
Critical	1.76		0.186
Restaurant	0.29		0.746
Critical x Restaurant	0.63		0.533
Categories Used--Response-time	1.24	0.023	0.300
Critical	0.12		0.762
Restaurant	2.64		0.073
Critical x Restaurant	0.36		0.697
df (numerator) are: Model=5, Critical=1, Restaurant=2, Critical x Restaurant=2 df (denominator)=276			

Table 5.6 Analysis of Variance Tests for Waitperson Friendliness

Dependent Variable/Comparison	F	R²	Pr > F
Latitude of Acceptance (width)	1.52	0.027	0.183
Critical	3.95		0.048
Restaurant	0.06		0.946
Critical x Restaurant	1.78		0.171
Latitude of Acceptance (density)	1.00	0.018	0.420
Critical	1.41		0.237
Restaurant	1.38		0.253
Critical x Restaurant	0.41		0.665
Latitude of Objectionability (width)	1.39	0.025	0.228
Critical	0.68		0.411
Restaurant	2.70		0.069
Critical x Restaurant	0.38		0.682
Latitude of Objectionability (density)	0.80	0.0142	0.554
Critical	1.96		0.163
Restaurant	0.37		0.390
Critical x Restaurant	0.60		0.552
Latitude of Noncommitment (width)	0.75	0.013	0.587
Critical	0.21		0.647
Restaurant	0.81		0.446
Critical x Restaurant	0.90		0.409
Latitude of Noncommitment (density)	0.49	0.009	0.786
Critical	0.10		0.749
Restaurant	0.26		0.768
Critical x Restaurant	0.94		0.392

df (numerator) are: Model=5, Critical=1, Restaurant=2,
Critical x Restaurant=2, df (denominator)=276

Table 5.7 Analysis of Variance Tests for Response-Time			
Dependent Variable/Comparison	F	R²	Pr > F
Latitude of Acceptance (width)	1.59	0.028	0.580
Critical	0.11		0.737
Restaurant	0.46		0.635
Critical x Restaurant	1.39		0.252
Latitude of Acceptance (density)	2.53	0.044	0.029
Critical	4.44		0.036
Restaurant	3.90		0.021
Critical x Restaurant	0.17		0.844
Latitude of Objectionability (width)	0.76	0.014	0.580
Critical	0.11		0.737
Restaurant	0.46		0.635
Critical x Restaurant	1.39		0.252
Latitude of Objectionability (density)	5.30	0.088	0.000
Critical	0.48		0.491
Restaurant	12.69		0.000
Critical x Restaurant	0.22		0.800
Latitude of Noncommitment (width)	1.40	0.025	0.224
Critical	0.00		0.983
Restaurant	1.73		0.179
Critical x Restaurant	1.73		0.179
Latitude of Noncommitment (density)	3.04	0.052	0.011
Critical	0.05		0.816
Restaurant	7.49		0.001
Critical x Restaurant	0.08		0.921

Table 5.7 Analysis of Variance Tests for Response-Time

df (numerator) are: Model=5, Critical=1, Restaurant=2, Critical x
Restaurant=2 df (denominator)=276

Table 5.8a Means and Standard Deviations for Number of Categories Used--Waitperson Friendliness

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	9.54 _a (1.79)	9.53 _a (1.98)	9.82 _a (1.59)	9.63 _a (1.78)
High Criticality (close friend)	9.20 _a (2.20)	9.54 _a (1.49)	9.27 _a (1.68)	9.35 _a (1.79)
	9.38 _a (1.99)	9.54 _a (1.73)	9.55 _a (1.65)	

Table 5.8 b Categories used-- Response-time

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	9.88 _a (2.00)	9.21 _a (2.04)	9.70 _a (1.65)	9.26 _a (1.92)
High Criticality (close friend)	8.91 _a (2.34)	9.29 _a (1.57)	9.36 _a (1.64)	9.19 _a (1.86)
	8.89 _a (2.16)	9.26 _a (1.80)	9.53 _a (1.65)	

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.9a Means and Standard Deviations for Latitude of Objectionability (width)--Waitperson Friendliness

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	3.00 _a (1.35)	3.11 _a (1.27)	3.60 _a (1.40)	3.23 _a (1.36)
High Criticality (close friend)	3.00 _a (1.43)	3.04 _a (1.29)	3.27 _a (1.34)	3.10 _a (1.35)
	3.00 _a (1.38)	3.07 _a (1.29)	3.43 _a (1.38)	

Table 5.9b Means and Standard Deviations for Latitude of Objectionability (density)--Waitperson Friendliness

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	13.29 _a (6.23)	14.55 _a (6.57)	14.26 _a (6.27)	14.03 _a (6.42)
High Criticality (close friend)	15.45 _a (6.47)	15.51 _a (7.17)	14.36 _a (5.69)	15.12 _a (6.41)
	14.32 _a (6.42)	15.05 _a (6.87)	14.30 _a (5.96)	

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.10a Means and Standard Deviations for Latitude of Non-commitment (width)--Waitperson Friendliness

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	3.88 _a (2.44)	3.60 _a (2.04)	3.19 _a (2.20)	3.56 _a (2.34)
High Criticality (close friend)	3.50 _a (2.27)	3.94 _a (2.03)	3.58 _a (2.06)	3.69 _a (2.11)
	3.70 _a (2.35)	3.77 _a (2.03)	3.38 _a (2.13)	

Table 5.10b Means and Standard Deviations for Latitude of Non-commitment (density)--Waitperson Friendliness

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	27.94 _a (8.49)	27.32 _a (7.87)	27.26 _a (6.62)	27.51 _a (7.66)
High Criticality (close friend)	25.80 _a (8.08)	27.92 _a (8.52)	27.89 _a (7.71)	27.24 _a (8.13)
	26.91 _a (8.32)	27.63 _a (8.19)	27.56 _a (7.14)	

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.11a Means and Standard Deviations for Latitude of Objectionability (width)--Response-time

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	3.63 _a (1.94)	3.23 _a (1.59)	3.40 _a (1.48)	3.42 _a (1.68)
High Criticality (close friend)	3.32 _a (2.10)	3.65 _a (1.86)	2.87 _a (1.31)	3.36 _a (1.79)
	3.48 _a (2.01)	3.45 _a (1.74)	3.09 _a (1.31)	

Table 5.11b Means and Standard Deviations for Latitude of Objectionability (density)--Response-time

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	30.42 _a (13.29)	23.09 _{bc} (12.01)	22.26 _c (11.61)	25.29 _a (12.79)
High Criticality (close friend)	28.66 (13.51)	23.39 _{bc} (8.23)	20.91 _c (8.20)	24.25 _a (10.59)
	29.56 _a (13.35)	23.24 _b (10.17)	21.60 _b (10.05)	

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.12a Means and Standard Deviations for Latitude of Non-commitment (width)--Response-time

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	2.52 _a (1.99)	3.53 _a (2.17)	3.26 _a (2.07)	3.10 _a (2.10)
High Criticality (close friend)	3.02 _a (2.32)	2.90 _a (2.15)	3.40 _a (2.19)	3.10 _a (2.21)
	2.76 _a (2.16)	3.20 _a (2.17)	3.33 _a (2.12)	

Table 5.12b Means and Standard Deviations for Latitude of Non-commitment (density)--Response-time

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	16.60 _a (13.00)	22.64 _a (12.27)	22.62 _a (11.66)	20.59 _a (12.56)
High Criticality (close friend)	16.77 _a (11.99)	21.55 _a (9.22)	22.58 _a (10.69)	20.39 _a (10.84)
	16.68 _b (12.46)	22.07 _a (10.74)	22.60 _a (11.13)	

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.13a Means and Standard Deviations for Latitude of Acceptance (width)--Waitperson Friendliness

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	2.67 _a (1.23)	2.83 _a (1.13)	3.04 _a (1.28)	2.85 _a (1.22)
High Criticality (close friend)	2.70 _a (1.27)	2.57 _a (.94)	2.42 _a (1.25)	2.56 _b (1.15)
	2.68 _a (1.24)	2.69 _a (1.04)	2.74 _a (1.30)	

Table 5.13b Means and Standard Deviations for Latitude of Acceptance (density)--Waitperson Friendliness

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	13.77 _a (7.04)	13.13 _a (5.52)	13.49 _a (5.11)	13.46 _a (5.92)
High Criticality (close friend)	13.75 _a (5.56)	11.57 _a (4.96)	12.76 _a (6.76)	12.66 _a (6.41)
	13.76 _a (6.34)	12.32 _a (5.27)	13.13 _a (5.95)	

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Table 5.14a Means and Standard Deviations for Latitude of Acceptance (width)--Response-time

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	2.73 _a (1.02)	2.45 _a (.93)	3.04 _a (1.02)	2.74 _a (1.04)
High Criticality (close friend)	2.57 _a (1.37)	2.75 _a (1.07)	2.87 _a (1.31)	2.73 _a (1.25)
	2.65 _a (1.23)	2.60 _a (1.01)	2.96 _a (1.17)	

Table 5.14b Means and Standard Deviations for Latitude of Acceptance (Density)--Response-time

	Fast-Food	Family Restaurant	Fine-Dining	
Low Criticality (casual acquaintance)	7.98 _b (3.78)	9.28 _{ab} (4.96)	10.12 _{ab} (3.77)	9.12 _b (4.27)
High Criticality (close friend)	9.57 _{ab} (6.83)	10.06 _{ab} (4.68)	11.51 _a (5.407)	10.37 _a (5.68)
	8.74 _b (5.48)	9.68 _{ab} (4.81)	10.80 _a (7.14)	

Note: Marginal means in the same row or column that do not share subscripts are significantly different. Cell means that do not share the same subscript are significantly different. $p < .05$

Relationship among Comparison Standards and Latitude Boundaries

The following hypotheses address the relationships among the primary standards of comparison for the disconfirmation of expectations paradigm, anchors used in the SJI model and boundaries of latitudes as determined by the modified own categories technique. As with all hypotheses, they apply to both waitperson friendliness and response-time.

Hypothesis 8. The standard of desired service (DS) is equivalent to the anchor of “most acceptable position” (MA).

Hypothesis 9. Comparison standards and anchors are not equivalent to the latitude boundaries of acceptable service.

The frequency with which respondents placed the various comparison standards in each of the three latitudes is shown in Tables 5.15a and 5.15b. Though not specifically hypothesized, the “should” (deserved), “desired,” and “expected” standards are consistently associated with the latitude of acceptance. The minimum tolerable standard, however, is not consistently associated with either the latitude of acceptance, as hypothesized by the Zeithaml, Berry, and Parasuraman (1993) zone of tolerance model, or with the latitude of objectionability. Over one half of the respondents placed the minimum tolerable service level in the latitude of noncommitment, as defined by the modified own categories procedure used in this study.

In addition to the relationships specifically addressed in the above hypotheses, the relationships among all of the various standards and latitude boundaries were also explored using t-tests for dependent means. To reduce the number of comparisons, only those standards logically or empirically associated with the latitude of acceptance were

compared to each other and to its boundaries. Likewise, only those standards logically or empirically associated with the latitude of objectionability are compared to each other or to its boundaries. The standard of minimum tolerable service is included in both sets of comparisons. The alpha level for all t-tests were controlled family-wise using the Bonferroni technique (Maxwell and Delaney 1990)--i.e. the nominal alpha level was divided by the number of comparisons in each group of comparisons.

Response-time. The paired t-tests for the differences between acceptable standards and the boundaries of the latitude of acceptability associated with response-time are shown in Table 5.16. The comparable t-tests for objectionable standards and the boundaries for the latitude objectionability are shown in Table 5.17.

The difference between all pairs of means for standards and boundaries associated with the latitude of acceptable service were significantly different except (1) the means between the *most acceptable position* (the SJI anchor) and the *desired service* level (the ZoT standard and upper boundary) and (2) the means between the *expected* service level and the *deserved* ("should") service level. Importantly, the minimum tolerable service level was significantly different (lower) from the lower bound of the latitude of acceptance.

The pattern for the boundaries of the latitude of objectionability and comparison standards of most objectionable service and minimum tolerable service was similar to that found for acceptable standards and boundaries. All comparisons were significant, with minimum tolerable service significantly higher than the upper boundary of the

latitude of objectionability.

Waitperson friendliness The paired t-tests for the differences between acceptable standards and the boundaries of the latitude of acceptability associated with waitperson friendliness are shown in Table 5.18. The comparable t-tests for objectionable standards and the boundaries for the latitude objectionability are shown in Table 5.19.

The pattern for the t-tests for the differences between acceptable standards and the boundaries of the latitude of acceptance associated with waitperson friendliness is identical to the pattern found for response-time. That is, all paired comparisons were significant, except for the comparison between *most acceptable position* and *desired service* and the comparison between *expected service* and *desired service*. As with response-time, minimum tolerable was significantly different from all standards, as well as the lower boundary of the latitude of acceptance.

As with the patterns found in relation to response-time, the pattern for the boundaries of the latitude of objectionability and comparison standards of most objectionable service and minimum tolerable service was similar to that found for acceptable standards and boundaries. All comparisons were significant, with minimum tolerable service significantly higher than the upper boundary of the latitude of objectionability.

Taken together, these results support both Hypotheses 8 and 9. Additionally, they provide insight into the relationships among standards and boundaries not

specifically addressed by the hypotheses.

**Table 5.15a Frequency Distributions of Standards by Latitude
Response-Time**

Variable	Latitude	Frequency	Percent	χ^2	df	p<.05
SHOULD	Acceptability	222	85.4	322.19	2	yes
	Objectionability	4	1.5			
	Noncommitment	34	13.1			
DESIRE	Acceptability	251	91.9	423.39	2	yes
	Objectionability	3	1.1			
	Noncommitment	19	7.0			
EXPECT	Acceptability	251	91.9	423.759	2	yes
	Objectionability	2	0.7			
	Noncommitment	20	7.3			
MINIMUM TOLERABLE	Acceptability	53	19.3	57.651	2	yes
	Objectionability	72	26.2			
	Noncommitment	150	54.5			

**Table 5.15b Frequency Distributions of Standards by Latitude
Friendliness**

Variable	Latitude	Frequency	Percent	χ^2	df	p<.05
SHOULD	Acceptability	216	81.5	285.38	2	yes
	Objectionability	5	1.9			
	Noncommitment	44	16.6			
DESIRE	Acceptability	245	90.4	176.98	2	yes
	Objectionability	--	--			
	Noncommitment	26	9.6			
EXPECT	Acceptability	236	86.1	349.32	2	yes
	Objectionability	3	1.1			
	Noncommitment	35	12.8			
MINIMUM TOLERABLE	Acceptability	54	20.1	59.70	2	yes
	Objectionability	66	24.5			
	Noncommitment	149	55.4			

Table 5.16 Tests of Mean Difference between Standards and Boundaries of Acceptance and Minimum Tolerable Position Response-Time

Standards	N	Mean Diff	Std Error	T	P<.05*
LA upper bound-most acceptable	282	0.76	0.05	14.33	yes
LA upper bound-desired	273	0.74	0.07	10.83	yes
LA upper bound-expected	273	1.25	0.07	18.00	yes
LA upper bound-should	260	1.37	0.09	15.80	yes
LA upper bound-LA lower bound	282	1.97	0.08	23.62	yes
Most acceptable-desired	273	-0.03	0.06	-0.52	no
Most acceptable-expected	273	0.47	0.05	8.11	yes
Most acceptable-should	260	0.61	0.08	7.60	yes
Most acceptable-LA lower bound	282	1.22	0.07	17.57	yes
Desired-expected	268	0.51	0.07	7.12	yes
Desired-should	256	0.68	0.08	8.24	yes
Desired-LA lower bound	273	1.23	0.88	14.10	yes
Expected-should	254	0.16	0.76	2.11	no
Expected-LA lower bound	273	0.74	0.07	9.79	yes
Should-LA lower bound	260	0.60	0.09	6.15	yes
LA lower bound-Minimum tolerable	275	1.87	0.12	15.38	yes

*all comparisons based on $\alpha=.05$ with Type I error controlled family-wise using Bonferroni technique

Table 5.17 Tests of Mean Differences between Standards and Boundaries of Objectionability and Minimum Tolerable Position Friendliness

Standards	N	Mean Diff.	Std Error	T	P<.05*
Minimum tolerable-LO upper bound	268	2.19	0.15	14.50	yes
LO upper bound-most objectionable	280	1.37	0.17	8.18	yes
LO upper bound-LO lower bound	280	1.99	0.09	22.95	yes
Most acceptable-LO lower bound	282	0.62	0.13	4.61	yes

*all comparisons based on $\alpha=.05$ with Type I error controlled family-wise using Bonferroni technique

Table 5.18 Tests of Mean Differences between Standards and Boundaries of Acceptance and Minimum Tolerable Position Friendliness

Standards	N	Mean Diff.	Std Error	T	P<.05*
LA upper bound-most acceptable	282	0.58	0.06	9.75	yes
LA upper bound-desired	271	0.65	0.07	9.89	yes
LA upper bound-expected	274	1.17	0.09	13.64	yes
LA upper bound-should	265	1.33	0.10	13.33	yes
LA upper bound-LA lower bound	282	1.94	0.09	21.45	yes
Most acceptable-desired	271	0.06	0.07	0.88	no
Most acceptable-expected	274	0.59	0.08	7.66	yes
Most acceptable-should	265	0.74	0.09	7.86	yes
Most acceptable-LA lower bound	282	1.36	0.08	16.57	yes
Desired-expected	264	0.52	0.08	6.40	yes
Desired-should	258	0.66	0.09	7.79	yes
Desired-LA lower bound	271	1.31	0.10	13.61	yes
Expected-should	259	0.14	0.09	1.60	no
Expected-LA lower bound	274	0.75	0.09	8.20	yes
Should-LA lower bound	265	0.63	0.11	5.41	yes
LA lower bound-Minimum tolerable	269	2.18	0.15	14.28	yes

*all comparisons based on $\alpha=.05$ with Type I error controlled family-wise using Bonferroni technique

Table 5.19 Tests of Mean Differences between Standards and Boundaries of Objectionability and Minimum Tolerable Position Response-time

Standards	N	Mean Diff.	Std Error	T	P<.05*
Minimum tolerable-LO upper bound	273	1.95	0.15	13.20	yes
LO upper bound-most objectionable	280	1.83	0.18	9.94	yes
LO upper bound-LO lower bound	280	2.43	0.11	21.92	yes
Most acceptable-LO lower bound	282	0.60	0.13	4.55	yes
*all comparisons based on $\alpha=.05$ with Type I error controlled family-wise using Bonferroni technique					

Relationships among Latitudes and Behavioral Intentions

The following hypotheses address the relationships among the latitudes of acceptance, objectionability, and noncommitment and the behavioral intention measures assessed in this study. As with all the other hypotheses, they apply to both waitperson friendliness and response-time.

- Hypothesis 10.** **Positive behavioral intentions (e.g., positive word-of-mouth) will be more frequently associated with LA than with the LO or LNC**
- Hypothesis 11.** **Negative behavioral intentions (e.g., negative word-of-mouth) will be more frequently associated with LO than with the LA or the LNC**
- Hypothesis 12.** **No specific behavioral intentions will be associated with LNC**

These hypotheses were tested with the chi-square statistic. As with the use of paired t-tests, the alpha level was controlled with the Bonferroni technique (Delucchi 1993). That is, the nominal alpha level (.05) was divided by the number of comparisons. The frequencies of the association between the behavioral intentions and the latitudes, along with the related chi-square statistics, are shown in Tables 5.20. and 5.21

Response-time. The measure of repeat patronage, intention to return given similar circumstances to the scenario presented (RETURN) was consistently associated with response-times within the latitude of acceptance. Thus, for response-time, Hypothesis 10 is supported.

There were four measures of negative (from the perspective of the service provider) behavioral intentions: (1) leave the restaurant without completing the meal (LEAVE), (2) never return to the restaurant under similar circumstances (NEVER RETURN), (3) complain to the waitperson or to the manager (COMPLAIN), and (4) tell friends they should not go to the restaurant (TELL FRIENDS). For response-time, all of these behavioral intentions were consistently associated with the latitude of objectionability as compared to either the latitude of acceptance or the latitude of noncommitment. Thus, for this dimension, Hypothesis 11 is supported. The finding that neither positive behavioral intentions nor negative behavioral intentions were associated with response-times placed in the latitude of noncommitment provides support for Hypothesis 12.

Waitperson Friendliness. The measure of repeat patronage, RETURN was consistently associated with waitperson behaviors within the latitude of acceptance. Thus for waitperson-friendliness, Hypothesis 10 is supported.

As in the case of response-time, the four measures of negative behavioral intentions (LEAVE, NEVER RETURN, COMPLAIN, and TELL FRIENDS) were consistently associated with waitperson behaviors judged to be in the latitude of objectionability, as compared to either the latitude of acceptance or the latitude of noncommitment. Thus, for this dimension, Hypothesis 11 is also supported. Similarly, the finding that neither positive nor negative behavioral intentions were associated with waitperson behaviors placed in the latitude of noncommitment provides additional

support for Hypothesis 12.

**Table 5.20 Frequency Distributions of Behavioral Intentions by Latitude
Response-Time**

Variable	Latitude	Frequency	Percent	χ^2	df	p<.05
LEAVE	Acceptability	4	0.8	757.15	2	Y
	Objectionability	474	89.4			
	Noncommitment	52	9.8			
NEVER RETURN	Acceptability	8	1.3	782.58	2	Y
	Objectionability	529	86.2			
	Noncommitment	77	12.5			
COMPLAIN	Acceptability	12	1.5	792.49	2	Y
	Objectionability	622	79.8			
	Noncommitment	145	18.6			
RETURN	Acceptability	590	79.4	741.32	2	Y
	Objectionability	14	1.9			
	Noncommitment	139	18.7			
Tell friends	Acceptability	11	1.6	810.88	2	Y
	Objectionability	586	83.4			
	Noncommitment	106	15.1			

Table 5.21 Frequency Distributions of Behavioral Intentions by Latitude Friendliness

Variable	Latitude	Frequency	Percent	χ^2	df	p<.05
LEAVE	Acceptability	2	0.5	561.52	2	Y
	Objectionability	340	90.9			
	Noncommitment	32	8.6			
NEVER RETURN	Acceptability	3	0.6	670.53	2	Y
	Objectionability	426	88.8			
	Noncommitment	51	10.6			
COMPLAIN	Acceptability	2	0.3	755.93	2	Y
	Objectionability	498	87.1			
	Noncommitment	72	12.6			
RETURN	Acceptability	554	80.5	712.13	2	Y
	Objectionability	16	2.3			
	Noncommitment	118	17.2			
Tell friends	Acceptability	20	3.2	644.16	2	Y
	Objectionability	500	80.9			
	Noncommitment	98	15.9			

Table 5.22 Summary of Hypotheses Tests

Hypothesis	Waitperson Friendliness		Response-Time	
1. The total number of categories used to sort the statement will decrease with increased criticality	NS		NS	
2. The total number of categories used to sort the statements will increase with increased situational ambiguity	NS		NS	
	Latitude Width	Latitude Density	Latitude Width	Latitude Density
3. The size of the LO will increase with increased criticality	NS	NS	NS	NS
4. The size of the LNC will decrease with increased criticality	NS	NS	NS	NS
5. The size of the LO will decrease with increased situational ambiguity	NS	NS	NS	S
6. The size of the LNC will increase with increased situational ambiguity	NS	NS	NS	S
7. The size of the LA will not decrease as a function of increased situational criticality	S	NS	S	S
8. The standard of desired service (DS) is equivalent to the anchor of “most acceptable position”	S			S
9. Comparison standards and anchors are not equivalent to the latitude boundaries of acceptable service	S			S
10. Positive behavioral intentions (e.g., positive word-of-mouth) will be more frequently associated with LA than with the LO or LNC	S			S
11. Negative behavioral intentions (e.g., negative word-of-mouth) will be more frequently associated with LO than with the LA or the LNC	S			S
12. No specific behavioral intentions will be associated with LNC	S			S
S = supported, NS = not supported				

SUMMARY

The purpose of this chapter is to report the results of the tests of a series of hypotheses from a quasi-experimental study concerned with service encounter evaluations in restaurant settings. Manipulations of the independent variables, especially the criticality of the dining occasion, were by written scenario. The manipulations were only partly successful. Scenarios intended to heighten situational criticality resulted, on average, in higher respondent perceptions of “importance” of the situation, but not in respondent perceptions that it was critical that everything was just as the respondent would like it to be.

A summary of the testable hypotheses is presented in Table 5.22. The series of hypotheses which predicted (1) a decrease in the number of categories used to sort service-encounter related stimuli (2) an increase in the size of the latitudes of what is unacceptable and (3) a decrease in the size of latitudes evaluated neutrally, as a function of situational criticality, was generally not supported. The series of hypotheses predicting relatively stable latitudes of acceptability across situations was partially supported. The extent to which the failure to reject the associated null hypotheses was a function of failed manipulation, flawed theory, or imprecise measurement will be discussed in the following chapters.

The series of hypotheses intended to address the relationship among several of the standards of comparison used in previous studies of the evaluative process and boundaries of latitudes were generally supported. Likewise, those hypotheses intended to address the relationship between latitudes and behavioral intentions were also

supported. These findings are discussed in the next chapter.

CHAPTER VI

DISCUSSION AND SUMMARY

INTRODUCTION

In the marketing literature, consumers' future behaviors in relation to a service provider are usually explicitly or implicitly seen to be a partial function of their evaluation of previous service-encounters. Thus, the evaluative process used by consumers has important implications for the way in which the service-encounter is managed. The purpose of this dissertation is to investigate the evaluative process in general and the underlying reference scale used in the evaluation of service-encounters, in particular.

Past research has been conducted under two broad and similar research streams: service quality and customer satisfaction/dissatisfaction. Both typically employ a disconfirmation of expectations model in which perceptions about a service-encounter either do not meet expectations (i.e., expectations are negatively disconfirmed), resulting in negative evaluations; or exceed expectations (i.e., expectations are positively disconfirmed), resulting in positive evaluations. In this disconfirmation model, the functional relationship between the level of service provided and the evaluation of the

service-encounter is usually assumed to be linear.

The present study investigates an alternative class of models in which the relationship between service provided and the evaluation of that service is nonlinear. That is, increasing levels of service do not necessarily result in increasing attributions of service quality or satisfaction. In the marketing literature, these nonlinearities have been variously labeled “zones of indifference,” “zones of tolerance,” “latitudes of acceptability,” and “latitudes of satisfaction.” The general term “latitude models” is used here to distinguish this class of models from linear-function models based on the disconfirmation of expectations paradigm. The theoretical bases for these latitude models are usually found in some combination of the Weber/Fechner Law, adaptation-level theory, prospect theory, and social judgment-involvement theory.

These latitude models can be further classified as (1) bounded models, in which multiple standards of comparison serve as points of delineation between zones; and (2) perceptual displacement models, in which standards serve as evaluative anchors around which latitudes are formed through perceptual mechanisms; such as assimilation and/or contrast. The zone of tolerance model of service quality (Zeithaml, Berry, and Parasuraman 1993) is an example of the former; the latitude of acceptance, rejection, and noncommitment model of social judgment theory (e.g., Sherif, Sherif, and Nebergall 1965) is an example of the latter. The present research tests a number of hypotheses developed primarily from social judgment theory. In some instances these are the same hypotheses that are implied by the zone of tolerance model and thus provide a general test of the viability of latitude models. In other instances the hypotheses disagree with

what would be implied by the zone of tolerance model. Thus, some of the hypotheses allow a specific test of aspects of the zone of tolerance model in comparison to the latitude model of social judgment theory and, therefore, a more generally test of the viability of bounded models in relation to perceptual distortion models.

Additionally, this study is intended to be exploratory. For example, one purpose is to discover apparent patterns in and among latitudes, standards of comparison employed in various previous studies of service-encounter evaluation, and stated intentions about future behavior. An additional exploratory purpose is to determine if the latitude assessment methods previously developed in conjunction with social judgment theory can be adapted to the investigation of service-encounter evaluation. Arguably, this later exploratory purpose may be one of the most important contributions of this study since it potentially provides an assessment method that is not restricted by the *a priori* assumptions of the model it is intended to test. This represents, at least, a significant departure from the approach used in most prior studies.

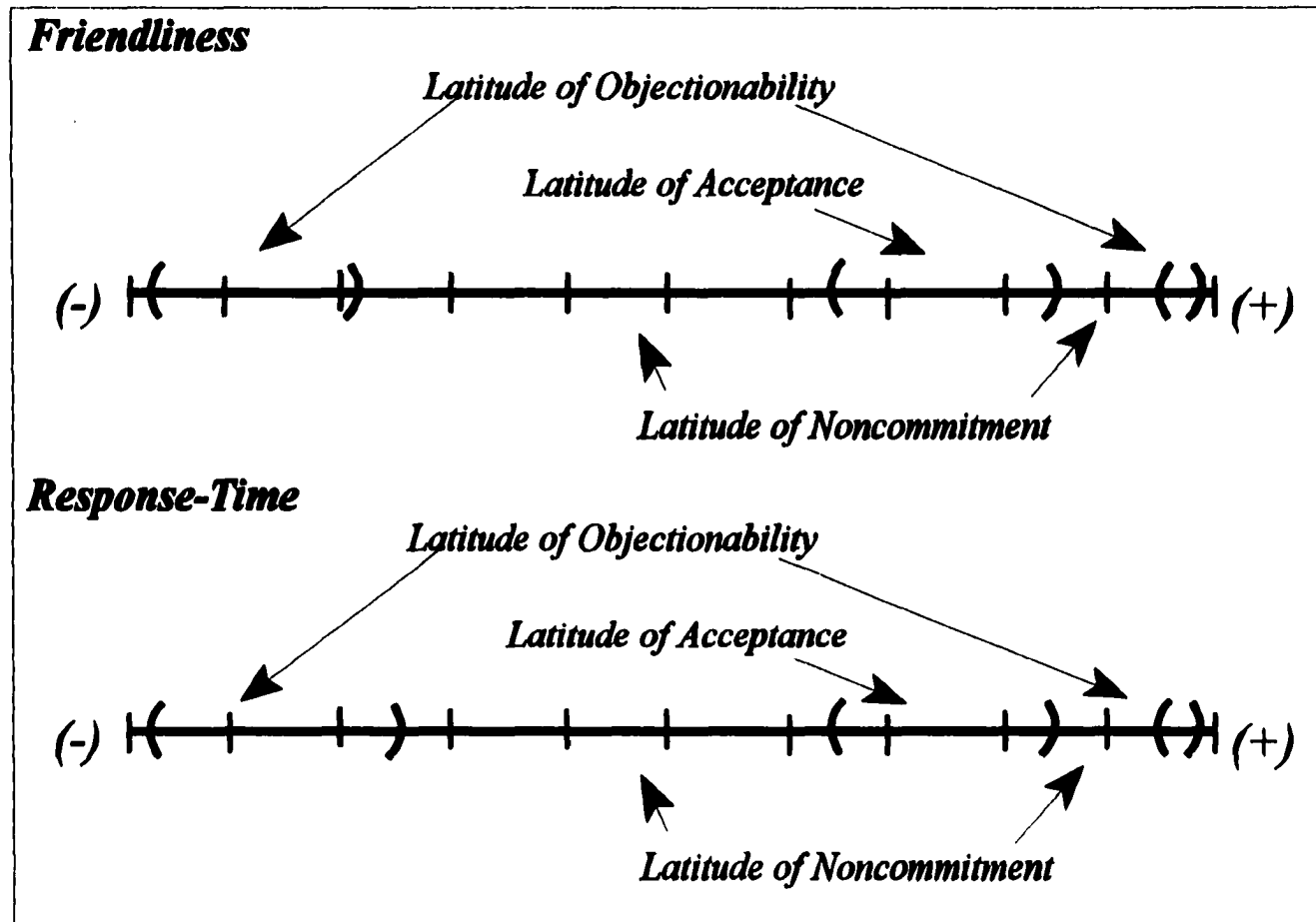
This chapter is organized as follows: first, a general observation about the outcome and significance of the present study in relation to the intended purpose of exploring the viability of disconfirmation of expectations versus latitude models is offered; second, the results of the specific hypotheses tests are discussed; third, observations about exploratory findings are indicated; fourth, Managerial and research implications are explored; and finally, the study is summarized.

GENERAL OBSERVATIONS OF LATITUDE VERSUS “DISCONFIRMATION” MODELS

One of the most interesting and potentially most important findings of this study is the general pattern of latitudes. The average position of the boundaries of the latitude of acceptability and objectionability for the entire sample are shown graphically in Figure 6.1. The latitude of noncommitment is, by definition, a residual latitude and is also shown. The instructions for the modified own categories techniques allow a variety of alternative patterns. For example, the evaluative domain could be perceptually organized by respondents as a latitude of rejection at the lower end of the scale and a latitude of acceptance at the upper end, with a standard of comparison (e.g., expected service level) serving as the point of demarcation between the latitudes. This is the pattern implied by the disconfirmation of expectations model. The domain could alternatively be organized into a latitude of acceptance bounded by two standards of comparison (e.g., adequate service and desired service) with all stimuli below the latitude seen as objectionable. This is essentially the pattern implied by the zone of tolerance model of Zeithaml, Berry, and Parasuraman (1993). As noted, the acceptability or unacceptability of stimuli (if any exist) above the zone of tolerance is not entirely clear in the Zeithaml, Berry, and Parasuraman model. However, despite the fact that the instructions allowed these various patterns, neither of them emerged.

The pattern that does emerge is one of three distinct latitudes, with the latitude of noncommitment consistently located between the latitude of objectionability and latitude

Figure 6.1 Position of Latitudes Boundaries--Total Sample



of acceptance on the one hand, and above the latitude of acceptance on the other hand. Somewhat less consistently, the latitude of rejection is also split between the lower end of the domain and the upper end of the domain. Twenty nine percent (82) of the respondents indicated that one or more of the waitperson friendliness stimulus items that they placed above the latitude of acceptability was objectionable; 22 percent (63) of the respondents indicated that one or more of the response-time stimulus items that they placed above the latitude of acceptability was objectionable. Taken together, the observed patterns suggest that the reference scale used in evaluating service encounters, and by implication the evaluative process itself, may be much more complex than either the disconfirmation of expectations paradigm or the bounded latitude, zone of tolerance model that Zeithaml, Berry, and Parasuraman suggest. This generalization is strengthened by the fact that positive and negative behavioral intentions were found to be consistently associated with latitudes of acceptability and objectionability, respectively, while no behavioral intentions were consistently associated with the latitude of noncommitment. This relationship is discussed in more depth in a following section.

MANIPULATION CHECKS

Two manipulations are imposed by the research design. The first is the level of criticality at which the situation is perceived. This dimension is similar to the ego-involvement construct of social judgment theory and is a function of the service “intensifiers” in the zone of tolerance model. The other dimension is the relative level of

the ambiguity or uncertainty regarding the service-encounter setting being evaluated. The assumption that fast food restaurant service is easier to evaluate than fine dining was based on prior research. The family dining restaurant setting was added to the original design following a pretest to determine the tolerable serving times associated with various restaurant types. Of these two independent variables, criticality is the most important to the investigation of the theoretical framework on which the hypotheses of this study are based. As determined by the manipulation checks employed in this study, the manipulation of situational criticality was partially successful. The manipulation of ambiguity was not successful.

As measured by the question assessing the importance of the dining situation, the scenarios in which the respondent was dining as part of a special occasion with a close friend was perceived to be more critical than the situation in which the respondent was dining as part of a casual meal with a less important acquaintance. However, as measured by the question assessing the criticality that everything in the dining situation is exactly as the respondent would like, there was no difference between the criticality of the two situations. In part, the explanation may be that the two measures are assessing different meanings of criticality or importance. That is, the importance or criticality of the situation may not be equivalent to the criticality that *everything at the restaurant* is exactly as the respondent would like. In fact, the correlation between the two measures is .41, which suggests that two questions are assessing related, but mostly, different semantic meanings. As Cadotte, and Turgeon (1988) have noted, in a given restaurant setting, not all customer service attributes are equally critical. Therefore, the use of the

pronoun *everything* may confound the intended measure.

While all scenarios were perceived to be equally realistic, they were not perceived to be uniform in terms of the ease of imagining oneself in the situation. In particular, the respondents found it generally less easy to view themselves in the fine dining restaurant than in the other two restaurant types. This was especially true in the “low criticality” condition. Given the student sample used in this study, the general tendency for the respondents to more easily view themselves in family and fast food restaurants is probably not surprising. As with the measures intended to capture criticality, those regarding realism are probably assessing levels of two related, but different, constructs. The correlation between them is only $-.27$ (reverse coded), which lends support to this contention.

HYPOTHESES TESTS

Latitude Dynamics

Number of Categories Used. Social judgment theory predicts, and empirical evidence supports (e.g. Sherif, Sherif, and Nebergall 1965), that if a respondent is allowed to determine his or her own categories for sorting stimuli, the number of categories employed will vary with the criticality of the situation and will increase with the ambiguity of the stimulus situation. In the present study, situational criticality is operationalized as dining with a special friend as part of a special occasion, as opposed

to an incidental meal with a casual acquaintance. Situational ambiguity is operationalized by restaurant type, with the ability to make evaluative judgments assumed to be more difficult for family restaurants than for fast food and more difficult for fine dining than for either of the other two restaurant types. Contrary to predictions (H1 and H2), no differences in the number of categories used as a function of either situational criticality or situational ambiguity was found. A number of explanations for this finding are possible. The most obvious one is that the hypotheses are incorrect. However, almost equally compelling is the explanation that there seemed to be a strong tendency on the part of the respondents to use all available categories. In fact, the average number of categories used is over nine (of 11 available). Consequently, it is conceivable that the number of categories used is a methodological artifact resulting from the modification used in this study compared to the original “own categories” technique of defining the number of categories available. Some of the advantages and limitations of this modified own-categories sorting technique used in this study are discussed below.

The Dynamics of Tolerance. As discussed, in the case of the particular sample, the dimensions of the service encounter investigated, and the assessment methods used in the present study, the evidence that the reference scale used to evaluate service-encounters can be characterized as being perceptually divided into zones or latitudes is compelling. This evidence is consistent with the assumptions of previously proposed latitude models, such as Zeithaml, Berry, and Parasuraman’s (1993) zone of tolerance model and the latitude social judgment theory. Both of these latitude models posit the

expansion and contraction of latitudes as a function of some combination of situationally specific factors and more enduring attitudinal factors. In the present study, this combination of factors is operationalized as situational criticality, or the importance of an event (in this case a dining situation) as a function of feelings about the dining companion and the significance of the dining situation (accidental or special occasion). As discussed in chapter three, the zone of tolerance model, as well as most similar latitude models found in the marketing literature, assumes that expansion and contraction are focused on at the latitude of acceptability. That is, “tolerance” implies a relatively wide latitude of acceptability. However, all previous marketing-related studies of latitudes, including those purportedly based on social judgment theory, have assumed a two-latitude model. That is, stimuli being evaluated must be either acceptable or objectionable. Consequently, assuming some finite range of stimuli is to be evaluated, the relationship between what is acceptable and what is objectionable is reciprocal. In the tripartite model of social judgment theory, no such reciprocal relationship between acceptability and objectionability can be assumed. In fact, empirical evidence from social judgment theory-based studies have generally found the latitude of acceptability to remain relatively stable and what might be called the “dynamics of toleration” to be driven by what is perceived to be objectionable (i.e., latitude of objectionability) versus what is perceived with indifference (i.e., latitude of noncommitment).

Hypotheses 3, 4, and 7 are based on social judgment theory and were intended as a test of these dynamics of tolerance. Specifically, they predict that the latitude of rejection will increase (H3) and the latitude of noncommitment will decrease (H4) with

increased criticality, while the latitude of acceptability will remain relatively stable (H7). Two measures of latitude size were used, the number of categories in the latitude (width) and the number of stimuli in the latitude (density). For the latitudes of objectionability and noncommitment, neither the latitude width nor the latitude depth was found to vary with situational criticality for either waitperson friendliness or response-time. As with the number of categories used, several explanations are possible, the most obvious of which is that some aspects of social judgment theory do not hold for service-encounter evaluation. However, with the number of categories used, the explanation could be that the lack of apparent dynamism between the latitude of objectionability and the latitude of noncommitment could be the result either of the fact that the effect of the manipulation was insufficient or the insensitivity of the latitude assessment instrument. This later explanation could be the result of some combination of the lack of susceptibility of the items to perceptual displacement or the partial imposition of categories (see the section on the modified own categories procedure below).

There was some support for the hypotheses that predicted an increase in the size of the latitude of objectionability (H5) and a decrease in the latitude of noncommitment (H6) as a function of situational ambiguity. However, it should be noted that this support was only found for latitude density and only for the dimension of response-time. Since response-time is one of the attributes that delineates fast food restaurants from both family dining and fine dining restaurants, it is possible, if not likely, that the tendency for more response-time stimuli to be placed in the latitude of objectionability for fast food restaurants than for the other restaurant types is a function of the definition

of fast food. While this may be related to situational ambiguity, it may be a confounded measure. The alternative explanations for the general lack of support for these hypotheses are the same as those related to criticality.

There was general support for the hypothesis predicting the stability of the latitude of acceptance as a function of situational criticality. The exception was the marginal means for latitude width for waitperson friendliness. It should be pointed out that this effect size was relatively small (0.29 on an 11 point scale) and the simple effects were not significant. It should also be noted that a significant difference between the marginal means as function of situational criticality for response-time was indicated by the multiple comparison procedures. However, it was in the opposite direction (i.e., latitude width *increased* with situational criticality), and was thus interpreted as supporting the alternative hypothesis of no decrease. More importantly, these results should be interpreted with caution. Since the hypotheses predicting an increase in the size of the latitude of objectionability and a decrease in the size of the latitude of noncommitment as a function of increased situational criticality were not supported (i.e. the latitudes remained constant across levels of situational criticality), the stability of the latitude of acceptance provides little additional information. Additionally, if to some extent the failure to accept the above alternative hypotheses is partially attributable to a weak manipulation of situational criticality or to a lack of sensitivity of the latitude assessment instrument, those same explanations would have to be considered as alternative explanations for why the latitude of acceptance remained relatively constant.

Taken at face value, the tests of the hypotheses indicate that there is no impact

on latitude width or density as a function of the criticality of the situation or the relative ambiguity of evaluation standards in different settings (i.e., restaurant types). This interpretation may be correct. However, it not only contradicts the theory from which the hypotheses were developed (i.e., social judgment theory), which posits a dynamic relationship between what is perceived to be neutral and what is perceived to be objectionable as a function of the importance of the situation; but also contradicts the more common assumption of latitude models found in the marketing literature (e.g., Zeithaml, Berry, and Parasuraman 1993, 1994), that there is a dynamic relationship between what stimuli are perceived to be acceptable and situational importance. While the lack of a dynamic relationship between latitudes and situational criticality is not essential to the usefulness of latitude models, it is a relatively consistently assumed and potentially important component. As noted, several explanations for the lack of support for these hypotheses exist. Among these are the particular modification to the own categories technique used in previous social judgment research, the selection procedures for the stimulus items, and the relative weakness of the manipulation of situational criticality. The latter issue is discussed in a previous section; the former issues are discussed in sections to follow.

The fact that no relationship was found between latitude dynamics (i.e. variations in size) and situational ambiguity as operationalized by restaurant type is much less problematic. First, based on the manipulation check of confidence in making judgements, either in waitperson friendliness or the appropriateness of response-time, restaurant type does not appear to be an appropriate operationalization of situational ambiguity. Thus, the failure to reject the null hypotheses is not surprising. Second, the relationship

between situational ambiguity and latitude dynamics is even less essential to the application of the social judgment theory-based model of latitudes to service encounter evaluation phenomena than is the relationship between latitude dynamics and situational criticality.

Relationships Among Standards and Latitude Boundaries

As discussed in Chapter 2, there have been a number of standards which have been proposed to serve as points of comparison in the evaluation process (see also Liljander 1995, Miller 1977; Oliver 1997). Until recently, much of the debate concerning these standards has been focused on their relative appropriateness as the single standard employed in the disconfirmation model. More recently, some of the focus has shifted towards the relationship between standards and the role of multiple standards involved in the formation of latitudes. However, while there has been conjecture concerning these issues on the one hand, and a few empirical investigations driven by the specific propositions of particular models, there has been little systematic investigation of the relative position of these standards and their relationship to latitudes which consumers may use in the evaluative process. The present study does not accomplish all of these tasks as they relate to all potential standards and latitudes. However, it does provide a relatively unconstrained, empirical investigation of the position of several of the major standards and their relationships to latitudes.

Relationships Among Standards. The average placement of all of the standards and latitude boundaries are represented in Figure 6.2. For purposes of comparison, the

same data for each of the six scenarios is provided in Figures 6.3a through 6.3f. A number of important relationships and patterns are evident. First, the “most acceptable” position, traditionally employed in social judgment research, and the “desired” standard used in a variety of satisfaction and service quality studies are (statistically) equivalent.

Figure 6.2 Position of Latitudes and Standards--Total Sample

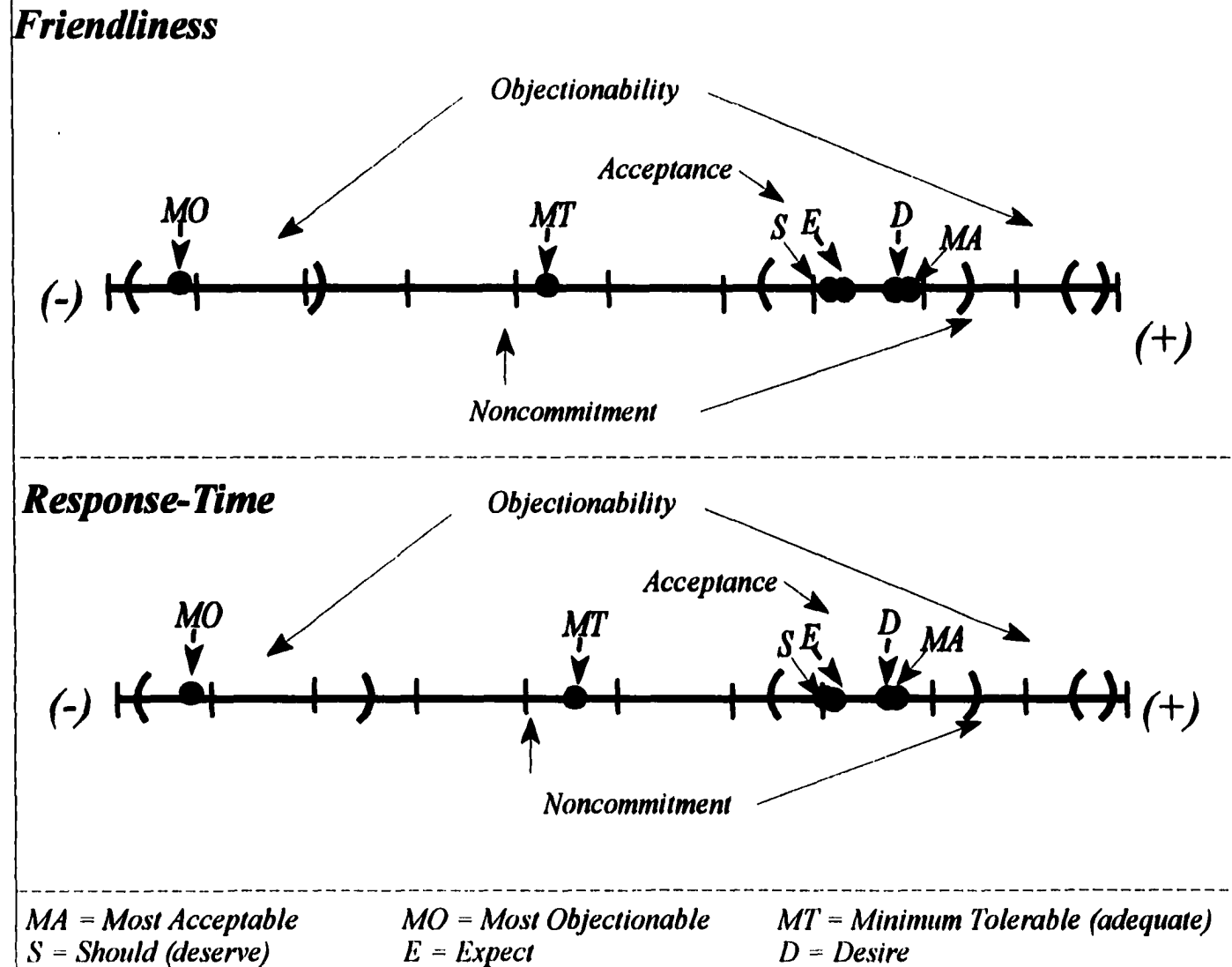


Figure 6.3a Position of Latitudes and Standards--Fast Food Friendliness

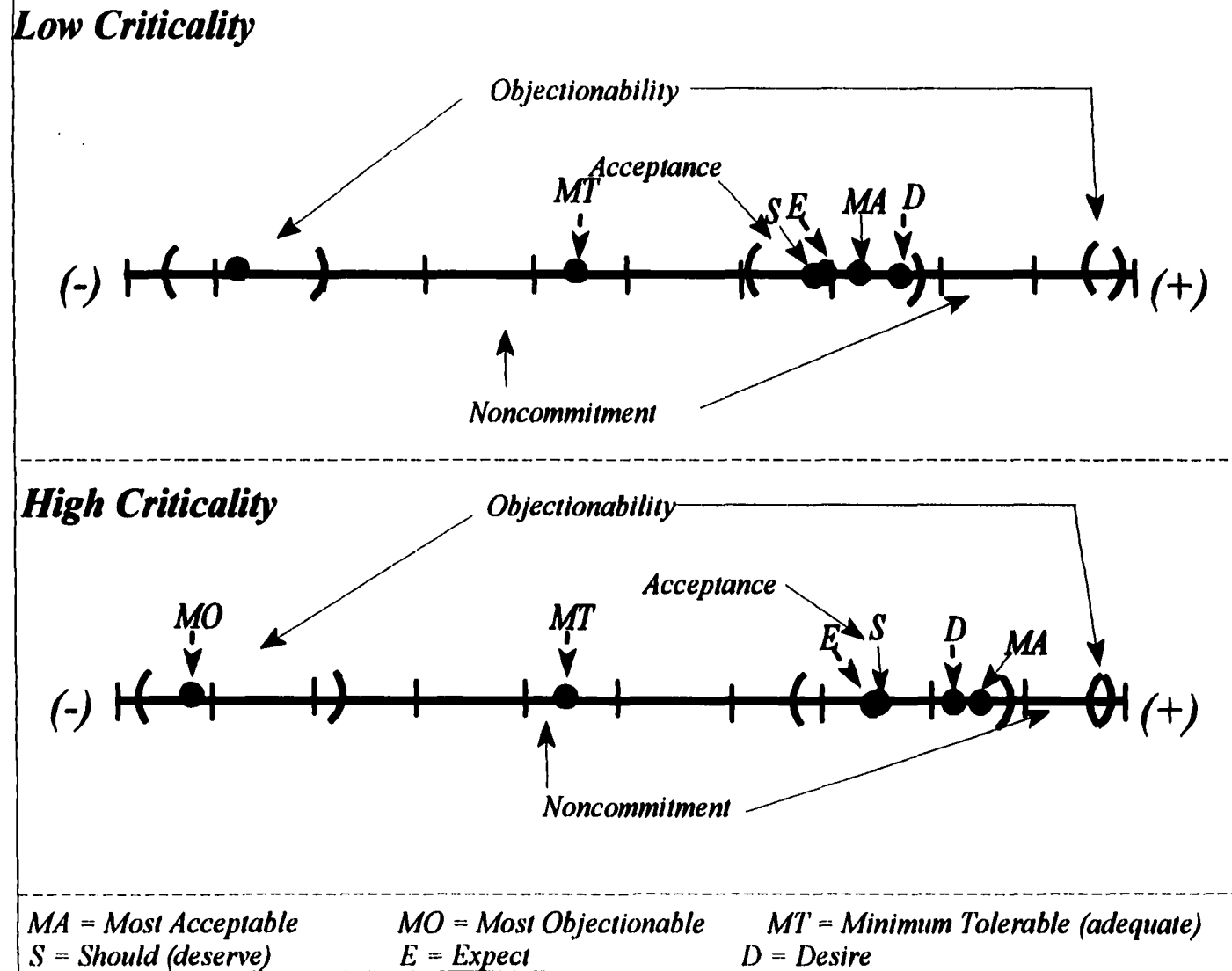


Figure 6.3b Position of Latitudes and Standards--Fast Food Response-Time

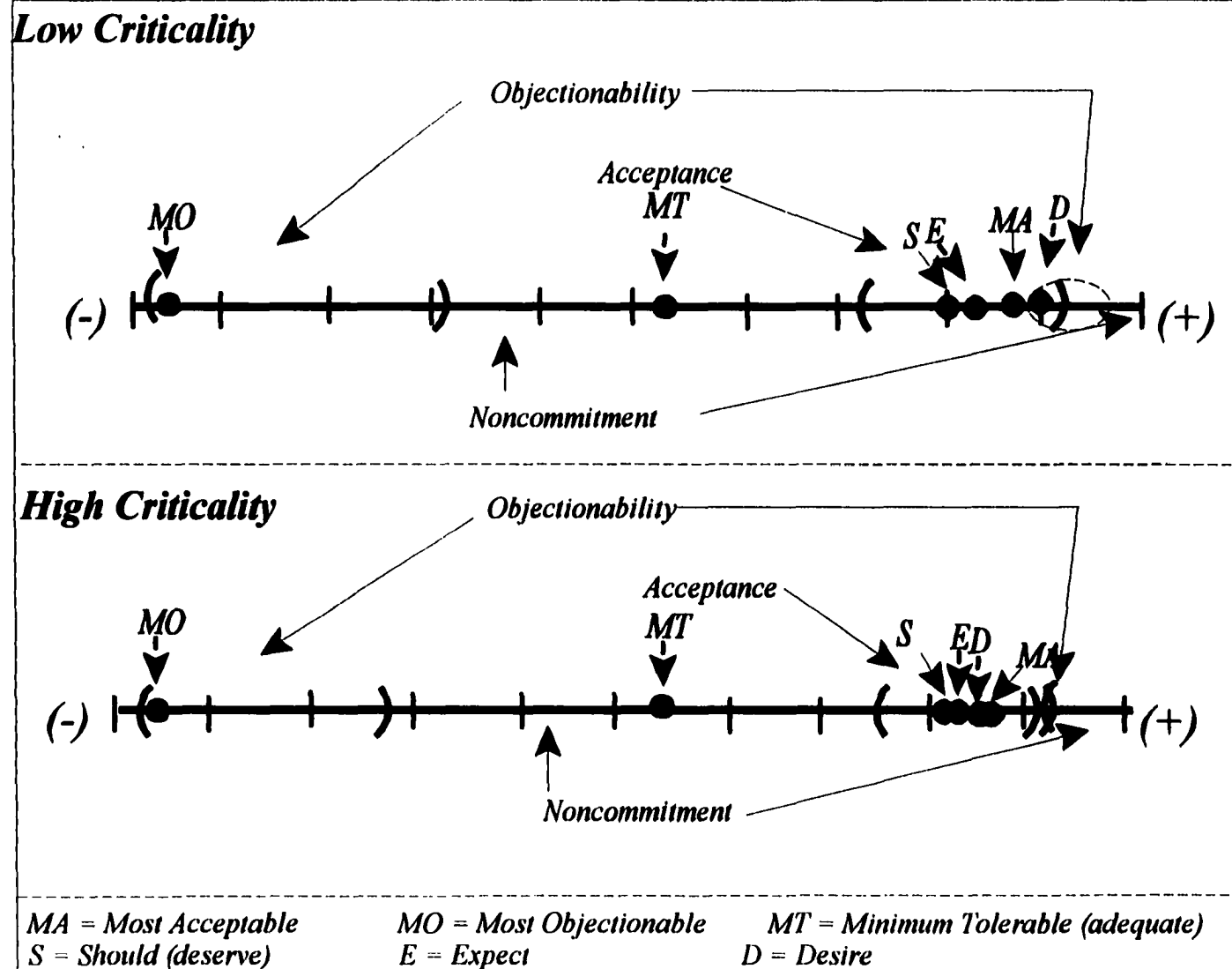
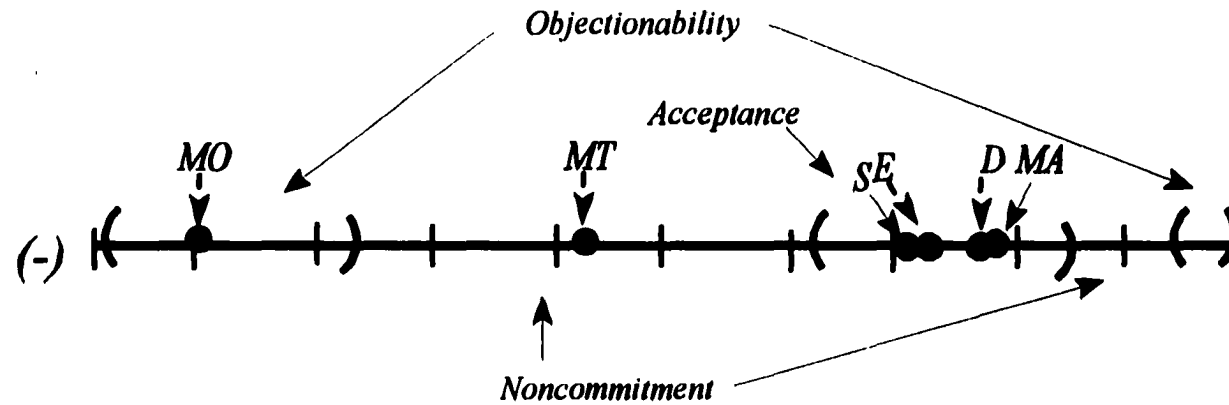
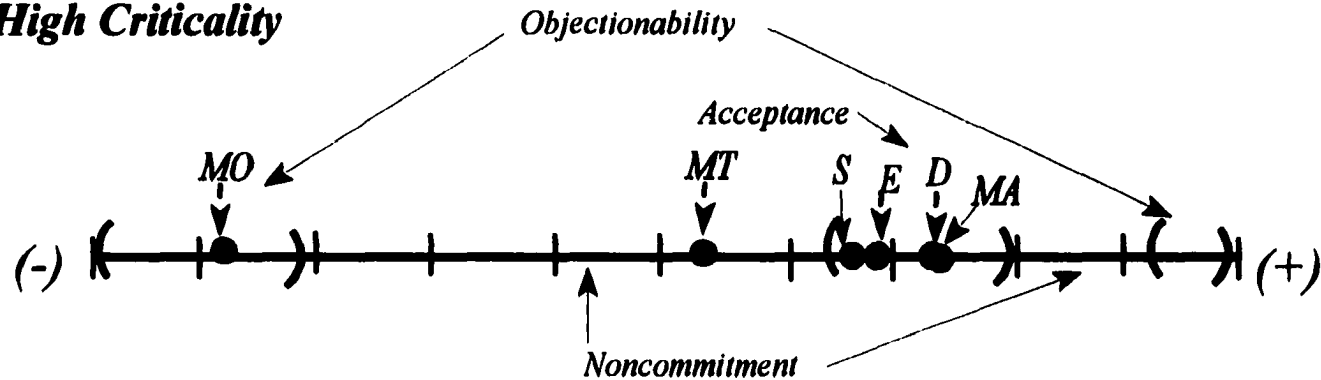


Figure 6.3c Position of Latitudes and Standards--Family Restaurant Friendliness

Low Criticality



High Criticality



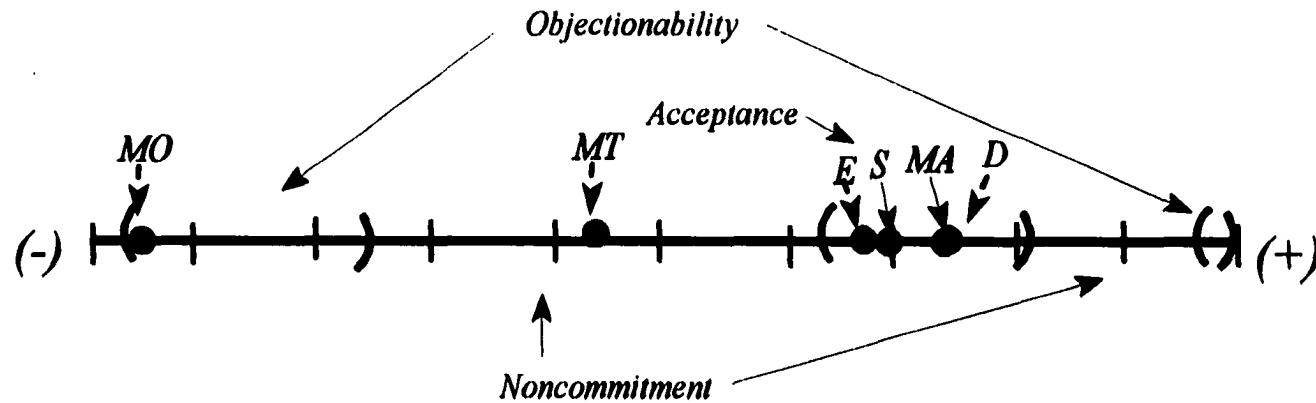
MA = Most Acceptable
S = Should (deserve)

MO = Most Objectionable
E = Expect

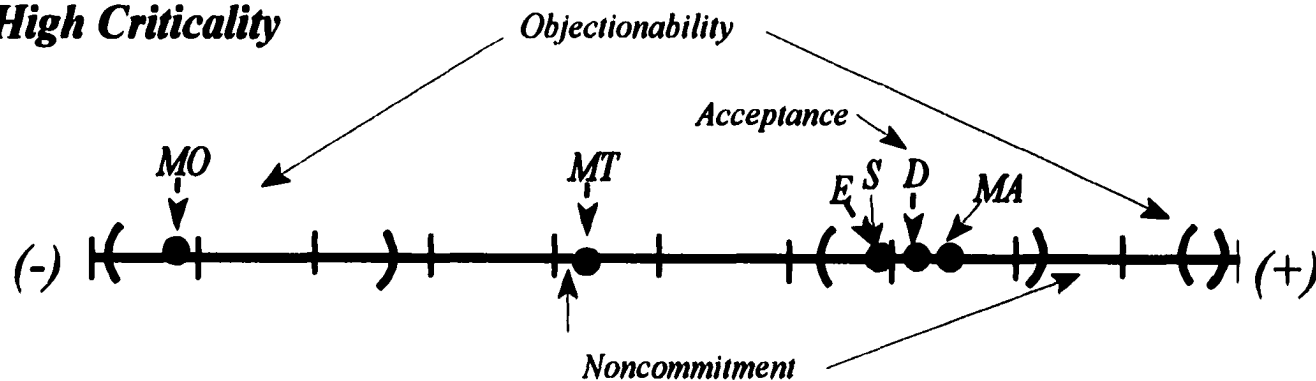
MT = Minimum Tolerable (adequate)
D = Desire

Figure 6.3d Position of Latitudes and Standards--Family Restaurant Response-Time

Low Criticality



High Criticality



MA = Most Acceptable
S = Should (deserve)

MO = Most Objectionable
E = Expect

MT = Minimum Tolerable (adequate)
D = Desire

Figure 6.3e Position of Latitudes and Standards--Fine Dining Friendliness

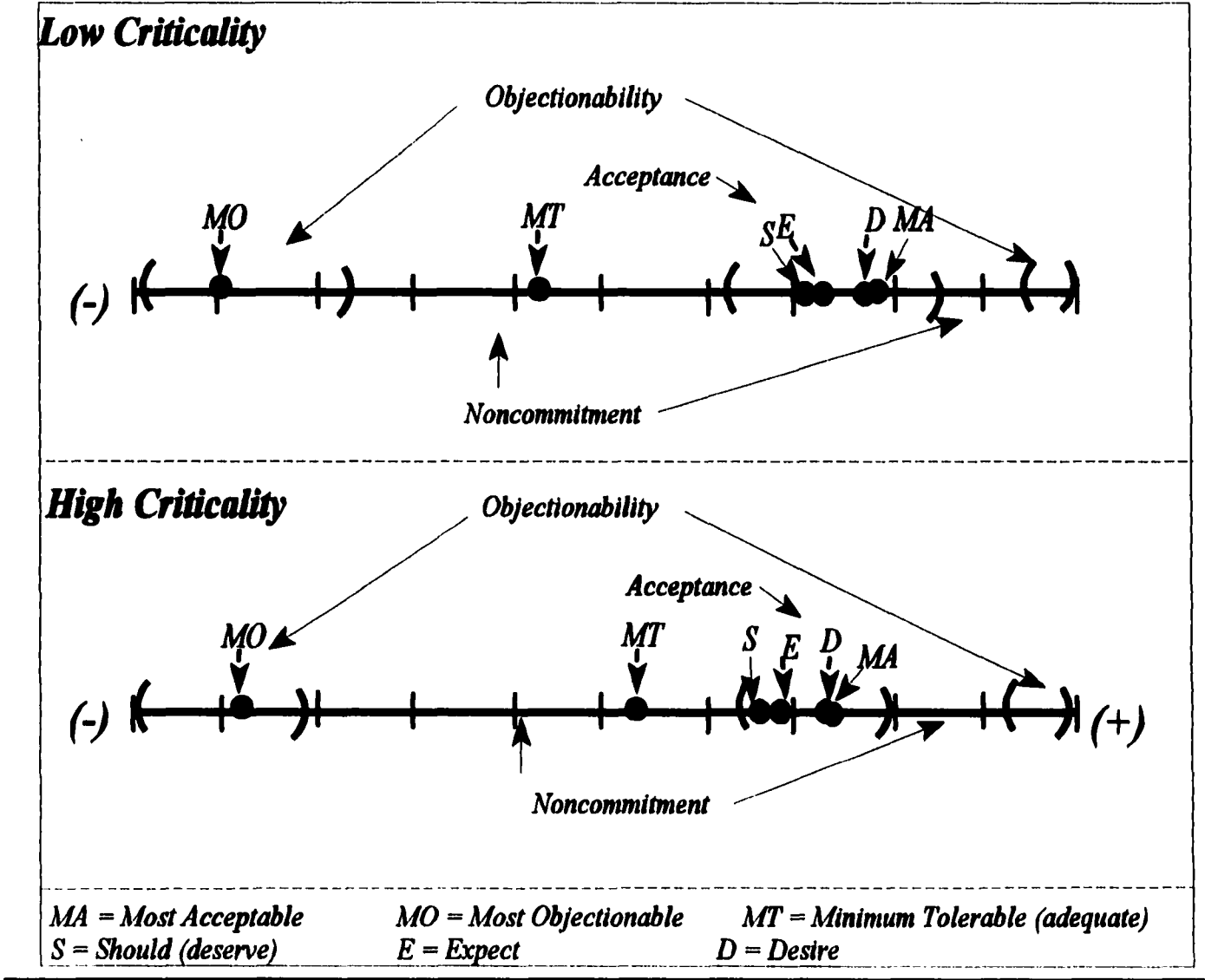
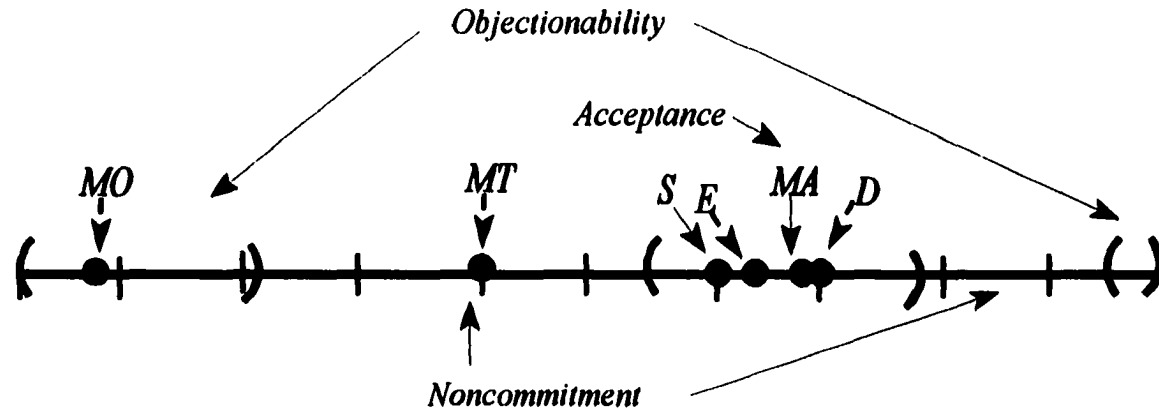
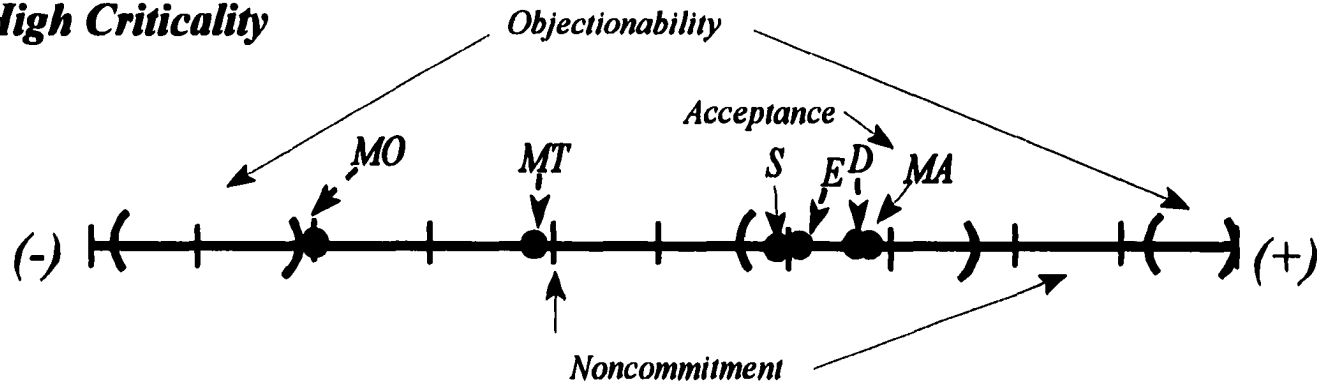


Figure 6.3f Position of Latitudes and Standards--Fine Dining Response Time

Low Criticality



High Criticality



MA = Most Acceptable
S = Should (deserve)

MO = Most Objectionable
E = Expect

MT = Minimum Tolerable (adequate)
D = Desire

Likewise, the “expected” (predicted) standard and the “deserved” (should) standard are consistently (statistically) equivalent. This pattern is somewhat different from the often proposed distinction of predictive (e.g., will, expected) expectations versus normative (e.g., should, desired, ideal, deserved) expectations (e.g., Boulding, et al. 1993; see also Oliver 1997; Teas and Palan 1997), mostly because of the equivalence of deserved and expected standards. It is, however, in keeping with Miller’s (1977) suggestion that deserved expectations could reflect equity (e.g., Homans 1961) and therefore be the same as expected. Based on an equity interpretation, this equivalence of expected and deserved service could be specific to the scenarios used in the present study since equity-related variables, such as price, were defined as “about what you would expect.”

It is interesting to note that what might be conceptualized as a negative affective standard, such as the “most objectionable” position of social judgment theory, is seldom mentioned in the marketing literature. Presumably, this “standard” is omitted from the standards debate because, at least implicitly, what is objectionable is seen to have vector properties and, therefore, “most objectionable” is always assumed to be the point farthest from acceptability. Oliver (1997) does explicitly acknowledge a negative standard of “intolerable,” which he ordinally places below all other standards. The average position of “most objectionable” found in this study is in general agreement with both this implicit treatment in most marketing literature and the explicit view of Oliver. It is also consistent with social judgment theory. However, it is important to note that in at least a few instances, the most objectionable position was above the most desirable

and most acceptable position. That is, for several respondents it was *more* objectionable to be *too friendly* or *too quick in serving* than it was to be too unfriendly or too slow.

At least from a zone of tolerance perspective (Zeithaml, Berry, and Parasuraman 1993), the standard most noticeably out of position is the “minimum tolerable” position, which is significantly below both the expected service level and the lower bound of acceptability. It is this lower bound of acceptability that is defined as “adequate” in the zone of tolerance model and equated with ‘minimum tolerable’ by Zeithaml, Berry and Parasuraman and operationalized in a similar manner as in the present study by Parasuraman, Zeithaml, and Berry (1994). On the other hand, Liljander (1995) operationalized “adequate” as “the boarder of what would satisfy the customer (p. 119)” and found adequate service and predictive expectations to be “remarkably close (p. 162).”

In summary, based on the findings of this study, four groups of standards can be delineated: (1) *most acceptable*, including desired and probably ideal, (2) *predictive*, including expected (“will”) and deserved (“should”), (3) *minimum tolerable*, which is equivalent to “adequate” in the zone of tolerance model, and (4) *most objectionable*, or most intolerable. It is probable that these standards generally follow this ordinal relationship but, as with “most objectionable,” it is possible that the ordinal relationship may vary.

Relationship between standards and Latitudes. Two patterns in the relationship between standards and latitudes are worthy of particular note: the general relationship between standards and particular latitudes, and the relationship between

standard and latitude boundaries. There is a consistent pattern between standards and latitudes across dimensions (i.e., waitperson friendliness and response-time). Two of these patterns are unremarkable. That is, the latitudes of acceptability and objectionability are operationally defined as those stacks of statements which are either most acceptable (objectionable) or also acceptable (also objectionable). Thus, to state that the standard is consistently in the latitude is tautological. However, this is not the case with the other standards. That is, there is nothing in the instructions that requires predictive standards to be in the latitude of acceptance or for a standard of minimum tolerable (adequate) to be within the latitude of noncommitment. However, in the present study, each is within these respective latitudes. The former relationship is unaddressed by social judgment theory but is consistent with the zone of tolerance model. The latter is also unaddressed by social judgment theory but is inconsistent with the zone of tolerance model, which posits that the adequate service standard serves as the lower boundary of the zone of tolerance (arguably equivalent to the latitude of acceptance). This finding, that there is a standard consistently associated with the latitude of noncommitment, could contribute to the validity of the tripartite model of latitudes conceptualized by social judgment theory and supported by the present study. It may also provide a link between social judgment theory, and adaptation-level theory as is discussed below.

The other important pattern is the relative position of standard and latitude boundaries. As discussed, the zone of tolerance model, as well as most other latitude models found in the marketing literature, views latitudes, usually of a single zone of acceptability, as being formed by multiple standards. Contrary to this view, social

judgment theory posits that “standards” serve as anchors around which latitudes are formed through the process of assimilation-contrast. Consequently, the test of whether standards are statistically equivalent to boundaries (H9) is a test of the relative viability of these two views. In all cases, standards were found to be significantly different from boundaries. Thus, the view of social judgment theory, in particular the role of assimilation in latitude formation, appears to have stronger support. However, it should be noted that the difference between the location of the lower boundary of the latitude of objectionability and the location of the most objectionable positions could be an artifact of the fact that for a few respondents, the most objectionable position was in the upper range of the domain (i.e., beyond most acceptable), thus inflating the mean. No such explanation is possible with the relationships between the other standards and boundaries.

The results of the present study do not allow a definitive statement about the existence of assimilation-contrast effects. In one sense, the results may complicate the issue. Assimilation and contrast are relative terms. That is, given at least two anchors, what appears to be assimilation toward one anchor can also be interpreted as contrast in relationship to the other anchor. The results of the present study lend support to the common contention of latitude studies from the marketing literature, that the latitude of acceptance is influenced by multiple anchors. The fact that the area around but below the lower anchor (normative expectations) and the area around but above the upper anchor (desired service) are included in the latitude argue for the existence of assimilation effects. As suggested by social judgment theory, the results support the contention that most objectionable position may serve as an anchor for the latitude of

objectionability. However, it also appears that the minimum tolerable position may serve as an anchor for the latitude of noncommitment. The degree to which latitude boundaries may be a function of assimilation toward the anchor or anchors within the latitude, or contrast in relation to an anchor or anchors outside the latitude, is a matter of conjecture. However, given the fact that standards appear to be different from, and within, the boundaries do indicate that *some perceptual distortion* mechanism is operating. Arguably, this pattern is a function of the assimilation of judgments toward the anchors. In fact, it is conceivable that it is not so much the standards that determine the latitude, but the degree to which the behaviors are perceptually assimilated that determines the width of a latitude, and therefore, at least one dimension of tolerance. That is, while standards *may* shift, latitude size may be as much or more a function of perceptual shifts around the standards.

The Latitude Behavioral Intention Relationship

The most compelling support for the social judgment theory-based tripartite model of latitudes can be found in the relationship between the three latitudes and behavioral intentions. The fact that positive behavioral intention such as RETURN, are consistently associated with the latitude of acceptance is in keeping with the assumptions of most latitude models found in the marketing literature. However, at least implicitly, these same models suggest that negative behavioral intentions are associated with the region outside (and typically below) the latitude of acceptance. The present study, however, suggests that the delineation of a latitude of objectionability allows a considerably more precise statement of latitudes and behavioral intentions. That is, the

negative behavioral intentions, such as LEAVE, COMPLAIN, NEVER RETURN, and Tell friends (not to patronize), are associated with the latitude of objectionability, not just with the range of the evaluative domain below what is acceptable. This association, while strong, is far from deterministic. That is, while it indicates that negative behavioral intentions are likely to be associated statements placed in the latitude of objectionability, it does not indicate that placement of a statement in the latitude of objectionability will result in a negative behavioral intention. Table 6.1 shows the total number of stacks classified as latitude of objectionability by the total sample (total possible stacks = 282 respondents X 11 categories) and the corresponding number of respondents, indicating a negative behavioral intention.

Table 6. 1 Behavioral Intentions by Latitude of Objectionability Classification

Dimension/ Behavioral Intention	Total Objectionable Categories	Negative Behavioral Intention Indicated (Percent)	
		Yes	No
Friendliness			
Complain	891	498 (55.90)	393 (44.10)
Leave	891	340 (38.16)	551 (61.84)
Never Return	891	426 (47.81)	465 (52.19)
Tell friends	891	500 (56.12)	391 (43.88)
Response-time			
Complain	956	622 (65.06)	334 (34.94)
Leave	956	474 (49.58)	482 (50.42)
Never Return	956	529 (55.33)	427 (44.67)
Tell friends	956	586 (61.30)	370 (38.70)

Several patterns are apparent from this table. First, inclusion in the latitude of objectionability is a relatively strong indication (approximately 50 percent) of intention

to behave negatively toward the restaurant. This relationship may be particularly strong considering other variables (e.g., consumer sophistication, likely success of voice option, etc.) may mediate the intention to behave (Day 1984; Hirshman 1970), and it is often multiple factors that interact to cause negative behaviors such as switching (Keaveney 1995). Second, there seems to be somewhat more likelihood for voice responses (e.g., complaining to management and telling others) than leaving and, to a lesser extent, never returning. Finally, there appears to be somewhat more likelihood for respondents to have negative behavioral intentions as a function of objectionable response-times than as a function of waitperson unfriendliness. This latter pattern may lend support to the finding of Cadotte and Turgeon (1988) that dimensions of a service-encounter may have differential potential for arousing negative (or positive) reactions.

The relationship between evaluations of acceptability and positive likelihood of returning to the restaurant under similar circumstances is shown in Table 6.5. At least for this one behavioral intention, the relationship between being judged acceptable and eliciting a favorable intention to behave appears to be strongly positive.

Table 6. 2 Behavioral Intentions by Latitude of Acceptability Classification			
Dimension/ Behavioral Intention	Total Acceptable Categories	Positive Behavioral Intention Indicated (Percent)	
		Yes	No
Friendliness			
Return	763	555 (72.74)	208 (27.26)
Response-time			
Return	770	591 (76.75)	179 (23.25)

For contrast, the relationship between classification in the latitude of noncommitment and behavioral intentions is shown in Table 6.3. The relationship

between waitperson behaviors being placed in the latitude of noncommitment and eliciting either a positive or negative response is extremely low. This relationship holds for both waitperson friendliness and waitperson response-time. It is important to note that, while the latitude of noncommitment comprises approximately 45 percent of the total categories available to the respondents as a whole, the proportion of these categories associated with any of the behavioral intentions assessed in this study is trivial. Together, these relationships lend strong support for the necessity of a tripartite model.

Table 6. 3 Behavioral Intentions by Latitude of Noncommitment Classification

Dimension/ Behavioral Intention	Total Noncommitment Categories	Behavioral Intention Indicated (Percent)	
		Yes	No
Friendliness			
Complain	1450	72 (4.97)	1378 (95.03)
Leave	1450	32 (2.21)	1418 (97.79)
Never Return	1450	51 (3.52)	1399 (96.48)
Tell friends	1450	98 (6.76)	1352 (93.24)
Return	1450	118 (8.14)	1332 (91.86)
Response-time			
Complain	1377	145 (10.53)	1232 (89.47)
Leave	1377	52 (3.78)	1325 (96.21)
Never Return	1377	77 (5.59)	1300 (94.41)
Tell friends	1377	106 (7.70)	1271 (92.30)
Return	1377	139 (10.09)	1238 (89.91)

A PARTIAL SYNTHESIS OF LATITUDE CONCEPTUALIZATIONS

As discussed in chapter three, there are several theoretical foundations for the formation of latitude or nonlinear relationships in evaluation of stimuli. Some of these assume multiple standards serving as boundaries (e.g. Zeithaml, Berry and Parasuraman 1993), some assume an anchor (e.g., Weber/Fechner Law and adaptation-level theory), and some assume multiple anchors (e.g., social judgment theory). Most latitude models focus on a single latitude which is assumed or implied to be associated with positive (e.g., acceptable or favorable) affect. There are two major exceptions. Adaptation-level theory assumes a neutral latitude around a neutrally charged anchor. Social judgment theory proposes multiple latitudes, one anchored by a most acceptable position with positive affect, one anchored by a most objectionable position and associated with negative affect, and one unanchored and affectively neutral.

The results of the present study may provide a basis for the integration of most, if not, all of these models. Clearly, both the nominal pattern, latitudes of acceptance and rejection separated by a neutral region, that respondents used to label the stacks of stimuli, generally support the more complex, tripartite model of social judgment theory. This support is strengthened by the observed positive association between latitudes and behavioral intentions. The results are also consistent with the assimilation notions shared by Weber/Fechner Law, cognitive dissonance theory, and social judgment theory. The impact of assimilation may be most noticeable in the formation of the latitude of acceptance. As discussed, the role of contrast is left unaddressed.

However, the results also suggest that some modification of the original social

judgment model may be appropriate. First, rather than the single anchor posited by Sherif and associates (e.g., Sherif, Sherif, and Nebergall 1965) to be associated with the latitude of acceptance, there appear to be multiple anchors. In the present case, one appears to be what is predicted, reasonable, and equitable and the other appears to be what is most acceptable, desired and ideal. Conceivably, this pattern may be different in other service-encounter settings and/or with different dimensions. However, the pattern was extremely consistent across the scenarios used in this study. This finding of multiple anchors within a single latitude provides some support for the multiple standard, zone of tolerance conceptualization of Zeithaml, Berry, and Parasuraman (1993), although it does differ in the specification and role (i.e., boundaries versus anchors) of these standards. It is particularly noteworthy that the minimum tolerable position in the present study, which is operationally equivalent to the “adequate” service level in the zone of tolerance model, is not only not a boundary of the latitude of acceptance, but is not even included in the latitude. In fact, the placement and potential role of this standard is arguably one of the most important findings of the present study.

Like Zeithaml, Berry, and Parasuraman (1993; 1994), Oliver (1997) contends that a “zone of tolerance” exists which is bounded by “minimum tolerable.” The present study does not support this contention. Indeed, based on the results of the present study, minimum tolerable does not appear to serve as the boundary for any latitude. In fact, it is consistently in the approximate center of the latitude of noncommitment and does not appear to be related to any assessed behavioral intentions. As with the standards which are associated with the latitude of acceptance, the placement of minimum tolerable within the latitude of noncommitment suggests the possibility of an important anchoring

role for this standard. This finding may represent a notable modification to social judgment theory and the existence of a neutral anchor. If “adequate” or minimum tolerable does serve as a neutral anchor, it is presumably equivalent to the adaptation-level identified by Helson (1964). While the existence of adaptation-level theory was not ignored by social judgment theorists (Sherif, Sherif, and Nebergall 1965, p. 238), it was perhaps misunderstood, as indicated by the following argument:

The identification of an ego-involved stand as an *anchor* is advantageous in handling systematic variations in placement...Similarly, this designation seems preferable to interpreting the individual's own stand as his “adaptation-level” (e.g., Helson 1959, p. 568) or neutrality region. His own stand represents a segment of highly positive affectivity, and the adaptation levels of less involved persons do not produce similar systematic displacements under the same conditions.

Thus, while acknowledged, adaptation-level was seen as something different from the “own” or desired position but not potentially a different component of the same reference scale. The present results may be interpreted as supporting the existence of a neutral anchor and that this anchor, as suggested by Helson, may play *a role* in the formation of the overall reference scale. This argument may be strengthened by the observation that minimum tolerable was consistently placed in the middle (i.e., position six plus or minus one interval) of the scale, regardless of scenario or the dimension being evaluated (see figures 6.3a--6.3f). It is conceivable that this central location of minimum tolerable may be a partial artifact of the way in which the end-points were defined in this study and thus may not be generalizable. The role of this standard as an anchor, as well as the adaptation-level interpretation, deserve further investigation.

As discussed in Chapter Two, the nature of the standards used in the evaluation process has been the subject of considerable debate. While not exhaustive, some of the

most often cited characteristics are “vector attribute,” “classic idea-point attribute”, and “feasible ideal-point attribute” (see Parasuraman, Zeithaml, and Berry 1994; Teas 1993; 1994). Conceivably, the present study supports all of these interpretations. That is, there is some evidence that different anchors have different attributes. For example, the apparent influence of multiple anchors, together with the position of the latitude of acceptance, suggests a feasible ideal-point attribute with expected service less than ideal service. The evidence for this contention is the fact that, on average, extremely friendly and extremely fast service are evaluated neutrally or objectionably. On the other hand, the most objectionable position may function as a vector attribute. That is, extremely unfriendly and extremely slow service are consistently evaluated as objectionable. Arguably, these differential characteristics of acceptable and objectionable anchors may not hold for all dimensions of the service-encounter. However, the apparent differential characteristics could help to partially explain the observation of prospect theory that “gains” (acceptable stimuli) are judged differently from losses (objectionable stimuli). The minimum tolerable position is clearly neither an ideal-point anchor nor a vector, but may display some of the characteristics of an “ideal-point.” That is, neutral evaluations dissipate at some point beyond the anchor in both directions. As suggested, the role of this “neutral” anchor in the evaluation process deserves further investigation.

THE MODIFIED OWN CATEGORIES LATITUDE ASSESSMENT INSTRUMENT

In the existing marketing literature, most studies of evaluative processes employ

some variation of one of two assessment methods; both are based on the disconfirmation of expectations paradigm. The first approach is to ask respondents to rate their expected (or desired) level of service on one or more attributes using a fixed-point scale (usually 7 to 9 points), and then to rate their perception of a service performance on the same attributes using the same scale. The differences between the expected and perceived performance are calculated and summed across the number of attributes. The relative importance of the attributes may also be assessed and the linear combination of these difference scores weighted to reflect their relative importance. This approach is the indirect method. SERVQUAL (Parasuraman, Zeithaml, and Berry 1988), is an example of the indirect approach, which has been criticized on a number of grounds (see Chapter 2). Two of the most common criticisms are that (1) difference scores are unreliable (Peter, Churchill, and Brown 1993) and (2) difference scores are unnecessary because the perceived performance measure captures all of the information in the disconfirmation measure (Cronin and Taylor 1992). A second measure is based on a direct approach which asks respondents to what degree perceived performance of service attributes fell below or exceeded expectations. The direct, or “inferred disconfirmation,” measure has generally been shown to be superior to the indirect or “perceived disconfirmation” measure (Oliver 1985; Tse and Wilton 1988; see also Yi 1990). A third approach is to directly assess perceptions of service without reference to disconfirmation. This approach is equivalent to the perceptions portion of the indirect approach and in the service quality literature has been referred to as the “performance only” measure by Cronin and Taylor (1992). Consistently, this performance only measure has been found to be superior in predictive validity than either of the

disconfirmation-based measures (see Chapter 2). However, Parasuraman, Berry, and Zeithaml (e.g., 1991) have consistently argued that, while the indirect measure may be inferior in predictive validity, it provides more diagnostic information and is therefore preferred.

Because most of the approaches to assessing consumers' evaluations rely on the disconfirmation model, they constrain the understanding of the evaluative process and the underlying reference scale used in this process. That is, efforts intended to understand the role of and relationship between assumed standards of comparison are hampered by the fact that the assessment methods assume that evaluations are a linear function of the relationships between these standards. This problem is exacerbated in the increasing movement towards multiple standard and latitude explanations of evaluations, which have as a central feature zones which represent nonlinearities. For example, Parasuraman, Zeithaml, and Berry (1994) developed several alternative scales for assessing service quality based on the *a priori* assumptions of their zone of tolerance model. Consequently, they are unable to provide any direct support for the central notion of the zone of tolerance model or that the zone is bounded by adequate and desired service. Additionally, as with other disconfirmation based approaches to the evaluation of service quality, a performance only measure was found to have better predictive validity than any of the alternative assessment measures proposed. Strandvik (1994, p. 159), in a more thorough examination of the zone of tolerance model, similarly notes that his findings were constrained by the methodology that was defined by the specific zone of tolerance model of Zeithaml, Berry, and Parasuraman (1993), and suggests there that may be other comparison standards and ways of defining tolerance

zones. The modified own categories card sort procedure used in the present study represents at least one alternative to the more constraining methodologies used in these studies. Some of the advantages of this method are (1) the respondent is allowed to use as few or as many (up to 11) of the categories, as that seem appropriate, based on the stimuli being categorized and the scenario; (2) delineations of latitudes are not tied to any standards, but are determined relatively independently; (3) determinations of the relative placement of standards are not predetermined; and (4) the assessment of behavioral intentions is independent of the determination of standards and latitudes. These advantages allowed the relatively constraint-free emergence of patterns within (e.g., the order of standards) and between these variables.

However, the method also has limitations. For example, the latitudes assessed were limited to the latitudes of acceptability, objectionability and, residually, noncommitment. Conceivably, there are other meaningful latitudes (e.g., see Oliver 1997). Unlike the more “pure” “own categories” technique developed by social judgment theorists, the present study limited the maximum total categories to 11. It is not entirely clear what impact this constraint had, if any. Since most respondents put at least one stimulus item in each possible category, it is possible that the imposition of a maximum number was interpreted as a normative requirement to use all categories, despite instructions to the contrary. As a consequence, it could have made several of the measures (e.g., size of latitudes, number of categories used) generated by the instrument less sensitive than they may have been without a defined maximum number of categories. However, the fact that an “imposed” 11-category technique has been successfully employed in prior social judgment research (Sherif, Sherif, and Nebergall

1965) does not support this conjecture. A second limitation of the method employed in the present study *could* result from the manner in which the stimulus items were selected. The general approach of looking for stimulus items (e.g., statements of waitperson behaviors) that are ambiguous, and therefore susceptible to displacement, except for a few “anchor” statements consistently placed at the extremes, is consistent with previous item selection. The potential problem comes from the fact that “ambiguous” is an ambiguous criterion. That is, Zimbardo (1960) identified three sources of ambiguity in stimulus interpretation: “double barreled” statements, statements containing an ambiguous word (e.g. aggressive), and statements of indeterminate meaning (e.g., the waitperson reacted to your question as waitpeople tend to react). He found that systematic displacement of these items as a function of the individual’s own position occurred only for indeterminate statements. No distinctions between types of intermediate or ambiguous statements were made in the selection of stimuli for the present study. Despite these limitations, the modified own categories approach used in this study does appear to provide the clearest picture, to date, of the relationship, and perhaps the role of standards, latitudes and behavioral intention.

MANAGERIAL IMPLICATIONS

The implications of evaluative reference scales and evaluative processes for the management of service-encounters fall into two broad categories, management of the service-encounter itself and management of the standards and latitudes. Each is discussed below.

Management of Standards and Latitudes

The disconfirmation of expectations model sees positive evaluation as a function of the degree to which perceived performance exceeds expectations. Consequently, it implies that expectations should be kept low to maximize positive disconfirmation. This strategy might be called the “*don't expect much and be happy*” model. It might have some practical implications in rare circumstances, such as monopolistic competition, or for service-encounter attributes that are relatively unimportant to the consumer, but generally it provides little guidance for managers about how to manage expectations. The problem is that competitive advantage is often gained through increasing expectations, at least for the most important attributes, to positively differentiate an offering. Consequently, it is difficult to attract customers by lowering expectations.

At first glance, the zone of tolerance model of Zeithaml, Berry, and Parasuraman (1993) represents an improvement over the single-standard disconfirmation model for guiding managers in managing evaluations. However, since it is framed in terms of a disconfirmation process with multiple standards, it also exacerbates the problem of the single-standard model. On one hand, the observation that positive evaluation represents a zone or latitude implies that evaluation is not a precise process and, therefore, managers can seek to maximize the positive evaluations by keeping the zone wide while minimizing expense by operating at the lower end of the zone. On the other hand, since the zone of tolerance is “bounded,” widening the zone implies that the adequate service (minimum tolerable) should be decreased while the desired service level is increased. Thus, this model might be called the “*want a lot but accept anything*” model. In addition to being counterintuitive, it retains the problems of not providing guidelines for

promoting competitive advantage and consumer loyalty in a similar manner as the single-point disconfirmation model. This apparent dilemma is noted by Zeithaml, Berry, and Parasuraman (1993). In addition, by invoking a two gap model (service adequacy and service superiority), Zeithaml, Berry, and Parasuraman seem to be implying that it is advantageous to keep the desired service level low to maximize perceived service superiority.

By contrast, both social judgment theory and the results of the present study suggest that desired and adequate service are not boundaries, but anchors. Therefore, it is possible to increase standards for purposes of competitive advantage through differentiation and, within limits, rely on assimilation effects to influence perceptions of acceptability. This model might be called the “*we give you what you desire and deserve*” model, at least intuitively a much more managerially useful model. It is also consistent with the finding of Boulding et al. (1993, p. 24) that “increasing customer expectations of what a firm ‘will’ provide during future service encounters actually leads to higher perceptions of quality after the customer is exposed to the actual service, all else equal.”

In addition, the results of this study imply that managers cannot just manage standards associated with positive evaluations. First, they suggest that there is a true “zone(s) of indifference” which may be anchored by minimum tolerable (adequate) service standards, and within which perceptions are relatively neutral and not associated with any specific behavioral intentions. Second, they indicate that managing the latitude of objectionability may be as important in creating competitive advantage and *avoiding* negative consumer behaviors as is managing the latitude of acceptance. For example, rather than (or in addition to) focusing on what is acceptable, managers may be able to

promote competitive advantage by using promotion to increase the latitude of objectionability and decrease the latitude of noncommitment. At the time of this writing, this appears to be the intent of Saturn behind its promoting the idea that “buying a car should not be like buying a car.” That is, what has been tolerated, should not be. This strategy of decreasing the latitude of noncommitment while increasing the latitude of objectionability implies raising the standard of adequate service and is in direct conflict with the strategy of decreasing the standard of adequate service, as implied by the zone of tolerance model. It has the advantage of being able to differentiate an offering without changing what is acceptable. There may also be situations in which management may be advised to widen the latitude of noncommitment while decreasing the latitude of objectionability. This would be particularly likely in a situation where the firm is a price leader or provides minimal service levels for certain attributes--e.g., availability of floor personnel in wholesale price clubs .

Management of the Service-encounter

The results of this study suggest that the evaluative categorization process may be considerably more complex than either the disconfirmation paradigm or the zone of tolerance model indicate. Therefore, it may not be sufficient for managers to know what a consumer finds acceptable. That is, evaluation is not a binary variable. Managers must also know what is objectionable and what is likely to be judged with indifference. These distinctions are important for several reasons. First, at least after expectations have been formed, moderate levels of acceptable service may be provided with relatively more efficiency than higher levels but result in equally high evaluations of service. Second, and

related, providing too much of a service attribute may result in the same or more negative consequences as providing too little. That is, hyperservice is not only inefficient from a resource standpoint, it may also lead to negative behaviors, such as exit and negative word-of-mouth. Third, managers need to focus as much effort on avoiding what is objectionable as they do the delivery of what is acceptable. By itself, this implication is not new. However, by understanding that what is not acceptable is not necessarily objectionable--that is, there is a zone(s) of indifference--managers can more efficiently direct their training for, and control of, service delivery. In fact, while not specifically addressed in this study, it may be possible to classify dimensions of the service-encounter by the relative size of the latitudes, everything else being equal. Arguably, this classification by latitude profile is what Cadotte and Turgeon (1988) captured in their satisfier, dissatisfier, criticals and neutral categories of service-encounter dimensions. That is, satisfiers (e.g. large serving portions) may be characterized by large latitudes of acceptance and small latitudes of objectionability and noncommitment, dissatisfiers (parking at a restaurant) by large latitudes of objectionability and small latitudes of acceptance and noncommitment, criticals (e.g. quality of food) by large latitudes of acceptance and objectionability and a small latitude of noncommitment, and neutrals (for example food preparation) by a large latitude of noncommitment and small latitudes of acceptance and objectionability. By identifying these patterns managers may be better able to direct their attention and allocate resources.

RESEARCH IMPLICATIONS

There are a number of implications and possible extensions of this thesis. Perhaps the most important to the further understanding of evaluative process and evaluative reference scales are the refinement of the latitude assessment instrument used and readministration under conditions of a larger effect of manipulation of situational criticality. As constructed, the modified own categories technique clearly detects three distinct latitudes, including the existence of hyperservice. However, the dynamic nature of latitudes as a function of a combination of enduring and situational factors, as posited by both the zone of tolerance and social judgment theory, was not confirmed. The lack of confirmation of these dynamics in the present study could, of course, be a function of the fact that both models are incorrect, but it could also be a function of the insensitivity of the instrument, inadequate manipulation of criticality, or both, and require further investigation.

The general approach of asking respondents to sort behavioral stimuli into stacks based on their subjective perceptions of similarity provides an opportunity to map the underlying reference scale used in evaluation, and thus offers an important alternative to traditional evaluative measures found in the marketing literature. The specific approach used in this study represents one adaptation of the “own categories” procedure originally developed in social judgment theory research, especially the work of C. Sherif (1961); other adaptations are possible. For example, the *maximum* number of categories available for sorting was set at 11. As discussed, providing a set number of categories may have had a normative influence by suggesting that the *proper* number of categories

was 11. Reverting to a true “own categories” approach, in which there is no set minimum or maximum number of categories, may result in a more sensitive instrument. Contrarily, the method used in this study did follow C. Sherif’s convention of having respondents place stimuli perceived as *too extreme* (if any) in end categories to anchor the reference scale. Arguably, even though the use of these extreme categories was optional, this instruction could also have a normative influence by suggesting that some stimuli *should* be viewed as too extreme. The fact that a significant number of respondents also categorized stacks of statements that were more extreme than the latitude of acceptance in the latitude of noncommitment suggests that this interpretation is unlikely. Regardless, modifications of the sorting technique used in this study should be explored.

The existence of a latitude of objectionability above the latitude of acceptance, hyperservice, in the service-encounter seems intuitively obvious. Less intuitively obvious, but equally interesting, is the even more common existence of a latitude of noncommitment above the latitude of acceptance. However, to date, these parts of the evaluative reference scale have essentially been ignored in the marketing literature. Part of this ignorance may be the result of the traditionally close adherence to the disconfirmation paradigm in general and the implied vector attribute nature of the standard of comparison, specifically. This area or the evaluative reference scale deserves further attention. Closely related is the relationship among the latitude of acceptance, the area above this latitude and surprise. Like hyperservice, surprise has been largely ignored in the marketing literature.

There was no attempt in this study to directly associate latitudes with traditional

measures of satisfaction or service quality. In fact, because of the confusion in the literature about the distinction and relationship between these two constructs (see Chapter 2), the issue of correspondence was ignored and the focus of the research was directed toward the underlying reference scale. The most obvious correspondence is that the latitude of acceptance is equivalent to positive satisfaction (or service quality) and that the latitude of objectionability is equivalent to dissatisfaction. However, there are other possibilities. Satisfaction could correspond to some subset of the latitude of acceptance or could include all or part of the latitude of noncommitment. The degree of correspondence could be assessed by asking respondents to indicate which stack(s) they associate with satisfactory (dissatisfactory) service. However, while the categorization of stimuli by respondents into latitudes implies a degree of homogeneity in the stimuli within a latitude, the fact that the stimuli are not collapsed into only three stacks also implies some degree of intralatitude heterogeneity. Consequently, a measure of the degree of (dis)satisfaction for each stack of stimuli would provide a more powerful test of the relationship than a simple binary measure. Regardless of the approach, the extent to which intralatitude differences correspond to levels of satisfaction is also worthy of investigation.

SUMMARY

The purposes of this study were to investigate the process and reference scale structure used in service-encounter evaluation. Particular attention was directed towards a class of models referred to as latitude models and characterized by a nonlinear

relationship between stimuli and evaluations of those stimuli. These latitude models can be contrasted with the evaluative models more commonly found in the marketing literature, which are classified as disconfirmation of expectations or “gap” models, and are typically employed in (dis)satisfaction and service quality research. The investigation was both conceptual and empirical. Conceptually, the bases for latitude models can be found in the Weber/Fechner Law, dissonance theory, adaptation-level theory, the zone of tolerance model of service quality, and social judgment theory. Unlike other models, social judgment theory is a tripartite model which assumes that an evaluative reference scale not only comprises latitudes of acceptability and objectionability, but also a latitude of neutrality or noncommitment. Because of its relative comprehensiveness, its previous empirical support, and its associated latitude assessment techniques, social judgment theory was used as the primary basis for a set of testable hypotheses. In addition to testing the general viability of latitude models, these hypotheses were intended to test (1) the proposition that latitudes (especially objectionability and noncommitment) expand and contract with situational criticality; (2) the proposition that the standards of comparison serve as anchors in perceptual categorization, rather than latitude boundaries; and (3) the relationship between latitudes and behavioral intentions, such as repeat patronage and positive and negative word-of-mouth. Additionally, the relative placement of various comparison standards used in modeling evaluative processes in the marketing literature was explored. Three restaurant settings (fast food, family restaurant, and fine dining) were used and two service dimensions (waitperson friendliness and response-time) investigated. Manipulation of the independent variables was by written scenario.

Support for the hypotheses was mixed. There was strong support for the tripartite (acceptability, objectionability, and noncommitment) latitude conceptualization of social judgment theory. In general, the hypothesis supporting the expansion and contraction of latitudes as a function of situational criticality was not supported. However, the effect of the manipulation was relatively weak, and the results are therefore inconclusive. The standards of comparison were found to be different from latitude boundaries, lending support for at least the assimilation portion of the assimilation-contrast explanation of latitude formation from social judgment theory. Positive behavioral intentions were found to be consistently associated with the latitude of acceptance and negative behavioral intentions were consistently associated with the latitude of objectionability. No behavioral intentions were consistently associated with the latitude of noncommitment. Four separate standards or groups of standards were delineated: (1) *most acceptable*, or desired service level; (2) *predictive* service level, including both what is expected and what is deserved; (3) *minimum tolerable* service level and (4) *most objectionable* service level. The first two of these appear to anchor the lower and upper latitude of acceptance. The last two appear to serve as anchors for the latitudes of noncommitment and objectionability, respectively.

Overall, this study appears to provide general support for the latitude conceptualization of evaluative reference scales, as proposed by social judgment theory. It also provides some extension of the theory. Most notable are the apparent existence of two additional anchors in the latitude of acceptance, where social judgment theory posits one, and the apparent existence of a single anchor in the latitude of noncommitment, where social judgment theory posits none. At least under the

conditions of this study, the most acceptable position of social judgment theory was statistically equivalent to the standard of desired service used in the zone of tolerance model. Together, these standards appeared to serve as anchors for the upper bound of the latitude of acceptance, but not a boundary as proposed by Zeithaml, Berry, and Parasuraman (1993). The standards of deserved and expected service were also statistically equivalent and appeared to anchor the lower bound of acceptance. This two-standard model differs from the one-anchor conceptualization of the latitude of acceptance found in social judgment theory but is *generally* consistent with the zone of tolerance model, except for the specificity and nature of the second standard.

The consistent placement of minimum tolerable service (the same operationalization as adequate service in the zone of tolerance model) in the middle of the latitude of noncommitment (as well as the scale in general) is particularly noteworthy. Not only does it differ in placement from the lower boundary of acceptance, as implied by zone of tolerance model but, it also suggests that the latitude of noncommitment may be anchored rather than residual as suggested by social judgement theory. It does imply that a relatively neutral point plays a role in the formation of the latitude of noncommitment, if not the whole reference scale. This latter interpretation is consistent with adaptation-level theory.

The finding that there is an area of the reference scale that consistently represents more of a dimension of service-encounter (e.g., waitperson friendliness or response-time) than is desired, but which is evaluated neutrally or negatively, is new to the evaluation research literature in marketing. The latter is referred to as hyperservice in this study. Its existence, together with the appearance of two anchors in the latitude of

acceptance suggests a “feasible ideal point” with expected service less than the ideal service interpretation of *acceptable* service-encounter evaluation (see Chapter 2 and Parasuraman, Zeithaml, and Berry 1994; Teas 1993; 1994). The negative standard, on the other hand, appears to function more like vector attributes, at least in this study.

These results suggest that service-encounter evaluation may be considerably more complex than traditionally employed models suggest. Consequently, managers need to know considerably more than the absolute, single or multiple standards of acceptability. The tripartite, anchor driven model, derived from social judgment theory and developed in this study, provides a more powerful tool for designing and managing the service-encounter. First, it suggests that for creating competitive advantage of the offering through differentiation, promoting what should not be acceptable may be as important as promoting what should be the expected and the ideal standards. Second, it suggests that heightened standards *can* lead to more positive evaluation. Finally, for managing the service encounter, it suggests that knowing what is objectionable, as well as the *range* of acceptability and tolerance, may make service-encounter design and control more efficient than assuming a traditional model of “more is always better and less is always worse.”

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APPENDIX I
INSTRUMENT DEVELOPMENT AND PRETESTS

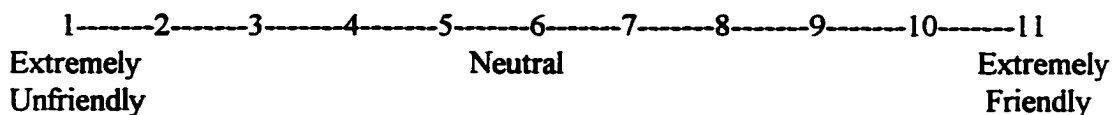
STATEMENT GENERATION INSTRUCTIONS

Your assistance with a marketing research project is requested. Two tasks are involved. The first task is outlined below and is due by the Thanksgiving break. The second task will require a resorting of the items developed as part of the first task. It will be assigned after the break.

Task 1. The purpose of this task is to generate a *large number of statements* concerning the *activities* that you might observe of *service personnel in a restaurant*. It does not matter whether or not you have actually observed the behavior, just that it might occur. The specific types of statements of interest are ones that reflect various levels of *friendliness or unfriendliness*. The type of the restaurant does not matter, it may be fast-food, family, fine-dining, etc. It is preferable if the statements could apply to multiple types. Some examples of statements are:

1. The waitperson introduces her/himself by first name.
2. The waitperson does not smile at anytime during the meal.
3. The waitperson comments that s/he likes the way that I am dressed.
4. The waitperson says s/he has better things to do than wait for me (us) to make up my (our) mind(s).
5. The waitperson sits down at the table and begins a conversation.

It is important that the statements reflect *a variety of different levels* of friendliness. You should think of an *eleven-point scale* ranging from **extremely unfriendly** (1) to **neutral** (6)--that is, neither friendly nor unfriendly-- to **extremely friendly** (11), for example:



You should attempt to write **at least two statements** reflecting acts of service-encounter unfriendliness/friendliness for **each of the 11 points on the scale (at least 22 total statements--more if possible)**. Since placement of all items on the scale is entirely subjective, there can be no correct or incorrect placement of items. What is important is that you try to come up with as many statements as possible that represent as many different levels of friendliness and unfriendliness as possible.

You may use any source you desire to come up with the statements. In fact, you are encouraged to use multiple sources. Some possible sources are asking family members, asking friends, paying attention to the actions of service-encounter personnel, or thinking back to previous service-encounters.

Some guidelines for statements are:

1. Use the present tense if possible.
2. Keep the language of the statements simple, clear, and direct.
3. Each statement should contain only one complete thought; when possible avoid complex and compound sentences.
4. Remember that you are selecting and rating the statements on the basis of friendliness, not appropriateness--i.e you may rate an act as extremely friendly even though you would find the act inappropriate for a service-encounter personnel in most situations.

Your statements may be submitted in (almost) any format. However, the preferred formats (in order) are (1) in a WordPerfect (or Word) file on disk (I can supply disk or return yours), (2) on index cards, or (3) typed double-spaced on paper.

Friendliness Statements
Item Pool

Number	Statement
(1)	The waitperson apologizes repeatedly for a minor error on your order.
(2)	The waitperson asks your first name.
(3)	The waitperson asks if you smoke.
(4)	The waitperson begins a conversation with you.
(5)	The waitperson begins talking to someone else while you are ordering.
(6)	The waitperson clears your meal without asking if you are finished.
(7)	The waitperson comments: "I've enjoyed serving you tonight."
(8)	The waitperson comments on the food.
(9)	The waitperson comments that your clothes are out of fashion.
(10)	The waitperson complains about the problems s/he is having today.
(11)	The waitperson compliments you on your smile.
(12)	The waitperson discusses the weather with you.
(13)	The waitperson does not converse about anything except your order.
(14)	The waitperson does not initiate any conversation.
(15)	The waitperson does not introduce herself(himself).
(16)	The waitperson does not make eye-contact with you.
(17)	The waitperson doesn't say anything when s/he brings your meal.
(18)	The waitperson greets you immediately.
(19)	The waitperson hurries
(20)	The waitperson ignores you.
(21)	The waitperson introduces you to another waitperson who is a friend of his(her's)
(22)	The waitperson is very efficient.
(23)	The waitperson is very methodical.
(24)	The waitperson jokes a lot.
(25)	The waitperson jokes about your appearance.
(26)	The waitperson makes teasing and joking comments.

Friendliness Statements**Item Pool**

- (27) The waitperson makes occasional comments about his(her) job.
- (28) The waitperson makes insulting jokes about the other staff.
- (29) The waitperson makes conversation with you.
- (30) The waitperson makes smalltalk with you every time s/he comes by the table.
- (31) The waitperson never smiles.
- (32) The waitperson offers his(her) own food recommendations without being asked.
- (33) The waitperson provides advice concerning the menu.
- (34) The waitperson recommends his(her) favorite menu item without being asked.
- (35) The waitperson says: "Howdy."
- (36) The waitperson says very little.
- (37) The waitperson seems preoccupied.
- (38) The waitperson seems especially attracted to your companion.
- (39) The waitperson smiles occasionally.
- (40) The waitperson swears at you
- (41) The waitperson takes your order without smiling.
- (42) The waitperson talks with you constantly.
- (43) The waitperson tells a joke.
- (44) The waitperson will not provide information about the items on the menu.
- (45) The waitperson remains silent unless asked a direct question.
- (46) The waitperson suggest that there is a better restaurant down the street.
- (47) The waitperson laughs when s/he accidentally spills a drink on you.
- (48) The waitperson does not smile at all.
- (49) The waitperson says: "If you need anything just holler."
- (50) The waitperson asks what your plans are for the evening.
- (51) The waitperson stoops down to be at eye level with you when taking your order.
- (52) The waitperson asks you to come back again.
- (53) The waitperson says: "I will be back in a moment."

Friendliness Statements
Item Pool

- (54) The waitperson greets you with a big smile.
- (55) The manager of the restaurant stops by the table and asks: "How is everything?".
- (56) The waitperson acts like a waitperson can act.
- (57) The waitperson comments that s/he can not wait to get off work.
- (58) The waitperson asks if you need change.
- (59) The waitperson tells you to "Please come again."
- (60) The waitperson get upsets when you complain about a problem with the food.
- (61) The waitperson comments s/he really dislikes waiting on you.
- (62) The waitperson takes your order but does not say anything.
- (63) The waitperson asks: "How are you doing today?"
- (64) The waitperson says: "How are you doing today?"
- (65) The waitperson walks you to the door.
- (66) The waitperson is very quick and efficient.
- (67) The waitperson comes to the table every five minutes to see if everything is OK.
- (68) The waitperson points out the least expensive items on the menu.
- (69) The waitperson (of the opposite sex) flirts with you.
- (70) The waitperson does not thank you for your business.
- (71) The waitperson frowns when you ask for some extra sauce.
- (72) The waitperson (of the opposite sex) gives you a kiss on the cheek when you leave.
- (73) The waitperson tells you, "Thank you; have a nice day".
- (74) The waitperson comments s/he is having a bad day and will be happy when it is over.
- (75) The waitperson smiles every time s/he comes to your table.
- (76) The waitperson tells you that s/he enjoyed waiting on you.
- (77) The waitperson tells you that s/he would rather be someplace else.
- (78) The waitperson (of the opposite sex) hugs you when you leave.
- (79) The waitperson slams the food down in front of you.
- (80) The waitperson thanks you for coming in.

Friendliness Statements
Item Pool

- (81) The waitperson comments that your dress is inappropriate.
- (82) The waitperson asks when your birthday is.
- (83) The waitperson comments on the time it takes you to order.
- (84) The waitperson comments that s/he just bought the same shirt you are wearing.
- (85) The waitperson asks if you would like some dessert.
- (86) The waitperson suggests you may not like what you are ordering.
- (87) The waitperson comments that s/he likes the way you are dressed.
- (88) The waitperson is obviously busy but looks up and says: "I'll be with you in a moment."
- (89) The waitperson tells you about a lot of personal problems s/he has been having.
- (90) The waitperson tells you that you made (his)her night very pleasant.
- (91) The waitperson waits quietly while you make up your mind.
- (92) The waitperson argues that if your meal is wrong, then you must have ordered incorrectly.
- (93) The waitperson explains things on the menu without being asked.
- (94) The waitperson hears you discussing a movie and tells you about several movies you must see.
- (95) The waitperson notices that you did not eat everything and asks if something is wrong.
- (96) The waitperson tells you she does not have time to wait on you.
- (97) The waitperson offers to replace any of your food if you do not like it.
- (98) The waitperson writes a personal note of thanks on the check.
- (99) The waitperson comes to your table once during your meal.
- (100) The waitperson says that what you ordered is one of his(her) favorites.
- (101) The waitperson says: "What you are ordering is not on the menu!"
- (102) The waitperson pays more attention to other customers than to you.
- (103) The waitperson asks a lot of personal questions.
- (104) The waitperson gives you his/her phone number and asks you to call.
- (105) The waitperson answers all of your questions patiently.

Friendliness Statements
Item Pool

- (106) The waitperson helps you with your seat.
- (107) The waitperson shows you to your seat.
- (108) The waitperson frowns when s/he sees more customers entering the restaurant.
- (109) The waitperson tells you that you should order from the light menu.
- (110) The waitperson tells you about the specials of the day.
- (111) The waitperson doesn't come to your table very often.
- (112) The waitperson sits down at the table and talks with you.
- (113) The waitperson stands next to your table and talks to you throughout your meal.
- (114) The waitperson stands next to your table and watches you eat.
- (115) The waitperson asks how you like the restaurant.
- (116) The waitperson complains to you about the management.
- (117) The waitperson does not ask how the meal was once you are finished eating.
- (118) The waitperson explains the specials of the day.
- (119) The waitperson keeps you informed about the amount of time that you will be waiting.
- (120) After you pay for your meal the waitperson says: "Thanks."
- (121) Having heard your first name mentioned, the waitperson uses it to address you.
- (122) The waitperson does not welcome you to the restaurant
- (123) When you make a minor change to your order the waitperson sighs
- (124) The waitperson seems impatient for you to make a decision.
- (125) The waitperson seems in a hurry to get your order and move on to the next customer.
- (126) The waitperson touches you when talking to you.
- (127) The waitperson speaks in a harsh tone.
- (128) The waitperson does not regularly check up on you during the meal.
- (129) The waitperson does not regularly check up on you during the meal.
- (130) The waitperson tells you to hurry up and order.
- (131) When you enter the restaurant the waitperson looks at you but says nothing

Friendliness Statements
Item Pool

- (132) After your food is ready, the waitperson asks if you need anything else.
 - (133) After you make your selection, the waitperson suggests that you have an additional item.
 - (134) The waitperson says: "What do you want?"
 - (135) The waitperson asks if the food was OK.
 - (136) The waitperson explains that s/he went to a great party last night and has a terrible hangover.
 - (137) The waitperson tells you that you were wonderful customers.
 - (138) The waitperson says: "Let me know when you have made up your mind."
 - (139) The waitperson brings you some food you did not order and does not charge you.
 - (140) The waitperson does not look at you while you order or ask questions.
 - (141) The waitperson gives you a dessert you did not order and insists: "You must try this."
 - (142) When you leave, the waitperson thanks you for coming.
 - (143) The waitperson says: "Its about time you made up your mind."
 - (144) The waitperson says: "Others are waiting; you must hurry up."
 - (145) The waitperson says: "Hi, how are you doing?"
 - (146) The waitperson shakes your hand when you leave.
 - (147) The waitperson suggest a place for you to spend the evening.
 - (148) The waitperson argues with you about your order.
 - (149) The waitperson does not reply to your statement about the weather.
 - (150) The waitperson does not respond to your joking comments.
 - (151) The waitperson tells you to enjoy your meal.
-

Instructions for Restaurant Friendliness Sorting Task

You should have an envelope that contains the following items.

A set of 11 cards numbered 1-11.

1. A set of cards with statements printed on them.
2. Some rubber bands.
3. A card with some questions on it.

Please complete this task without assistance from anyone else. What is required is to:

4. Take the set of numbered cards out of the envelope. Put the card with a 1 on it at your extreme left and spread out the rest of the cards in order (1-11) from left to right.
5. Take out the cards with statements printed on them and look through them to get an idea of the kind of statements with which you will be working. Each statement is a brief description of the behavior of a waitperson in a restaurant. Ignore the small number after the statement; it does not relate to your task.
6. Your task is to sort the statements in terms of the degree of FRIENDLINESS represented by the behavior (you should ignore whether you consider the behavior to be appropriate or inappropriate). You do this sorting by placing the statements on the numbered cards as follows:
 - a. If you find any statements representing behaviors that you consider to be **EXTREMELY UNFRIENDLY**, you should place them on the card numbered 1.
 - b. If you find any statements representing behaviors that you consider to be **EXTREMELY FRIENDLY**, you should place them on the card numbered 11.
 - c. Place all other statements on the cards numbered 2-10 according to the degree of unfriendliness (2-5) or friendliness (10-7) represented by the behavior, with statements of behaviors which are neither friendly nor unfriendly placed on card numbered 6. The following diagram may help.

You should try to place statements on all of the 11 numbered cards if appropriate. However, you are not required to use all 11 categories. You may move statements around as much as you wish.

IT IS **VERY IMPORTANT** TO REMEMBER THAT YOU ARE SORTING THE STATEMENTS ACCORDING TO THE **DEGREE OF FRIENDLINESS** THAT EACH BEHAVIOR REPRESENTS, **NOT** WHETHER YOU VIEW THE BEHAVIOR TO BE **APPROPRIATE OR INAPPROPRIATE**.

Selected Statistics for Original Item Pool													
State	n	Mean	Stand. Dev.	Quartile 3	median	Quartile 1	Rang e	IQR	Selected- IQR	Entropy	Stand. Entropy	Kurtosis	Selected- Entropy
001	41	7.83	2.13	9.00	8.00	7.00	10.00	2.00	.	1.97	.82	1.3783	9.00
002	40	7.18	2.19	9.00	7.50	6.00	8.00	3.00	9	1.79	.75	4.8147	6.00
003	41	5.63	1.26	6.00	6.00	6.00	7.00	.00	.	1.02	.42	1.5878	.
004	39	8.56	1.17	9.00	8.00	8.00	4.00	1.00	.	1.40	.58	-.4003	.
005	39	2.43	1.33	4.00	2.00	1.00	4.00	3.00	3	1.48	.62	-1.0174	.
006	39	3.28	1.52	4.00	3.00	2.00	5.00	2.00	.	1.73	.72	-.8574	3.00
007	40	9.40	1.08	10.00	9.50	8.00	3.00	2.00	9	.91	.38	-1.2754	11.00
008	40	6.60	1.50	7.50	6.00	6.00	9.00	1.50	.	1.52	.63	2.2462	.
009	41	1.41	.67	2.00	1.00	1.00	2.00	1.00	1	.82	.34	.6774	1.00
010	41	3.95	1.90	5.00	4.00	3.00	10.00	2.00	3	1.74	.72	3.4522	.
011	40	9.13	1.22	10.00	9.00	8.00	5.00	2.00	.	1.21	.50	-.2951	.
012	41	7.07	.88	8.00	7.00	6.00	3.00	2.00	.	1.03	.43	-.2049	.
013	41	5.07	.93	6.00	5.00	5.00	3.00	1.00	.	1.18	.49	.2293	.
014	40	4.70	.94	5.00	5.00	4.00	3.00	1.00	.	1.29	.54	-.6641	.
015	40	4.30	1.30	5.00	4.50	3.00	4.00	2.00	.	1.56	.65	-.9050	.
016	41	4.10	1.10	5.00	4.00	4.00	4.00	1.00	.	1.36	.57	-.0307	.
017	39	3.90	1.37	5.00	4.00	3.00	5.00	2.00	.	1.66	.69	-.6091	.
018	41	8.63	1.48	9.00	9.00	7.00	5.00	2.00	.	1.87	.78	-.8615	9.00

Selected Statistics for Original Item Pool													
019	37	5.58	1.66	6.00	6.00	5.00	7.00	1.00	.	1.75	.73	.2840	6.00
020	41	2.34	1.26	3.00	2.00	1.00	4.00	2.00	.	1.49	.62	-.5472	.
021	40	7.05	2.42	9.00	8.00	5.50	10.00	3.50	9	1.63	.68	.4558	.
022	41	8.22	1.74	10.00	8.00	6.00	6.00	4.00	9	1.49	.62	-1.1222	.
023	41	6.73	1.47	7.00	6.00	6.00	6.00	1.00	.	1.36	.57	.1818	.
024	41	6.95	2.46	9.00	8.00	6.00	10.00	3.00	.	2.14	.89	.0697	9.00
025	39	1.79	1.38	2.00	1.00	1.00	7.00	1.00	.	1.14	.48	10.0842	.
026	39	4.49	2.59	7.00	4.00	2.00	8.00	5.00	3	1.94	.81	-1.3257	3.00
027	41	4.98	1.35	6.00	5.00	4.00	6.00	2.00	.	1.55	.65	.3704	.
028	41	2.66	1.39	4.00	3.00	1.00	5.00	3.00	3	1.62	.67	-.6995	.
029	41	8.32	1.24	9.00	8.00	7.00	5.00	2.00	.	1.30	.54	-.1833	.
030	40	7.70	1.79	9.00	8.00	7.00	6.00	2.00	.	1.76	.73	-.6652	.
031	41	3.39	1.20	4.00	4.00	3.00	4.00	1.00	.	1.52	.63	-.7334	.
032	41	7.17	1.20	8.00	7.00	6.00	5.00	2.00	.	1.29	.54	-.1157	.
033	40	7.83	1.30	9.00	8.00	7.00	6.00	2.00	.	1.89	.79	-.0199	.
034	41	7.98	1.37	9.00	8.00	7.00	5.00	2.00	.	1.49	.62	-.5580	.
035	40	6.75	1.98	8.00	7.00	6.00	10.00	2.00	.	1.72	.72	1.1682	.
036	41	4.39	1.12	5.00	4.00	4.00	4.00	1.00	.	1.46	.61	-.5515	.
037	41	4.51	1.34	5.00	5.00	4.00	6.00	1.00	.	1.58	.66	.9262	.
038	41	3.22	2.16	5.00	3.00	1.00	9.00	4.00	3	1.76	.73	.6060	3.00

Selected Statistics for Original Item Pool													
039	37	6.14	1.46	7.00	6.00	6.00	7.00	1.00	.	1.46	.61	2.0964	.
040	40	1.23	.73	1.00	1.00	1.00	3.00	1.00	1	.43	.18	10.0910	1.00
041	39	4.03	1.11	5.00	4.00	3.00	5.00	2.00	.	1.46	.61	1.2362	.
042	40	6.73	2.59	9.00	7.00	5.00	10.00	4.00	6	2.23	.93	-.8299	6.00
043	40	7.78	1.49	8.50	8.00	7.00	7.00	1.50	.	1.50	.63	.4904	.
044	38	2.71	1.04	3.00	3.00	2.00	4.00	1.00	.	1.42	.59	-.2622	.
045	41	4.73	1.38	6.00	5.00	4.00	6.00	2.00	6	1.62	.67	1.0913	.
046	41	4.68	2.34	6.00	5.00	3.00	8.00	3.00	6	2.01	.84	-.9633	6.00
047	39	2.51	1.50	4.00	2.00	1.00	5.00	3.00	3	1.60	.67	-.2317	3.00
048	41	3.32	1.33	4.00	4.00	2.00	5.00	2.00	.	1.60	.67	-.7552	.
049	40	6.63	2.14	8.00	7.00	5.50	9.00	2.50	.	1.95	.81	1.4450	6.00
050	40	7.50	1.66	9.00	7.00	6.00	7.00	3.00	6	1.75	.73	-.5953	.
051	40	7.88	2.01	9.50	8.00	7.00	10.00	2.50	.	1.27	.53	3.7686	.
052	40	8.28	1.30	9.00	8.00	7.00	5.00	2.00	.	1.76	.73	-.3429	.
053	40	6.40	1.32	7.00	6.00	6.00	8.00	1.00	.	1.25	.52	6.7528	.
054	41	9.07	1.40	10.00	9.00	8.00	5.00	2.00	.	1.56	.65	-.8377	9.00
055	39	9.44	1.43	11.00	9.00	8.00	5.00	3.00	9	1.43	.59	-.6703	.
056	40	6.45	1.08	7.00	6.00	6.00	5.00	1.00	.	1.11	.46	2.7031	.
057	41	4.05	1.64	5.00	4.00	3.00	6.00	2.00	.	1.81	.76	-1.0109	3.00
058	40	6.10	2.22	7.00	6.00	5.50	9.00	1.50	.	1.76	.73	.4130	6.00

Selected Statistics for Original Item Pool													
059	40	8.10	1.68	9.00	8.00	7.00	10.00	2.00	.	1.50	.63	7.1697	.
060	41	2.44	1.23	3.00	2.00	2.00	6.00	1.00	.	1.42	.59	3.3049	.
061	40	1.25	.74	1.00	1.00	1.00	4.00	.00	1	.55	.23	17.2765	1.00
062	39	4.82	1.43	5.00	5.00	4.00	9.00	1.00	.	1.46	.61	4.5430	.
063	41	7.98	1.23	9.00	8.00	7.00	5.00	2.00	.	1.71	.71	.6131	.
064	41	7.78	1.12	8.00	7.00	7.00	5.00	1.00	.	1.04	.44	.8495	.
065	41	8.76	1.96	10.00	9.00	8.00	10.00	2.00	.	1.29	.54	4.9000	.
066	40	8.03	1.80	10.00	8.00	6.00	6.00	4.00	9	1.37	.57	-1.4064	.
067	38	8.34	2.41	10.00	9.00	7.00	10.00	3.00	9	1.68	.70	1.9027	9.00
068	38	5.53	2.35	7.00	6.00	4.00	9.00	3.00	6	1.95	.81	-.5234	6.00
069	40	7.45	3.08	10.00	8.00	6.00	10.00	4.00	9	1.94	.81	-.1113	9.00
070	39	3.87	1.40	5.00	4.00	3.00	7.00	2.00	.	1.60	.67	1.2758	.
071	41	2.54	1.23	3.00	2.00	2.00	4.00	1.00	.	1.52	.63	-.7355	3.00
072	41	7.78	3.80	11.00	10.00	5.00	10.00	6.00	9	1.60	.67	-1.1052	9.00
073	39	8.41	1.41	10.00	8.00	7.00	6.00	3.00	.	1.31	.54	-.4403	.
074	41	4.29	1.62	5.00	4.00	3.00	7.00	2.00	.	1.84	.77	-.3512	3.00
075	39	9.05	1.21	10.00	9.00	8.00	4.00	2.00	.	1.02	.43	-1.0800	.
076	41	8.98	1.42	10.00	9.00	8.00	6.00	2.00	.	1.28	.53	.2597	.
077	38	3.21	1.40	4.00	3.00	2.00	5.00	2.00	.	1.66	.69	-.5932	.
078	41	7.98	3.72	11.00	10.00	6.00	10.00	5.00	9	1.47	.61	-.6557	9.00

Selected Statistics for Original Item Pool													
079	41	1.73	1.16	2.00	1.00	1.00	5.00	1.00	.	1.15	.48	4.5530	.
080	38	8.13	1.28	9.00	8.00	7.00	5.00	2.00	.	1.45	.60	-.0282	.
081	41	1.63	.92	2.00	1.00	1.00	3.00	1.00	1	1.05	.44	.3917	1.00
082	39	7.36	2.07	9.00	7.00	6.00	10.00	3.00	6	1.70	.71	1.3468	.
083	40	3.43	1.95	4.00	3.00	2.00	8.00	2.00	.	1.68	.70	1.8274	.
084	41	7.66	1.91	9.00	8.00	7.00	9.00	2.00	.	1.92	.80	.7114	.
085	40	7.03	1.14	8.00	7.00	6.00	5.00	2.00	.	1.13	.47	2.3444	.
086	41	5.66	1.91	7.00	6.00	4.00	8.00	3.00	6	1.88	.78	-.0310	6.00
087	41	9.34	1.41	10.00	10.00	9.00	6.00	1.00	11	1.02	.42	1.9190	11.00
088	40	8.10	1.55	9.00	8.00	7.00	7.00	2.00	.	1.41	.59	.2046	.
089	41	4.27	2.11	5.00	4.00	3.00	9.00	2.00	3	1.98	.83	.3892	3.00
090	40	9.75	1.03	11.00	10.00	9.00	4.00	2.00	11	.98	.41	-.1806	11.00
091	39	7.26	1.35	8.00	7.00	6.00	5.00	2.00	.	1.43	.59	.3132	.
092	41	1.78	1.19	2.00	1.00	1.00	6.00	1.00	.	1.14	.47	8.0598	.
093	40	7.43	1.52	8.00	8.00	6.00	6.00	2.00	.	1.51	.63	-.4068	.
094	39	7.64	2.23	9.00	8.00	7.00	9.00	2.00	.	1.49	.62	1.1722	.
095	41	7.10	1.69	8.00	7.00	6.00	9.00	2.00	.	1.59	.66	3.2853	.
096	40	1.90	1.06	3.00	1.50	1.00	3.00	2.00	.	1.22	.51	-.7895	.
097	41	8.80	1.66	10.00	9.00	8.00	10.00	2.00	.	1.16	.48	11.5124	.
098	41	9.20	1.50	10.00	10.00	8.00	5.00	2.00	11	1.23	.51	-.7538	9.00

Selected Statistics for Original Item Pool													
099	40	4.20	2.02	5.50	4.00	2.00	9.00	3.50	3	1.79	.75	.6531	.
100	39	8.49	1.35	9.00	8.00	8.00	5.00	1.00	.	1.52	.63	-.5394	.
101	40	3.08	1.91	4.00	3.00	1.00	7.00	3.00	3	1.77	.74	-.4069	3.00
102	41	2.83	1.14	4.00	3.00	2.00	4.00	2.00	.	1.39	.58	-.8714	.
103	40	5.18	2.98	7.50	5.00	2.00	10.00	5.50	6	1.99	.83	-1.0458	6.00
104	41	7.54	3.56	11.00	8.00	5.00	10.00	6.00	9	1.89	.79	-.8254	.
105	41	8.73	1.64	10.00	9.00	8.00	8.00	2.00	.	1.29	.54	2.2359	.
106	38	8.84	1.37	10.00	9.00	8.00	4.00	2.00	.	1.43	.60	-1.0962	.
107	41	6.93	1.33	7.00	7.00	6.00	7.00	1.00	.	1.25	.52	2.1465	.
108	40	3.18	1.20	4.00	3.00	2.00	4.00	2.00	.	1.52	.63	-.0823	.
109	40	2.68	2.06	4.00	2.00	1.00	7.00	3.00	3	1.50	.63	-.2830	.
110	40	7.00	1.28	7.00	7.00	6.00	4.00	1.00	.	1.12	.47	.3974	.
111	40	3.88	1.38	5.00	4.00	3.00	6.00	2.00	.	1.65	.69	-.6426	.
112	40	8.33	2.75	11.00	9.00	7.00	10.00	4.00	9	1.71	.72	.8689	9.00
113	41	5.90	3.27	9.00	5.00	3.00	10.00	6.00	6	2.14	.89	-.1266	6.00
114	40	3.10	1.88	4.50	3.00	1.00	7.00	3.50	3	1.77	.74	-.4414	3.00
115	40	7.83	1.20	8.00	8.00	7.00	5.00	1.00	.	1.12	.47	1.9060	.
116	39	3.69	1.59	5.00	4.00	3.00	5.00	2.00	.	1.55	.65	-.7022	.
117	41	4.51	1.50	5.00	4.00	4.00	8.00	1.00	.	1.52	.64	3.0873	.
118	39	7.36	1.39	8.00	7.00	6.00	4.00	2.00	.	1.06	.44	-.3417	.

Selected Statistics for Original Item Pool													
119	38	7.66	1.36	9.00	8.00	7.00	6.00	2.00	.	1.67	.70	.2386	.
120	40	8.00	1.81	9.00	8.00	7.00	9.00	2.00	.	1.56	.65	2.2410	.
121	41	7.85	2.07	9.00	8.00	7.00	10.00	2.00	.	1.94	.81	2.1499	9.00
122	41	3.56	1.43	5.00	4.00	3.00	5.00	2.00	.	1.59	.66	-.7291	.
123	40	2.70	1.30	4.00	3.00	2.00	4.00	2.00	.	1.57	.65	-1.0540	.
124	40	3.40	1.26	4.00	3.00	3.00	7.00	1.00	.	1.45	.60	3.7630	.
125	41	3.37	1.32	4.00	3.00	2.00	6.00	2.00	.	1.64	.68	.2338	.
126	41	7.00	2.67	9.00	7.00	5.00	10.00	4.00	6	2.10	.88	-.2885	6.00
127	38	2.58	1.52	3.00	2.00	1.00	7.00	2.00	.	1.58	.66	3.4146	3.00
128	39	4.23	1.39	5.00	4.00	4.00	7.00	1.00	.	1.64	.68	.9491	.
129	41	3.80	1.23	5.00	4.00	3.00	6.00	2.00	.	1.55	.65	.2516	.
130	41	2.05	1.59	3.00	2.00	1.00	9.00	2.00	3	1.18	.49	15.6510	.
131	41	3.93	1.46	5.00	4.00	3.00	8.00	2.00	.	1.49	.62	3.0231	.
132	40	8.10	1.30	9.00	8.00	7.00	5.00	2.00	.	1.51	.63	-.8992	.
133	39	6.08	1.83	8.00	6.00	5.00	7.00	3.00	6	1.70	.71	.1361	6.00
134	39	2.67	1.64	4.00	2.00	1.00	6.00	3.00	3	1.70	.71	.1068	3.00
135	41	7.37	1.28	8.00	7.00	7.00	7.00	1.00	.	1.76	.73	2.0790	.
136	41	4.29	2.02	6.00	5.00	2.00	7.00	4.00	6	1.97	.82	-1.1371	6.00
137	41	9.85	1.39	11.00	10.00	9.00	6.00	2.00	11	.95	.40	3.6809	11.00
138	40	6.13	2.42	8.00	6.00	5.00	9.00	3.00	6	1.88	.78	-.5982	6.00

Selected Statistics for Original Item Pool													
139	39	8.26	2.45	10.00	9.00	7.00	10.00	3.00	9	1.41	.59	2.5788	.
140	39	3.85	1.65	5.00	4.00	3.00	8.00	2.00	.	1.62	.67	1.4672	.
141	41	6.24	3.33	9.00	6.00	3.00	10.00	6.00	6	2.09	.87	-1.4491	6.00
142	38	8.42	1.22	9.00	8.50	7.00	5.00	2.00	.	1.36	.57	-.9173	.
143	39	1.77	1.13	2.00	1.00	1.00	5.00	1.00	.	1.14	.48	5.0816	.
144	41	1.76	.97	2.00	2.00	1.00	4.00	1.00	.	1.15	.48	2.5331	.
145	40	8.05	1.30	9.00	8.00	7.00	5.00	2.00	.	1.40	.58	.1798	.
146	41	8.54	1.57	10.00	9.00	8.00	7.00	2.00	.	1.39	.58	.6943	.
147	41	7.76	1.53	9.00	8.00	7.00	7.00	2.00	.	1.76	.73	-.2983	.
148	40	1.98	1.05	6.00	2.00	1.00	4.00	2.00	.	1.30	.54	.2686	.
149	40	3.85	1.17	5.00	4.00	3.00	5.00	2.00	.	1.42	.59	.8595	.
150	40	4.43	1.30	5.00	4.00	3.50	6.00	1.50	.	1.58	.66	.0783	.
151	39	7.77	1.16	8.00	7.00	7.00	5.00	1.00	.	1.18	.49	1.7440	.
16	41	4.10	1.10	5.00	4.00	4.00	4.00	1.00	.	1.36	.57	-.0307	.

RESPONSE-TIME PARAMETER QUESTIONNAIRE

For each of the following restaurant types, please indicate:

The average amount of time you would expect to wait between entering the restaurant and being asked for your order.

Fast food restaurant_____ Family restaurant_____ Fine-dining restaurant_____

The maximum acceptable amount of time between entering the restaurant and being asked for your order.

Fast food restaurant_____ Family restaurant_____ Fine-dining restaurant_____

The maximum amount of time between entering the restaurant and ordering your food before you would leave the restaurant if you had not been asked for your order.

Fast food restaurant_____ Family restaurant_____ Fine-dining restaurant_____

The average amount of time you would expect to wait between placing your order and receiving your food.

Fast food restaurant_____ Family restaurant_____ Fine-dining restaurant_____

The maximum acceptable amount of time between placing your order and receiving your food.

Fast food restaurant_____ Family restaurant_____ Fine-dining restaurant_____

The maximum amount of time between ordering and receiving your food before you would leave the restaurant.

Fast food restaurant_____ Family restaurant_____ Fine-dining restaurant_____

**FINAL PRETEST
MANIPULATION CHECKS**

REALISM

How realistic do you find situation? (7-point scale--low=realistic)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	2.69	2.83	2.89	2.80
High Criticality (close friend)	2.67	2.50	2.00	2.36
	2.68	2.72	2.89	

How difficult to imagine self in situation? (7-point scale--high=not difficult)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	5.46	5.92	5.11	5.53
High Criticality (close friend)	5.56	4.50	5.80	5.40
	5.50	5.47	5.49	

**FINAL PRETEST
MANIPULATION CHECKS**

Importance of Dining Experience (7-point scale--low=important)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	3.69	2.83	3.44	3.32
High Criticality (close friend)	3.11	1.83	2.40	2.50
	3.45	2.90	2.50	

Critical everything as you would like it (7-point scale--high=realistic)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	3.70	4.17	3.89	3.94
High Criticality (close friend)	3.33	3.67	2.90	3.24
	3.51	3.92	3.39	

**FINAL PRETEST
FRIENDLINESS**

Latitude of Acceptance (width)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	2.92	2.17	2.89	2.65
High Criticality (close friend)	2.56	1.83	2.80	2.48
	2.77	2.10	2.84	

Latitude of Acceptance (density)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	11.85	10.92	11.56	11.44
High Criticality (close friend)	10.65	11.33	11.50	11.16
	11.36	11.10	11.53	

**FINAL PRETEST
FRIENDLINESS**

Latitude of Objectionability (width)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	2.54	2.67	3.0	2.56
High Criticality (close friend)	3.22	3.0	3.22	3.12
	2.82	2.39	3.16	

Latitude of Objectionability (density)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	20.39	14.58	18.56	17.85
High Criticality (close friend)	18.33	19.50	19.70	19.16
	19.55	16.22	19.16	

**FINAL PRETEST
FRIENDLINESS**

Latitude of Noncommitment (width)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	3.69	6.33	4.11	4.74
High Criticality (close friend)	3.89	4.67	4.10	4.12
	3.77	5.78	4.10	

Latitude of Noncommitment (density)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	22.77	29.50	24.89	25.72
High Criticality (close friend)	26.00	24.17	23.80	24.57
	24.35	26.84	24.35	

**FINAL PRETEST
RESPONSE-TIME**

Latitude of Acceptance (size)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	2.23	2.75	2.78	2.56
High Criticality (close friend)	2.44	2.00	3.50	2.76
	2.32	2.50	3.16	

Latitude of Acceptance (density)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	7.00	10.67	9.89	9.06
High Criticality (close friend)	8.67	9.17	13.60	10.76
	7.68	9.17	13.60	

**FINAL PRETEST
RESPONSE-TIME**

Latitude of Objectionability (width)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	3.15	3.17	2.11	2.88
High Criticality (close friend)	4.22	3.50	2.30	3.28
	3.59	3.28	2.21	

Latitude of Objectionability (density)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	38.23	26.17	24.78	30.41
High Criticality (close friend)	36.56	33.17	27.30	32.04
	37.54	28.50	26.11	

**FINAL PRETEST
RESPONSE-TIME**

Latitude of Noncommitment (width)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	3.38	4.42	4.89	4.15
High Criticality (close friend)	2.22	2.50	2.90	2.56
	2.90	3.78	3.84	

Latitude of Noncommitment (density)

	Low Ambiguity (Fast-Food)	Moderate Ambiguity (Family Restaurant)	High Ambiguity (Fine-dining)	
Low Criticality (casual acquaintance)	9.76	18.17	20.33	12.51
High Criticality (close friend)	9.78	12.67	14.10	32.04
	9.77	16.33	17.05	

APPENDIX II--INSTRUMENT

Restaurant Service-Encounter Survey

Individual Informed Consent to Participate in Research Conducted Under the Auspices of the University of Oklahoma—Norman

You participation is requested in a research project concerned with the evaluation of services. Your input as a consumer can provide valuable data that will assist in increasing the understanding of how service-encounter evaluations are made and how they are related to specific consumer behaviors.

All replies will be kept strictly confidential. Your identity will not be associated with any of the information you provide or any of the reports that result from this study.

You participation is entirely voluntary. You may decline to participate or stop your participation at any time after you begin. If you are participating for extra course credit and you decide to withdraw from participation, the extra credit will not be granted. However, there will be no other penalty or prejudice. Because your information will remain confidential and because you may stop your participation at any time any risk in agreeing to participate is minimal. The information you provide will not be used for any purpose other than the one stated.

Please complete and return the attached questionnaire. It is anticipated that it will take approximately 30-45 minutes to complete all tasks.

If you have any questions concerning this survey or your participation please feel free to contact the investigator, Stephen L. Vargo, at 325-0430 or 447-4556.

Your assistance in this research project is sincerely appreciated.

Respondent

Please print your name, class and section number

Restaurant Service-Encounter Survey

General Instructions

Please make a note of the time that you begin_____

INSTRUCTIONS: Below is the description of a situation. You will be asked what your perceptions and opinions would be if you were in this situation. Therefore, it is important that you try to **IMAGINE YOURSELF IN THE SITUATION exactly as it is presented.** You May Refer Back to the Situation Description as Often as You like While Completing this Survey.

There are no "right" or "wrong" responses; usually your first response is the best one. You should not take an exceptionally long period of time thinking about your response. However, you should be deliberate and make sure your responses reflect how you actually think or feel.

PLEASE COMPLETE ALL OF THE QUESTIONS AND TASKS

DESCRIPTION OF THE SITUATION

You and a casual acquaintance run into each other and begin to chat. In the course of the conversation your acquaintance mentions that s/he is hungry; you realize that you are also hungry. On several occasions you have noticed a relatively new fast food restaurant across the street from where you are. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you walk over and try it. Your acquaintance agrees.

When you enter the restaurant you find that it looks about as you have anticipated, with Formica tables, attached seating, and a self-service counter which has the menu and prices posted above. You observe that the menu is sufficiently varied so that each of you should be able to find something you would like to eat. As you approach the counter you see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a fast-food restaurant. You also notice that the prices appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to get to the front of the line to place your order is reasonable.

**YOU MAY REFER BACK TO THIS PAGE AS OFTEN AS YOU WISH WHILE
COMPLETING THE SURVEY**

PLEASE GO TO THE NEXT PAGE

**Restaurant Service-Encounter Survey
General Instructions**

Please make a note of the time that you begin _____

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PLEASE COMPLETE ALL OF THE QUESTIONS AND TASKS

DESCRIPTION OF THE SITUATION

You have invited a very close friend out for a special evening to celebrate your friend's birthday. Unfortunately, you do not have the opportunity to spend an evening out with this friend as often as you would desire. Consequently, you would like it to be as nice an evening as possible. The plan is to attend a special event that is of interest to both of you.

In a late afternoon discussion to confirm your plans your friend mentions that s/he has been so busy that s/he has not had a chance to eat since breakfast; you realize that you are hungry also. You also realize that having dinner together would give you additional time to spend with your friend, so you decide to add dinner to your invitation for a special evening for you and your friend.

Your friend accepts your invitation and says s/he would prefer a fast-food restaurant to family-dining or a fine-dining restaurant on this particular evening. While this may not be your first choice, it is most important to you that the evening is special to your friend; you agree to your friend's preference. You recall that on several occasions you have noticed there is a relatively new fast-food restaurant in the vicinity of where the event is being held. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you try this new restaurant. Your close friend agrees.

When you enter the restaurant you find that it looks about as you have anticipated, with Formica tables, attached seating, and a self-service counter which has the menu and prices posted above. You observe that the menu is sufficiently varied so that each of you should be able to find something you would like to eat. As you approach the counter you see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a fast-food restaurant. You also notice that the prices appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to get to the front of the line to place your order is reasonable.

**YOU MAY REFER BACK TO THIS PAGE AS OFTEN AS YOU WISH WHILE
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**Restaurant Service-Encounter Survey
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PLEASE COMPLETE ALL OF THE QUESTIONS AND TASKS

DESCRIPTION OF THE SITUATION

You and a casual acquaintance run into each other and begin to chat. In the course of the conversation your acquaintance mentions that s/he is hungry; you realize that you are also hungry. On several occasions you have noticed a relatively new family restaurant across the street from where you are. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you walk over and try it. Your acquaintance agrees.

When you enter the restaurant you find that it looks about as you have anticipated, with a simple but pleasant atmosphere, a sign asking you to “please wait to be seated”, and a combination of booth and table seating with no tablecloths. You can see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a family restaurant. You ask to see a menu and observe that it is sufficiently varied so that each of you should be able to find something you would like to eat. The prices appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to be seated is reasonable.

**YOU MAY REFER BACK TO THIS PAGE AS OFTEN AS YOU WISH WHILE
COMPLETING THE SURVEY
PLEASE GO TO THE NEXT PAGE**

**Restaurant Service-Encounter Survey
General Instructions**

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In a late afternoon discussion to confirm your plans your friend mentions that s/he has been so busy that s/he has not had a chance to eat since breakfast; you realize that you are hungry also. You also realize that having dinner together would give you additional time to spend with your friend, so you decide to add dinner to your invitation for a special evening for you and your friend.

Your friend accepts your invitation and says s/he would prefer a family-dining restaurant to either a fast-food or a fine-dining restaurant on this particular evening. While this may not be your first choice, it is most important to you that the evening is special to your friend; you agree to your friend's preference. You recall that on several occasions you have noticed there is a relatively new family restaurant in the vicinity of where the event is being held. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you try this new restaurant. Your close friend agrees

When you enter the restaurant you find that it looks about as you have anticipated, with a simple but pleasant atmosphere, a sign asking you to “please wait to be seated”, and a combination of booth and table seating with no tablecloths. You can see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a family restaurant. You ask to see a menu and observe that it is sufficiently varied so that each of you should be able to find something you would like to eat. The prices appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to be seated is reasonable.

**YOU MAY REFER BACK TO THIS PAGE AS OFTEN AS YOU WISH WHILE
COMPLETING THE SURVEY PLEASE GO TO THE NEXT PAGE**

**Restaurant Service-Encounter Survey
General Instructions**

Please make a note of the time that you begin_____

INSTRUCTIONS: Below is the description of a situation. You will be asked what your perceptions and opinions would be if you were in this situation. Therefore, it is important that you try to **IMAGINE YOURSELF IN THE SITUATION exactly as it is presented.** You May Refer Back to the Situation Description as Often as You like While Completing this Survey.

There are no "right" or "wrong" responses; usually your first response is the best one. You should not take an exceptionally long period of time thinking about your response. However, you should be deliberate and make sure your responses reflect how you actually think or feel.

PLEASE COMPLETE ALL OF THE QUESTIONS AND TASKS

DESCRIPTION OF THE SITUATION

You and a casual acquaintance run into each other and begin to chat. In the course of the conversation your acquaintance mentions that s/he is hungry; you realize that you are also hungry. On several occasions you have noticed a relatively new fine-dining restaurant across the street from where you are. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you walk over and try it. Your acquaintance agrees.

When you arrive at the restaurant you see a menu posted by the door and observe that it is sufficiently varied so that each of you should be able to find something you would like to eat. When you enter the restaurant you find that it looks about as you have anticipated, including a elegant atmosphere; a *maitre d'hotel* station by the front door; waitpersons dressed in black and white; and table seating with linen tablecloths, china, and crystal. You can see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a fine-dining restaurant. The prices that you recall from the menu appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to be seated is reasonable.

**YOU MAY REFER BACK TO THIS PAGE AS OFTEN AS YOU WISH WHILE
COMPLETING THE SURVEY**

PLEASE GO TO THE NEXT PAGE

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PLEASE COMPLETE ALL OF THE QUESTIONS AND TASKS

DESCRIPTION OF THE SITUATION

You have invited a very close friend out for a special evening to celebrate your friend's birthday. Unfortunately, you do not have the opportunity to spend an evening out with this friend as often as you would desire. Consequently, you would like it to be as nice an evening as possible. The plan is to attend a special event that is of interest to both of you.

In a late afternoon discussion to confirm your plans your friend mentions that s/he has been so busy that s/he has not had a chance to eat since breakfast; you realize that you are hungry also. You also realize that having dinner together would give you additional time to spend with your friend, so you decide to add dinner to your invitation for a special evening for you and your friend.

Your friend accepts your invitation and says s/he would prefer a fine-dining restaurant to fast food or family-dining restaurant on this particular evening. While this may not be your first choice, it is most important to you that the evening is special to your friend; you agree to your friend's preference. You recall that on several occasions you have noticed there is a relatively new fine-dining restaurant in the vicinity of where the event is being held. Neither of you has previously been either to this particular restaurant or to one with the same name. You suggest that you try this new restaurant. Your close friend agrees.

When you arrive at the restaurant you see a menu posted by the door and observe that it is sufficiently varied so that each of you should be able to find something you would like to eat. When you enter the restaurant you find that it looks about as you have anticipated, including a elegant atmosphere; a *maitre d'hotel* station by the front door; waitpersons dressed in black and white; and table seating with linen tablecloths, china, and crystal. You can see some of the food that other patrons are eating and observe that it looks acceptably appetizing and is served in an acceptable quantity for a fine-dining restaurant. The prices that you recall from the menu appear to be in line with the menu variety, the appearance and the quantity of the food, and the general appearance and atmosphere of the restaurant. You suggest that you stay and try the restaurant and your friend agrees. The time it takes to be seated is reasonable.

**YOU MAY REFER BACK TO THIS PAGE AS OFTEN AS YOU WISH WHILE
COMPLETING THE SURVEY
PLEASE GO TO THE NEXT PAGE**

**PLEASE DO NOT GO ON TO THE NEXT PAGE UNTIL YOU HAVE FINISHED
ALL OF THE INSTRUCTIONS BELOW**

You should have an envelope that contains the following items.

1. A set of 11 pink "CATEGORY" cards numbered 1-11
2. A set of pink "STATEMENT" cards with times (in minutes) printed on them.
3. Some rubber bands.

While imagining yourself in the situation presented, please complete and check off (✓) the following tasks:

1	2	3	4	5	6	7	8	9	10	11
<i>Extremely Slow</i>					<i>Extremely Fast</i>					

- ☐ 1. Take the set of CATEGORY cards out of the envelope. Put the card with a 1 on it at your extreme left and spread out the rest of the cards in order (1-11) from left to right, like this:
- ☐ 2. Take out the STATEMENT cards. Each card is a statement of the **SERVING-TIME** (the amount of time between when you place your order and when you receive your food) in the restaurant described in the situation. Look through them to get an idea of the kind of statements with which you will be working. Ignore the small number after the time; it is not related to your task.
3. Your task is to sort all of the STATEMENT cards in terms of the degree of QUICKNESS and SLOWNESS of the serving-times described on the card **in the context of the situation presented to you**. You do this sorting by placing the STATEMENT cards behind the CATEGORY cards (1-11) as follows:
 - ☐ a. If you find any serving-times that you consider to be **EXTREMELY TOO SLOW** given the situation, you should place them behind the card numbered 1. You are not required to use this category if no statement(s) fits its description.
 - ☐ b. If you find any serving-times that you consider to be **EXTREMELY TOO FAST** given the situation, you should place them behind the card numbered 11. You are not required to use this category if no statement(s) fits its description.
 - c. Place all other STATEMENT cards behind the CATEGORY cards according to the degree to which you feel they represent serving-times that are similarly SLOW or FAST given the situation presented to you.

NOTE: You are not required to use all of the categories: you should USE AS FEW OR AS MANY (up to 11) OF THE CATEGORIES as you feel appropriate so that statements that belong together are in the same stack You may move statements around as much as you wish.

- ☐ 4. After you have sorted all of the statements to your satisfaction, put the CATEGORY cards on top

WHEN YOU HAVE FINISHED ALL OF THE ABOVE PLEASE GO TO THE NEXT PAGE

**PLEASE DO NOT GO ON TO THE NEXT PAGE UNTIL YOU HAVE FINISHED
ALL OF THE TASKS BELOW**

Mark the CATEGORY cards according to the following instructions. It may be necessary to make more than one mark on a CATEGORY card; you may make as many marks on each category as you find appropriate.

- ☐ 1. A. select the one stack of STATEMENT cards that represents the response-time(s) which you find most acceptable given the situation presented. Put two checks (✓✓) on the associated CATEGORY card.
- ☐ B. If there is another stack or stacks that represent response-times that you also find acceptable put a single check (✓) on the associated CATEGORY card(s). Mark as many or as few as you feel appropriate.
- ☐ 2. A. Select the one stack of STATEMENT cards that represents the response-time(s) which you find most objectionable given the situation presented. Put two X's (XX) on the associated CATEGORY card.
- ☐ B. If there is another stack or stacks that represent response-times that you also find objectionable put a single X (X) on the associated CATEGORY card(s). Mark as many or as few as you feel appropriate.

For the following instructions (3-7) mark as many or as few CATEGORY cards as you feel appropriate.

- ☐ 3. If there are any stacks with response-times for which you would LEAVE the restaurant without completing your meal put a letter "L" on the associated CATEGORY card(s). If there is none, skip this step.
- ☐ 4. If there are any stacks with response-times for which you would COMPLAIN to the waitperson or to the manager put a letter "C" on the associated CATEGORY card(s). If there is none, skip this step.
- ☐ 5. If there are any stacks with response-times for which you would TELL FRIENDS they should NOT go to the restaurant put a letter "T" on the associated CATEGORY card(s). If there is none, skip this step.
- ☐ 6. If there are any stacks with response-times which would make you want to RETURN to the restaurant under similar circumstances put a letter "R" on the associated CATEGORY card(s). If there is none, skip this step.
- ☐ 7. If there are any stacks with response-times which would make you want to NEVER RETURN to the restaurant under similar circumstances put a letter "N" on the associated CATEGORY card(s). If there is none, skip this step.

For the following instructions (8-11) mark only one CATEGORY card.

- ☐ 8. Place an “E” on the CATEGORY card of the one stack representing the level of responsiveness you would EXPECT given the situation.
- ☐ 9. Place a “D” on the CATEGORY card of the one stack representing the level of responsiveness you would DESIRE given the situation.
- ☐ 10. Place an “MT” on the CATEGORY card of the one stack representing the level of responsiveness you would consider the MINIMUM TOLERABLE (that is, the maximum tolerable time to wait to be served) given the situation.
- ☐ 11. Place an “S” on the CATEGORY card of the one stack representing the level of responsiveness you would feel you would DESERVE given the situation.

WHEN YOU HAVE FINISHED THE ABOVE PLEASE PLACE A RUBBER BAND AROUND EACH STACK, PUT THE STACKS IN THE ENVELOPE AND THEN GO TO THE NEXT PAGE

**PLEASE ANSWER ALL OF THE FOLLOWING QUESTIONS
BY PLACING AN "X" ON THE SCALE FOLLOWING THE QUESTION**

1. How realistic do you find the situation you were presented?

Extremely realistic _____ **Extremely unrealistic**
1 2 3 4 5 6 7

2. Given the situation presented to you, how critical is it that everything at the restaurant is exactly as you would like it to be?

Extremely critical _____ **Not at all critical**
1 2 3 4 5 6 7

3. Given the situation presented, how important is the dining experience to you?

Extremely important _____ **Extremely unimportant**
1 2 3 4 5 6 7

4. If you were in the situation presented to you, how confident would you feel making judgements:

- A. about whether a waitperson is appropriately friendly?

Extremely Confident _____ **Extremely unconfident**
1 2 3 4 5 6 7

- B. about whether the time between ordering and receiving food is appropriate?

Extremely Confident _____ **Extremely unconfident**
1 2 3 4 5 6 7

- C. about the overall quality of the dining experience?

Extremely Confident _____ **Extremely unconfident**
1 2 3 4 5 6 7

5. How difficult is it to imagine yourself in the situation presented?

Extremely difficult _____ **Not at all difficult**
1 2 3 4 5 6 7

6. If you were in the situation presented to you, to what extent would you describe it as:

Arousing _____ **Unarousing**
1 2 3 4 5 6 7

Unstimulating _____ **Stimulating**
1 2 3 4 5 6 7

Interesting _____ **Boring**
1 2 3 4 5 6 7

PLEASE GO TO THE NEXT PAGE

(All Responses Will Remain Confidential)

1. How much experience have you had eating in the type of restaurant described in the situation?
- A great deal of experience _____ 1 2 3 4 5 6 7 _____ Very little experience
2. In general, if you are unhappy with a restaurant experience how likely are you to:
- a. complain? Extremely likely _____ 1 2 3 4 5 6 7 _____ Extremely unlikely
- b. leave the restaurant without receiving your food or completing your meal? Extremely likely _____ 1 2 3 4 5 6 7 _____ Extremely unlikely
- c. suggest to your acquaintances that they should not eat at the restaurant? Extremely likely _____ 1 2 3 4 5 6 7 _____ Extremely unlikely
- d. Return to the restaurant? Extremely likely _____ 1 2 3 4 5 6 7 _____ Extremely unlikely
3. What is your age? _____
4. What is your gender (circle one) M F
5. What is your occupation? _____
6. If you are a student, please indicate: (if you are not a student please go to question 7)
- a. your major _____
- b. Your classification (Jr., Sr, etc.) _____
7. Have you ever worked in a restaurant? (Circle one) Yes No
- If "yes", answer the following questions (if "no", go to question 8).
- a. In what type of restaurant have you worked? (check all that apply)
- ____ Fast food
- ____ Family restaurant
- ____ Fine dining restaurant
- b. What is the total number of years you have worked in restaurants (of all types)? _____
8. How long did this task (including answering all questions) take you to complete (you may want to refer to your starting time on the first page)? _____ minutes

Please indicate anything you found unrealistic about the situation presented to you and any difficulty you had with this survey

THANK YOU FOR YOUR PARTICIPATION