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Delight, Satisfaction, and Behavioral Intentions in a Hospital Setting;the Role of Environmental and Interpersonal Services

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DELIGHT, SATISFACTION, AND BEHAVIORAL INTENTIONS IN A HOSPITAL SETTING: THE ROLE OF ENVIORNMENTAL AND INTERPERSONAL SERVICES

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DEDICATION

I would like to dedicate this dissertation to my beloved wife, *Cindy,*

for her love and full support,

to my angel daughter, *Isabelle*,

for being the joy and blessing of my life.

to my father, *John*,

for his guidance and support from heaven,

to my mother, *Linda*,

for her compassion and unconditional love.

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This doctoral marathon would not have been possible without the support and patience of my entire doctoral committee. Each of them touched my dissertation and my life in a variety of ways. First and foremost, I would like to give my deep appreciation to Dr. William Lundstrom, committee chair, for his guidance, patience and genuine concern. He has been by my side during every step of my journey and assigned priority to my success in the doctoral program. He is a mentor and a friend, and I value the time that we spent together.

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DELIGHT, SATISFACTION, AND BEHAVIORAL INTENTIONS

IN A HOSPITAL SETTING:

THE ROLE OF ENVIRONMENTAL AND INTERPERSONAL SERVICES

Gary J. Robinson

ABSTRACT

Recent attention in the satisfaction literature has focused on the delight construct for its potential to influence behavioral intentions (Chitturi *et al.,* 2008; Loureiro and Kastenholz, 2010; Oliver *et al.,* 1997). The purpose of this research was to examine the impact of customer delight and satisfaction on behavioral intentions by empirically testing a model. Furthermore, the study aims to better understand the influence of environmental and interpersonal service quality dimensions on satisfaction and delight. Data were collected through phone interviews with 250 patients discharged from a mid-western hospital. The model was tested applying structural equation modeling (SEM).

This study is one of few empirical studies on customer satisfaction, delight, and behavioral intentions and the first in a hospital setting. In general, the findings support the proposed model and suggest that: (1) patient delight and satisfaction have positive influences on behavioral intentions; (2) environmental and interpersonal service quality have positive influences on patient satisfaction and patient delight; however, (3) patient satisfaction mediates the relationship between environmental and interpersonal service quality and patient delight.

The results of this study have both theoretical and practical value in that they fill gaps in previous healthcare research on patient satisfaction, delight, and behavioral intentions. Furthermore, the research introduced a new measure of delight that is consistent with an emotions-based conceptualization. Future research should: (1) be extended to different samples; (2) incorporate longitudinal methodology; (3) incorporate other factors; and, (4) continue to assess and refine the measurement of delight.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 Background

For decades, it has been a common belief that success in the marketplace was dependent upon organizations' ability to create satisfied customers (Arnold *et al*., 2005; Parasuraman *et al*.,1985; Reichheld and Sasser, 1990; Rust and Zahorik, 1992, 1993). In fact, early scholars argued that the creation of a satisfied customer was the fundamental core of businesses (Drucker, 1973). Consistent with this argument is the fact that one of the central themes of the marketing concept is delivering products and services that satisfy customer needs (Howard and Sheth, 1969; Kohli and Jaworski, 1990). In return, satisfied customers are expected to exhibit behaviors that are favorable to the company, such as future patronage and making recommendations to others.

Because of the recognized importance of customer satisfaction, it has been a topic that has generated substantial attention among academicians. Emphasis on customer satisfaction often stems from the thought that keeping current customers is much less expensive than attempting to attract new customers. Evidence of this appears in a study of the financial service industry which suggests that increasing customer retention rates by just 5 percent may increase profits from 25 to 80 percent (Reichheld and Sasser,

1990). In addition to customer retention (Bolton, 1998), scholars have produced impressive evidence of the favorable effects of customer satisfaction on various behavioral intention indicators, such as repeat purchase (Szymanski and Henard, 2001), willingness to recommend to others (Homburg *et al.*, 2005), loyalty (Anderson and Sullivan, 1993), and profitability (Anderson *et al.*, 1994; Bernhardt *et al.*, 2000). Equally impressive results have also been found in healthcare research. Satisfied patients are more likely to comply with medical treatment regimens (Ahorny and Strasser, 1993; Williams, 1994), heal faster (Kincey *et al*., 1975) and are more likely to utilize services in the future (Baker, 1990). It is therefore an important business success strategy (Anderson *et al.*, 2004; Yoon and Uysal, 2005).

For hospitals, customer (or patient) satisfaction of the services provided has never been more important. Starting in 2012, reimbursement from government payers for services will begin to be adjusted based on patient evaluations of the services. Under the Patient Protection and Affordable Care Act, a value-based purchasing program was enacted that will pay hospitals based on their actual performance on quality measures which include patient satisfaction. Payments for hospitals could be reduced by 2 percent, depending upon how they rank in terms of patient satisfaction in comparison to other hospitals throughout the United States.

Despite strong evidence for the positive effects of customer satisfaction on behavioral intentions (Anderson and Sullivan 1993; Bolton 1998; Szymanski and Henard 2001), researchers also identified situations in which the correspondence was found to be low (Jones and Sasser, 1995; Mittal and Kamakura, 2001; Reichheld, 1996; Skogland and Siquaw, 2004; Strauss and Neuhaus, 1997). Numerous studies have shown that many

customers who switch are often satisfied with their prior brand experience, with overall switching among satisfied customers across many industries approaching 80% (Jones and Sasser, 1995; Keaveney, 1995; Oliver, 1999; Reichheld, 1996). For example, Jones and Sasser (1995) found that a "satisfied" customer may switch because he or she tends to be indifferent, holding no special preference or commitment to the provider of the service. Likewise, Reichheld (1996) pointed out that car manufacturers in the USA consistently report levels of customer satisfaction in excess of 90%, however repurchase intentions are about 35%. Blackwell, Miniard, and Engel (2006) captured the tone of practitioners' explanation of the contradictory findings, stating "…businesses have begun to realize that simply satisfying customers may not be enough…rather, they should strive for 'customer delight'…" (p. 214). Corporate America, in particular, has begun to embrace this new philosophy, which suggests that merely satisfying customers is inadequate (Keiningham and Vavra, 2001; Kumar and Iyer, 2001; McNeilly and Barr, 2006; Oliver *et al*., 1997). Organizations are now aiming their attention, as well as their resources, to understanding how they can move beyond simply satisfying their customers, to delighting them.

The emphasis on attempting to move beyond customer satisfaction and embrace customer delight as a business goal (Bowden and Dagger, 2011; Finn, 2005; Oliver, 1997) is readily apparent in the healthcare industry. Past efforts to increase patient satisfaction were considered somewhat ineffective, with less than 40% of hospital executives believing they were doing better than they did 10 years earlier (Hoppszaliern, 2001). Recent efforts reflect a new philosophy taken from the hotel and entertainment industries. In fact, the American College of Healthcare Executives awarded Fred Lee the 2004 Book of the Year for, <u>If Disney Ran Your Hospital</u>. In response to hospital interest,

Disney even established a specific program targeted to help health providers "delight" their patients. The author and the program stress the importance of both the cast interactions and the stage in which the performance occurs. In a healthcare environment, the "cast" and "stage" translates to "doctors, nurses and support staff" and "the physical environment of the hospital." Hospital administrators have responded by retraining staff in customer service techniques, as well as, increasing construction of new "hotel-like" facilities. For example, hospital construction costs are estimated to have increased from under $25 billion in 2000 to over $45 billion in 2009 (Hughes, 2005). This construction represents a 34% increase from $34 billion in 2005.

1.2 Statement of the Problem

As a result of practitioner interest, and a key contribution by Oliver *et al*., (1997), a stream of literature developed around the topic of customer delight over the last decade. Oliver *et al*., (1997) proposed an integrative model of the relationship among customer delight, satisfaction and behavioral intentions. The model was tested on a sample of 104 single ticket purchasers to a symphony concert. Satisfaction, acting in parallel with delight, had effects on behavioral intentions. Support for the relationship between delight and behavior intentions has been demonstrated in a variety of subsequent research, in relation to website users (Finn, 2005), rural lodging guests (Loureiro and Kastenholz, 2010), hotel guests (Torres and Kline, 2006), cell phones, laptop computers and automobiles (Chitturi *et al.,* 2008).

Despite the support for the relationship between delight and behavioral intentions in the aforementioned studies, there have, however, been several studies showing

contradictory findings. For example, in a second study of 90 visitors to a wildlife theme park, Oliver *et al.*, (1997) found no relationship between delight and behavioral intentions. Likewise, Bowden and Dagger (2011) did not find a relationship between delight and willingness to return in relation to patrons of a fine dining restaurant. Although Chitturi *et al.*, (2008) found a relationship between delight and positive word-of-mouth communications, a relationship was not found between delight and willingness to return for future services. Wang (2011) found that the relationship between delight and behavioral intentions with restaurant patrons was significant only when satisfaction with the services was at a high level.

As was pointed out in the previous section, despite strong evidence for the positive effects of customer satisfaction on behavioral intentions, researchers also identified situations in which the correspondence was found to be low. Likewise, as this section discussed, although promising, the link between customer delight and behavioral intentions has also been mixed.

1.3 Gaps in the Literature

Although mixed results regarding the consequences of delight remain, recent attention has shifted towards understanding what differentiates an otherwise satisfactory experience from one considered delightful. Research on delight has addressed a variety of perspectives across different industries, such as: core services versus non-core services among restaurant patrons (Wang, 2011); utilitarian versus hedonic customer needs among users of cell phones, computers and cars (Chitturi, *et al*., 2008); and lifestyle clusters among ski resort patrons (Fuller and Matzler, 2008). In addition, there has been

extensive qualitative research in which respondents describe attributes of "delightful" service encounters within various settings, such as hotel encounters (Magnini *et al.,* 2011), retail services (Arnold *et al.*, 2005), and accounting services (McNeilly and Barr, 2006).

One important area that has not received attention in the delight literature relates to the interpersonal and environmental aspects of a service, or what Lee (2004) describes as the "cast" and "stage". This omission is curious, given evidence in the satisfaction and service quality literature that the physical environment in which services are delivered, as well as the interpersonal interactions have been found to influence evaluations (Bitner, 1990, 1992; Mehrabian, 1974; Wakefield and Blodgett, 1999; Parasuraman *et al*., 1985, 1988). It is particularly relevant to the current research, considering the fact that both interpersonal and environmental factors have been reported to be important determinants of how patients evaluate their healthcare experience (Butler *et al.,* 1996; Westaway, 2003).

Interpersonal service quality relates to the interaction that occurs between the service provider and the consumer. In relation to satisfaction and delight, the influence of the interpersonal interactions has been well established (Bitner,1990, 1992; Mehrabian, 1974; Wakefield & Blodgett, 1999; Parasuraman *et al*., 1985, 1988). Empirical evidence demonstrates that interpersonal aspects of services significantly relate to customer satisfaction (Bitner,1990, 1992; Mehrabian, 1974; Wakefield & Blodgett, 1999; Parasuraman et al., 1985, 1988). The relationship has also been found in the healthcare industry in relation to patient satisfaction (Westaway, 2003). And, although not specific to healthcare, it has been shown that interpersonal service quality influences customer

delight in an auto dealership context (Kumar and Iyer, 2001) as well as a hotel context (Torres and Kline, 2006).

Environmental service quality relates to the features of the environment in which the service is provided (Donabedian, 1992). Research regarding the influence of environmental services on delight does not exist. Furthermore, the research on the influence of environmental service quality on satisfaction is not as clear as interpersonal service quality. For example, Parasuraman *et al.,* (1991) reported that services associated with the environment had no effect on customers' overall perceptions of a telephone company, two insurance companies, and two banks. Similarly, Cronin and Tayor (1992) found that the aspects of the service environment had no effect on customers' perceptions of pest control and dry-cleaning services. On the other hand, based on three leisure service settings, Wakefield and Blodgett (1999) found that the physical environment played an important role on behavioral intentions, based on the emotional reactions that were generated. Likewise, Dabholkar *et al.,* (1996) found that the environmental aspects of department stores do influence customers' perceptions, although to a lesser degree than do interpersonal service factors.

As this section discussed, there is a plethora of research on the influence of interpersonal service quality factors on satisfaction and delight within the healthcare industry as well as in other industries. However, given the importance of environmental service quality, the mixed results, and the lack of research on environmental service quality in relation to delight, it is an area that needs to be addressed if the full scope of delight is to be understood.

1.4 Purpose of the Study

The research regarding the influence of delight on behavioral intentions provides mixed results. In addition, two service quality dimensions (environmental/interpersonal) have been identified as important determinants of patient evaluations, however, they have not been examined in relation to delight in the context of an inpatient hospital stay. Therefore the purpose of this study is to develop a model for the hospital industry that specifies the relations between the service quality dimensions (environmental/ interpersonal), patient delight, satisfaction and behavioral intentions (willingness to return and recommend to others). Specifically, the research questions to be answered, in relation to an inpatient hospital context, include:

1. Is patient delight and satisfaction related to behavioral intentions?
2. Are service quality dimensions (environmental/interpersonal) related to patient delight and satisfaction?

1.5 Contributions

The present study is one of the early empirical studies on customer satisfaction, delight, and behavioral intentions, and the first one addressing the healthcare industry. It will provide guidance regarding prior studies which have shown mixed results regarding the relationships between satisfaction, delight and behavioral intentions. Also, while service quality dimensions (environmental/interpersonal) have been shown to be related to satisfaction and behavioral intentions, the current research is the first to investigate the topic in the delight literature. A measure of delight will be presented that is more appropriately aligned with the theoretical definition of delight. This research also

supports literature showing the benefits of incorporating both cognitive and affective concepts when evaluating customer satisfaction and behavioral intentions (Bigne *et al.*, 2003; Mano and Oliver, 1993; Oliver, 1993; Oliver *et al.*, 1997; Westbrook and Oliver, 1991; Wirtz and Bateson, 1999). The practical implications for administrators of hospitals, as well as other service providers, will assist in understanding the relative importance in regard to consumer satisfaction, delight and behavioral intentions, of two important firm assets - people and physical facilities.

1.6 Conceptual Definitions

The following terms are defined to clarify their use in this study:

Behavioral Intentions - Consumer behavior is defined as the dynamic interaction of affect and cognition, behavior, and the environment by which human beings make exchanges (Bennett, 1995). Ajzen (2002) defines behavioral intention as an indication of an individual's readiness to perform a given behavior. In this study, the given behaviors are patients' repurchasing intention and willingness to recommend to others (Pollack, 2009).

Patient Satisfaction – A cognitive evaluation of the sum total of satisfactions with the individual elements or attributes of all the products and services that make up the experience (Pizam and Ellis, 1999; Tse and Wilton, 1988).

Patient Delight - A positive emotional reaction to a service or product that provides unexpected value or unanticipated satisfaction (Chandler, 1989; Schlossberg, 1990).

Interpersonal Service Quality – An evaluation of the process of the interaction that occurs between the service provider and the consumer (patient) (Donabedian, 1988).

Environmental Service Quality - An evaluation of the features of the environment in which the service is provided (Donabedian, 1988).

1.7 Summary

This chapter provided the background for the current study, identified contradictions and gaps in the extant literature, listed the research questions that will be examined, as well as the significance of the study.

Chapter 2 presents the literature review that will be used to develop a conceptual model that integrates service quality dimensions, delight, satisfaction and behavioral intentions. The chapter will culminate in the presentation of research hypotheses and supporting rationale regarding the relationships among the constructs of interest.

Chapter 3 provides a detailed description of the research methodology. Specifically, this chapter explains the design, questionnaire development, sample description, data collection method, and measures of the variables. In addition, the results of a pre-test of the survey instrument and measures will be discussed, as well as the resulting modifications that will be incorporated in the main research.

Chapter 4 provides the analysis of an empirical phone study conducted with 250 patients that were recently discharged from a hospital in the mid-western United States. The data analysis procedures, results of an exploratory factor analysis, test of the measurement and structural equation models, and results of the hypotheses testing will be presented.

Chapter 5 provides a discussion of the results and outlines the theoretical contributions, managerial implications, the limitations and directions for future research.

CHAPTER 2

LITERATURE REVIEW, MODEL AND HYPOTHESES DEVELOPMENT

This chapter begins with a literature review discussing the constructs included in the proposed conceptual model (Figure 2.1). The discussion of the relevant literature builds the case for a model which integrates service quality, patient evaluations and behavior intentions, and concludes with discussion of the associated hypotheses.

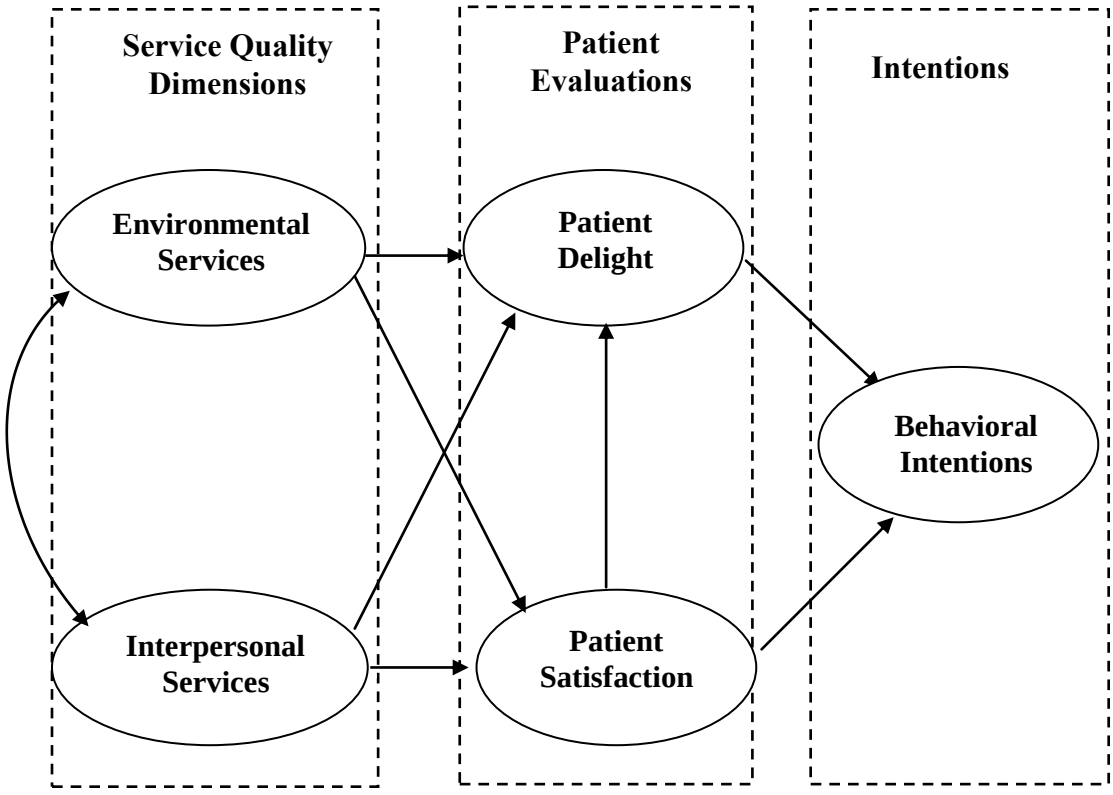


Figure 2.1. Conceptual Model

2.1 Behavioral Intentions

Consumer behavior is a broad concept, and as such can be described in various ways. From a global perspective, consumer behavior is concerned with the processes individuals or groups use to select and use products, services, experiences, or ideas to satisfy needs (Hawkins *et al*., 2007). Ajzen (2002) defines behavioral intention as an indication of an individual's readiness to perform a given behavior. In this study, the given behaviors are repurchasing intention and willingness to recommend to others.

Consumer behavior is also defined as the dynamic interaction of affect and cognition, behavior, and the environment by which human beings make exchanges (Bennett, 1995). Although there has been an abundance of attention to the cognitive-behavioral relationships, there has also been considerable work done on the role of emotions in the behavioral intentions literature (e.g., Laros and Steenkamp, 2005; Phillips and Baumgartner, 2002). It is now widely accepted that behavioral intentions are influenced by emotions (Barsky and Nash, 2002; Cronin *et al.*, 2000; Liljander and Strandvik, 1997; Martin *et al*., 2008). For example, Westbrook (1980) demonstrated that emotions added considerably to the explanatory power of the behavioral intentions models. Researchers examining hedonic consumption have hypothesized that extremely positive, consumption-related emotions are likely to lead to very strong forms of commitment and repurchase intentions (Holbrook and Hirschman, 1982). Likewise, Alford and Sherrell (1996) found emotions to have a direct positive effect on performance evaluations, satisfaction with the service encounter, and repeat patronage intentions. More recently, in an attempt to determine the extent to which satisfaction fosters loyalty, results of a study completed by Skogland and Siquaw (2004) regarding

the perceptions of 364 guests in the hotel industry showed only a weak link between satisfaction and loyalty. The authors concluded that "establishing an emotional connection" was needed to increase the strength of the relationship.

The other major element of Bennett's framework for understanding consumer behavior involves the environment by which human beings make exchanges (Bennett, 1995). The consumer environment refers to everything external to the consumer that influences their affective and cognitive processes (Peter and Olson, 1999). It would include other actors in the consumption experience, such as employees of the organization providing a service, as well as the environment in which the service is provided. Peter and Olson (1999) describe the environmental aspects in two dimensions, which are social and physical. The social environment includes all interactions between and among people. The physical environment includes all the nonhuman, physical aspects of the field in which consumer behavior occurs (Crano and Messe, 1982).

In a service industry, the physical environment is much more controllable compared to the social environment. The social environment includes the interactions of the customer and the employee (Lovelock and Yip, 1996). Consequently, service activities tend to be variable in nature, because activities have to be adjusted or adapted to fit the "immediate expressed needs of a particular customer" (Bitner *et al*., 2000, p. 142). On the other hand, the physical environment provides management a more predictable strategy to address satisfaction and delight. As Wakefield and Blodgett (1999) suggest, the physical environment may, in a sense, become an insurance policy to compensate for service failures on the part of employees.

2.2 Customer (Patient) Satisfaction

Customer satisfaction is thought to be a precursor to behavioral intentions. Scholars have produced impressive evidence of the favorable effects of customer satisfaction on various behavioral intention indicators, such as repeat purchase (Szymanski and Henard, 2001), retention (Bolton, 1998), willingness to recommend to others (Homburg *et al.,* 2005), loyalty (Anderson and Sullivan, 1993), and profitability (Anderson *et al.,* 1994; Bernhardt *et al.,* 2000). Equally impressive results have also been found in healthcare research. Satisfied patients are more likely to comply with medical treatment regimens (Williams, 1994; Ahorny and Strasser, 1993) heal faster (Kincey *et al*., 1975) and are more likely to utilize services in the future (Baker, 1990). It is therefore an important business success strategy (Anderson *et al.,* 2004; Yoon and Uysal, 2005).

Satisfaction is considered to be a global evaluation of a consumer's experience with a product or service offering. Global evaluations of service experiences has been described as a cognitive evaluation of the sum total of satisfactions with the individual elements or attributes of all the products and services that make up the experience (Tse and Wilton, 1988; Pizam and Ellis,1999). Oliver (1980) described satisfaction as a cognitive state resulting from cognitive evaluations between expectations and perceived performance.

Of the many frameworks applied to research the antecedents and consequences of customer satisfaction, the most widely used is the cognitively-based expectancy-disconfirmation paradigm. As the name implies, within the expectancy-disconfirmation paradigm, customer expectations are given a prominent role. Consumer expectations are

beliefs about products or services and act as reference points against which performance is judged (Zeithaml and Bitner, 2003). In other words, expectations are considered to be a standard against which performance outcomes are assessed (disconfirmation). Churchill and Surprenant (1982) describe the process in terms of a cognitive comparison between prior expectations and the perceived performance of a product or service. Consumers are said to be satisfied when actual outcomes exceed expectations in the positive direction (positive disconfirmation), are dissatisfied when outcomes exceed expectations in the negative direction (negative disconfirmation), and are satisfied (or not dissatisfied) when outcomes match expectations (zero or simple disconfirmation)(Oliver, 1981; Oliver and Desarbo, 1988; Szymanski and Henard, 2001.)

Expectations have been the focus of much of the challenges levied against the disconfirmation model, including: the inherent difficulties associated with measuring expectations in different contexts; the absence of a universal comparison standard, and; a "zone of tolerance" around which deviations in outcome are tolerated (Coyle and Williams, 1999; Staniszewska and Ahmed, 1999). These challenges will be discussed in more detail next.

The effectiveness of the expectancy-disconfirmation paradigm is highly dependent upon the context in which it is applied. Expectations have been defined as pretrial beliefs about a product or service that serves as standards against which the product or service performance is judged (Olson and Dover, 1979). These pretrial beliefs (expectations) are formed from a variety of sources, including past experiences, communications provided by the company, and word-of-mouth from other consumers (Joby, 1992). Given this definition, the expectancy-disconfirmation model is most

appropriate when consumers have formed definite pre-consumption expectations regarding how the service experience will be delivered (Fournier and Mick, 1999). The inherent problem relates then to the consumer who has no expectations because they have not had a previous experience, have not been exposed to company generated communications and has not had discussions with others about the experience. These situations are not hard to imagine in relation to healthcare. Consider someone involved in an automobile accident while on vacation. The individual would be taken by an emergency squad to the closest hospital, one in which the patient had no previous awareness of, either through direct experience, friends or family experience or company-generated marketing communications.

Assuming a customer has expectations regarding the service, another issue with the use of expectations relates to the absence of an agreed upon definition of the appropriate comparison standard to use within the expectancy-disconfirmation model. Satisfaction is generally conceived of as a comparison of what "would" happen. However, a variety of comparison standards have been proposed, including predictive expectations of attribute performance (Boulding *et al*., 1993; Oliver, 1996; Tse and Wilton, 1988), equity expectations (Oliver and Swan, 1989), desires (Westbrook and Reilly, 1983) and experience-based norms (Cadotte *et al*., 1987). It is easy to conceive of situations in which multiple comparison standards can be used simultaneously, as suggested by Spreng, MacKenzie, and Olshavsky (1992). Consider a patient requiring an overnight stay in a hospital following a surgery. It would be desirable to have a private room. And, if the cost of the surgery was considered exorbitant by the patient, the desire for a private room may actually be expected based on the equity expectations.

Furthermore, the patient may have been in a private room previously, or have been exposed to marketing materials highlighting the availability of private rooms, which would be an example of experience-based norms.

Within the expectancy–disconfirmation model (Oliver, 1980) framework, consumers are thought to compare perceived performance with prior expectations, and if performance exceeds expectations, then a state of positive disconfirmation exists and the customer is satisfied. However, researchers have recognized different levels of disconfirmation in terms of ‘‘expectedness’’ (Oliver and Winer, 1987). For example, performance experienced within a range of experience-based norms can result in a situation in which expectations are disconfirmed but at a level where slight performance deviations are considered normal. In other words, there are “zones of tolerance” inherent to the expectancy-disconfirmation framework (Oliver and Winer, 1987; Oliver 1989). In one zone, expectations are exceeded, but within a range of reasonableness that does not necessarily provide enhanced levels of attention. Zeithaml *et al*., (1993) describe the zone of tolerance in terms of the expectation standards which are utilized. A zone of tolerance would exist between “adequate” levels of performance and “desired” levels of performance. The difference is what the customer will accept versus what the customer hopes will happen. For example, a patient would ideally desire to have a nurse respond immediately (within 10-15 seconds) of when a patient activates a call light for help. However, patients understand that a nurse may be busy with another patient, so there is a response time, with which the patient may feel is adequate (perhaps within two minutes). Understanding the number of patients that the nurse is caring for, either through conversation, or a general sense of the other patients in rooms near the patient, would

provide the patient with a sense of the response time that they would predict. The satisfaction is then gauged against the actual performance in responding against these different standards.

The expectancy-disconfirmation model, which is based on dis/confirmation is not applicable if the expectations are negatively valenced. Consider a person requiring a surgery, who is expecting a long, painful recovery. A situation in which the fear and anxiety of a painful extended recovery period were confirmed or exceeded, would not result in increased satisfaction. In these situations, the alleviation of the fear or anxiety by not confirming expectations would lead to increased satisfaction. For example, confirmation of predictive expectations of poor service would most likely not instill a desire to repurchase or recommend to others.

The preceding discussion highlights circumstances which complicate the precision of the expectancy-disconfirmation paradigm and provides a basis for understanding why consumer satisfaction does not always translate into the expected behaviors. Despite linkages between satisfaction and behavioral intentions, some have argued that the relationship may not be straightforward (Mittal, *et al*., 1998; Strauss and Neuhaus, 1997). Researchers began to identify situations in which the correspondence was found to be low (Jones and Sasser, 1995; Mittal and Kamakura, 2001; Reichheld, 1996; Skogland and Siquaw, 2004; Strauss and Neuhaus, 1997). Numerous studies have shown that many customers who switch are often satisfied with their prior brand experience, with overall switching among satisfied customers across many industries approaching 80% (Jones and Sasser, 1995; Keaveney, 1995; Oliver, 1999; Reichheld, 1996). For example, Jones and Sasser (1995) found that a "satisfied" customer may

switch because he or she tends to be indifferent, holding no special preference or commitment to the provider of the service. Likewise, Reichheld (1996) pointed out that car manufacturers in the USA consistently report levels of customer satisfaction in excess of 90%, however repurchase intentions are about 35%.

The observed weaknesses in some situations associated with applying the expectancy-disconfirmation model, as well as some inconsistency in the satisfaction-behavioral satisfaction link, lead researchers to assess alternative frameworks altogether, such as perceptions of the quality of the performance of the product or service (Churchill and Surprenant, 1982), and the extent to which the product or service is personalized (Surprenant and Solomon, 1987). Unfortunately, these adaptations of the expectancy-disconfirmation model provided only minimal improvements to the explained variance. However, one of the more promising frameworks addresses a "non-cognitive" paradigm in which emotions are considered central to formulating satisfaction and influencing the subsequent behavioral intentions.

It has now been convincingly shown that satisfaction evaluation processes also include emotions (Alford and Sherrell, 1996; Oliver, 1993; Phillips and Baumgartner, 2002; Westbrook, 1980, 1987; Westbrook and Oliver, 1991). This approach was firmly grounded in the early work of Westbrook (1980) who suggested that, in addition to cognitive factors, satisfaction is partly a function of broader affective influences within the consumer and that these affective variables, and more specifically emotions, add considerably to the explanatory power of the satisfaction model. Not only has emotions been shown to have an impact on customer satisfaction, they have been shown to have a

distinct and separate impact on satisfaction, beyond the influence of cognitive processes, such as disconfirmation of expectations (Dube, *et al*., 1990; Wirtz and Bateson, 1999).

2.3 Customer Delight

As a result of the inconsistent findings regarding the relationship between satisfaction and behavioral intentions, the recognition of the importance of emotions, intense practitioner interest, and a key contribution by Oliver *et al*.,(1997), a stream of literature developed around the topic of customer delight over the last decade (Berman, 2005; Bowden and Dagger, 2011; Chitturi, *et al*., 2008; Finn, 2005; Loureiro and Kastenholz, 2010; Torres and Kline, 2006; Oliver *et al*., 1997; Wang, 2011). Oliver *et al*., (1997) proposed an integrative model of the relationship among customer delight, satisfaction and behavioral intentions. The model was tested on a sample of 104 single ticket purchasers to a symphony concert. Satisfaction, acting in parallel with delight, had effects on behavioral intentions. Support for the relationship between delight and behavior intentions has been demonstrated in a variety of subsequent research, in relation to website users (Finn, 2005), rural lodging guests (Loureiro and Kastenholz, 2010), hotel guests (Torres and Kline, 2006), cell phones, laptop computers and automobiles (Chitturi *et al.*, 2008)

Despite the support for the relationship between delight and behavioral intentions in the aforementioned studies, there have, however, been several studies showing contradictory findings. For example, in a second study of 90 visitors to a wildlife theme park, Oliver *et al.*, (1997) found no relationship between delight and behavioral intentions. Likewise, Bowden and Dagger (2011) did not find a relationship between

delight and willingness to return in relation to patrons of a fine dining restaurant. Although Chitturi *et al.,* (2008) found a relationship between delight and positive word-of-mouth communications, a relationship was not found between delight and willingness to return for future services. Wang (2011) found that the relationship between delight and behavioral intentions with restaurant patrons was significant only when satisfaction with the services was at a high level.

One of the key findings from Oliver *et al*., (1997) was that customer delight is qualitatively different from customer satisfaction. Subsequent research has confirmed and expanded on the distinction between delight and satisfaction (Finn, 2005; Loureiro *et al*., 2011; Oliver *et al*., 1997). For example, Finn (2005), concludes that "there is no evidence to support the view that customer delight is simply capturing a nonlinearity in the effect of customer satisfaction", p. 113. As support, Finn (2005) highlights the distinction between delight and satisfaction constructs as deriving from separate emotional and cognitive sequences. Satisfaction is primarily a cognitive evaluation, while delight is an emotional reaction.

In addition to the cognitive/affective distinction, satisfaction relates to performance compared to expectations, whereas delight relates to unexpected performance. As was discussed previously, research concerning satisfaction has typically adopted a cognitive framework in which a customer judges the performance of the organization against a standard which the consumer expected the performance to be delivered at. On the other hand, delight is described as an emotional reaction extended by the customer when he or she receives a service or product that not only satisfies but also provides an "unexpected" value or "unanticipated" satisfaction (Chandler, 1989).

Another similar perspective conceives of delight as being characterized as an evaluation that is emotionally charged in response to an experience that is out of the ordinary (Verma, 2003) or surprising. In other words, satisfaction relates to meeting or exceeding cognitive expectations whereas delight is related to the emotions associated with getting the unexpected.

Drawing from research in social psychology, delight has been conceived of as a secondary-level emotion, which is characterized by a combination of lower level "primary" emotions such as joy and surprise. This definition has its roots firmly planted in the work of Plutchik (1980) who proposed a ''psycho-evolutionary theory of emotion'' which identified eight basic emotions: joy, acceptance, fear, surprise, sadness, disgust, anger, and anticipation. Arranged in a circular pattern called a circumplex, particular mixes of these basic emotions formed secondary and tertiary dyads. A secondary dyad is a combination of two fundamental emotions resulting in higher-order emotions. Delight is considered one of the secondary, or higher-order dyads, consisting of a combination of joy and surprise (Plutchik, 1980). Building on Plutchik's work, Richins (1997) developed the Consumption Emotion Set (CES), which identifies those emotions most relevant to the marketing discipline. Consistent with Plutchik's research, delight was considered to be a descriptor of the ''joy/pleasant surprise'' cluster. Delight has also been conceived of as a combination of the primary emotions of joy, happiness, and surprise There seems to be agreement that delight appears to result from a ''blend'' of pleasure and arousal, or more specifically, as a combination of joy and surprise (Oliver *et al*., 1997; Arnold *et al*., 2005). Given the preceding, the current research adopts a

definition of delight as a positive emotional reaction to a service or product that provides unexpected value or unanticipated satisfaction (Chandler, 1989; Schlossberg, 1990).

2.4 Service Quality Dimensions

Service quality is a judgment or evaluation that deals with performance patterns, which involves several service dimensions specific to the service delivered (Oliver, 1997; Vinagre and Neves, 2008). The relationship between satisfaction and service quality and their subsequent influence on customer behavior has a long history of research. Early researchers struggled to distinguish between satisfaction and service quality for over two decades. Despite similarities, it is now generally agreed upon that these constructs are distinct (Parasuraman, *et al*., 1988; Bitner, 1990; Carman, 1990; Boulding *et al*., 1993; Spreng and Mackoy, 1996) and that satisfaction and service quality our important antecedents of behavioral intentions. There is convincing evidence that, in addition to customer satisfaction, service quality also has measurable impacts on behavioral intentions (Boulding *et al*., 1993; Cronin and Taylor, 1992; Rust, *et al*. 1995; Zeithaml *et al*., 1996; Zeithaml, 2000). For example, Cronin and Taylor (1992) found a positive correlation between purchase intentions and both service quality and customer satisfaction. The work of Zeithaml, Berry and Parasuraman (1996) focusing on service quality, provided strong empirical support that efforts to improve service quality had positive influences on behavioral intentions. Boulding *et al*., (1993) also found positive correlations between service quality and a 2-item measure of repurchase intentions and willingness to recommend.

Current research is beginning to conclude that the service quality-satisfaction causal direction is the appropriate one, and therefore, has identified service quality as an antecedent to customer satisfaction (Anderson and Sullivan, 1993; Dabholkar, *et al*., 2000; Oliver, 1993; Spreng and Mackoy, 1996; Wong, 2004). For example, Dabholkar, Shepherd, and Thorpe (2000) demonstrated that customer satisfaction strongly mediates the effects of service quality on behavioral intentions. Likewise, Rust and Oliver (1994) suggests that quality is subordinate to satisfaction. In other words, while service quality influences behavioral intention, it generally does so through the mediating role of satisfaction. The current research adopts the more recent view of customer satisfaction being a consequence of service quality.

Although there seems to be consensus forming around the conceptual differences and causal direction between service quality and overall satisfaction, these, and other topics continue to be debated. Opinions are mixed as to whether service quality has a direct relationship with behavioral intentions in all service contexts. For example, using the overall sample from six industries (spectator sports, participative sports, entertainment, health care, long-distance carrier, and fast food), Cronin, *et al*. (2000) concluded that a direct link between service quality and behavioral intentions was significant. However, when the data for the industries were tested separately, the same authors found that "service quality had a direct effect on consumer behavioral intentions in four of the six industries." Interestingly, the two industries in Cronin, *et al*., (2000) study that did not demonstrate a direct link between service quality and behavioral intentions were health care and long distance carrier industries.

Another area of debate relates to the appropriate dimensionality of service quality. Service quality perceptions have been considered as one dimensional and multi-dimensional. Similar to satisfaction, disconfirmation models have dominated the research on service quality as well. Service quality is conceptualized as the difference between what a consumer expects to receive and his or her perceptions of actual delivery. The SERVQUAL model has been used widely and has been inexplicitly tied to a plethora of research directed at service quality satisfaction. At the heart of the SERVQUAL framework is the expectancy-disconfirmation framework which is primarily a cognitive evaluation process. The original framework used to express service quality contained ten dimensions, including; tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication and understanding the customer. These ten dimensions were subsequently represented in a more parsimonious fashion, which includes; reliability, assurance, tangibles, empathy and responsiveness (Parasuramann, *et al*., 1985, 1988; Zeithaml, *et al*., 1990).

Although there has been widespread use of the SERVQUAL instrument, criticism of the lack of consistency regarding the dimensionality and appropriate number of items has been considerable (Gronroos, 1988, 1990; Cronin and Taylor, 1992; Peter, *et al*., 1992; Brown *et al*., 1992; Bebko, 2000). For example, researchers have found from three to five (Llosa, et al., 1998; Levesque and McDougal, 1992), and as many as ten dimensions (Carman, 1990). Although the consistency of the dimensionality has received most of the scrutiny (Cronin and Taylor, 1994), the 22 individual items that constitute the dimensions has also been modified in number and wording to fit the particular service setting. Many researchers (Babakus and Boller, 1992; Lapierre, 1996)

have concluded that the universal conceptualization of the service quality construct is not viable because it is context specific to the industry under consideration. In other words, conceptualization of the service quality measurement should be specified within the context of the specific service being considered. However, an assessment of a sample of hospital specific service quality studies shows that the service quality construct has been described in terms of between 4-8 dimensions with items varying from 15-25 divided among the dimensions. In addition, the specific items have loaded on different dimensions. For example, Lam (1997) found "medical equipment was up-to-date" loaded on the tangibles dimension, whereas, Clemes (2001) found the same item loading on the reliability dimension. Therefore, there is a lack of consensus for the SERVQUAL items, even when looking specifically at the inpatient hospital industry.

Given the aforementioned weaknesses with the SERVQUAL framework, researchers have attempted to segment service quality attributes using a variety of alternative categorization techniques, such as; functional versus ancillary attributes, essential versus subsidiary (Lewis, 1987); functional versus performance-delivery (Czepiel *et al*., 1985), direct versus indirect (Davis and Stone, 1985) and primary versus secondary (Keller, 2003; Kotler and Armstrong, 2004; Rust, Zahorik and Keiningham, 1996). Although a variety of different naming conventions have been used, the categories all fall under a general umbrella of being either "core" or "non-core" attributes. Core attributes are those features considered essential in providing a solution to the specific customer need. For example, the "core" services for a hospital patient would be procedures provided by care givers (physicians, nurses and technicians) in relation to the diagnosis and treatment of the specific illness. The expectations would be that they were

skilled in the procedures and treatments related to the particular illness. Non-core services consist of all attributes that are ancillary to the core services, such as available parking or the cleanliness of the facilities. Core attributes are considered to be the basic requirements expected of all providers of the service if any level of satisfaction is to be attained (e.g. Kano *et al*., 1984; Keiningham and Vavra, 2001; Rust and Oliver, 2000). If mere satisfaction is absent on core attributes, the ability to delight customers is unattainable (Zeithaml and Bitner, 2003). For example, Wang (2011) found that the relationship between delight and behavioral intentions with restaurant patrons was significant only when satisfaction with the service quality was at a high level.

Another popular categorization technique, particularly relevant to the current research, conceives of categorizing service quality from the perspective of the people versus the actual facilities. There have also been a variety of naming conventions used to distinquish between the people and facilities, such as; tangible versus intangible, human versus capital, interpersonal versus organizational, to name few. The current research categorizes service quality in terms of interpersonal and environmental because they have also been identified as two key dimensions patients use to evaluate their healthcare experience (Butler et al., 1996; Westaway, 2003). Interpersonal service quality relates to the interaction that occurs between the service provider and the consumer while environmental service quality relates to the features of the environment in which the service is provided (Donabedian, 1992). Conducting research in the health care industry, Dagger *et al*. (2007) found support for a similar classification of dimensions represented by interpersonal quality and environment quality. The interpersonal attributes drew on previous research in defining interpersonal quality as a reflection of the relationship

developed and the dyadic interplay between a service provider and a user (Brady and Cronin, 2001; Grönroos, 1984). The themes that are characteristic to interpersonal service quality include the attitude/attention/caring and communication of the physician, nurses and technicians (Bitner, Booms, and Tetreault, 1990; Brady and Cronin, 2001; Dagger *et al*., 2007). Environmental quality includes more "tangible" attributes in the room such as the temperature, cleanliness, noise levels and food quality.

In relation to satisfaction and delight, the influence of the interpersonal interactions has been well established (Bitner,1990, 1992; Mehrabian, 1974; Wakefield & Blodgett, 1999; Parasuraman et al., 1985, 1988). Empirical evidence demonstrates that interpersonal aspects of care significantly relate to customer satisfaction (Bitner,1990, 1992; Mehrabian, 1974; Wakefield & Blodgett, 1999; Parasuraman *et al*., 1985, 1988). The relationship has also been found in the healthcare industry in relation to patient satisfaction (Westaway, 2003). And, although not specific to healthcare, it has been shown that interpersonal service quality influences customer delight in an auto dealership context (Kumar and Iyer, 2001) as well as a hotel context (Torres and Kline, 2006).

The research on the influence of environmental service quality and satisfaction is not as clear as interpersonal service quality. For example, Parasuraman *et al.,* (1991) reported that service environment factors had no effect on customers' overall perceptions of a telephone company, two insurance companies, and two banks. Similarly, Cronin and Tayor (1992) found that the tangible aspects of the service environment had no effect on customers' perceptions of pest control and dry-cleaning services. On the other hand, based on three leisure service settings, Wakefield and Blodgett (1999) found that the physical environment played an important role in behavioral intentions, based on the

emotional reactions that were generated. Likewise, Dabholkar *et al.*, (1996) found that the service environment of department stores do influence customers' perceptions, although to a lesser degree than do interpersonal service factors.

The influence of environmental service quality attributes on delight has not been investigated. However, based on research in environmental psychology, consumers' reactions to the service environment have been shown to be emotional in nature (Russel and Pratt, 1980; Wakefield and Blodgett, 1999). Furthermore, research has shown that the extent of environmental aspects influence on consumers' affective responses (emotions) are especially pronounced when the consumer spends extended periods of time observing and experiencing the service environment (Bitner, 1992; Wakefield and Blodgett, 1999). Consistent with this rationale are findings in a hospital setting, that showed the physical facilities (cleanliness, modern equipment, etc.) were related to perceived patient satisfaction (Andaleeb, 1988). More recently, Swan et al., (2003) showed that room appearance affects patient perceptions and satisfaction.

2.5 Affective and Cognitive Evaluations

2.5.1 The Dynamic Interplay of Affect and Cognition

Researchers have observed that affective and cognitive models of satisfaction coexist in the evaluative process (Arnold et al., 2005; Mano and Oliver, 1993; Oliver, 1997). Although the precise nature of the relationship between emotion and satisfaction continues to be debated, it is now widely accepted that emotions may be one of the core components of the consumer satisfaction - behavioral intentions relationship (Barsky and Nash, 2002; Oliver and Westbrook, 1993; Strauss and Neuhaus, 1997). Many have

argued that to obtain reliable predictions of consumer responses, cognitive and affective (emotional) influencers must be modeled simultaneously (Barsky and Nash, 2002; Bigne *et al.,* 2003; Martin *et al.,* 2008; Oliver *et al.,* 1997; Phillips and Baumgartner, 2002; Wirtz and Bateson, 1999; Yu and Dean, 2001). Emotional influences do not deny the role of cognitive processes such as expectancy confirmation (disconfirmation), but rather combine with them in a dynamic interplay to impact the determination of consumer satisfaction. A schema-theoretic framework is discussed in the next section as an alternative approach in which to conceptualize the recognition that an event is divergent from expectations. The major benefit of a schematic-theoretic framework over the more traditional expectancy-disconfirmation framework is its robustness in terms of accommodating both cognitive and emotional information processes.

2.5.2 Schema-Theoretic Framework

According to the schema-theoretic theory, perception, thought and action are heavily influenced by complex knowledge structures, called schemata (Mandler, 1984; Meyer, 1997; Rumelhart, 1984; Taylor and Crocker, 1981). These associative networks organize and link many different types of knowledge about products, situations and experiences together. For example, when a person thinks of going to a hospital, thoughts regarding the experience are activated, such as; the appearance of the hospital, the equipment in the hospital room, etc. A related concept is that of scripts. Script networks work similarly to those of schema in terms of understanding incoming information from the environment, however, scripts are an organized network of "process" knowledge. Continuing with the hospital stay example, a script would relate more to the process or

steps that come to mind, such as; trying to find parking, approaching the reception desk upon arrival, completing paper work, etc.

Individuals continuously check whether their cognitive or emotional schema or script matches the inputs coming from the surrounding environment (Vanhamme and Snelders, 2001). If incoming information is consistent with the schema or script, then it is said to be congruent. If, however, the incoming information is divergent or incongruent from what is expected from the activated schema or script, then additional processing is required. Continuing with the hospital stay, an example of a schema deviation would be having a private room, or a deviation from a script would be arriving and checking in on an automated kiosk, similar to the ones being used by many airlines. When someone experiences a service experience that is unexpected, a schema or script discrepancy occurs, and the person's emotional response is that of surprise which is then processed at another level (e.g. Meyer *et al*. 1991; Meyer *et al*., 1997; Reisenzein, 2000). Meyer *et al*., (1997) provides a concise explanation for the process which is elicited when an incongruency of an activated schema or script is detected:

> "…as long as there is congruence between activated schemata and the events that are encountered, the interpretation of these events and the execution of appropriate actions runs off in a largely automatic (i.e., effortless, unconscious, and undeliberate) fashion. In contrast, if a discrepancy between schema and input is detected, surprise is elicited, schematic procession is interrupted, and a more effortful, conscious, and deliberate analysis of the unexpected event is initiated" (p. 253.)

Taking a diagnostic view of the process suggested by Meyer *et al*., (1997) would support a symbiotic relationship between cognitive and emotional processes.

2.5.3 The Element of Surprise

Surprise is the emotion occurring when an individual experiences a situation or event that is not consistent with the schema associated with the service experience or attributes. The individual then attempts to eliminate the inconsistency through cognitive processes: interruption and elaboration of normal processing; amplification of other emotions; and, enhancement of memory. These processes are discussed next.

Surprise stands out in particular as an emotion resulting in an "interruption" of ongoing activity. This interruption allows people to take in as much information as possible about a target in the environment (Charlesworth 1969; Darwin, 1872). Izard (1977) contends that a focusing of attention on the unexpected event follows the interruption of activities and results in a heightened consciousness of the surprising stimulus at the expense of other stimuli (Charlesworth, 1969; Niepel *et al*., 1994). The interruption of ongoing activities and subsequent focusing of attention on the surprising event enhances processing of that attribute at the expense of other facets of the encounter (Kahneman, 1974).

Ekman and Friesen (1975) explain that surprise results from a schema-discrepancy (or an unexpected event) often followed by another emotion that colors it either positively (e.g. surprise + joy) or negatively (e.g. surprise + anger). Combining surprise with any of the other emotions results in amplification of those other emotions (Charlesworth 1969; Desai 1939). In other words, when combined with other emotions (positive or negative) the emotion felt is intensified. For example, someone who has just been surprised by an unexpected positive or negative event will experience more joy or more anger than someone who has not been surprised. Oliver (1997) specified that the

highest levels of satisfaction occur when arousal is at its highest level, specifically a combination of surprise and joy leads to the highest levels of arousal (Oliver and Westbrook, 1993; Westbrook and Oliver 1991). Researchers documented several studies in which the emotional profiles of respondents reported similar levels of positive affect, however their profiles and subsequent behavioral intentions differed in terms of their combination of fundamental emotional pairings, with those experiencing joy and surprise, exhibiting the highest levels (Mano and Oliver, 1993; Oliver and Westbrook 1993; Westbrook and Oliver, 1991).

Enhanced emotional level is also thought to leave stronger traces in memory, which makes it more easily retrieved (e.g. Meyer *et al*., 1997). Research on social perception and judgment shows that more accessible knowledge about a stimulus will disproportionately influence judgment about the stimulus (Bruner, 1957; Higgins, 1996; Wyer and Srull, 1989). Applied to consumer evaluations, an attribute of the service encounter that elicits positive or negative affective reactions, either during the service encounter or during retrieval of the event, will have a larger impact if it is surprising, because it is much more likely to be accessible in memory at a later stage and will have a disproportionate influence on the final satisfaction judgment relative to service encounters that were not surprising.

2.5.4 Affect, Cognition and Credence Attributes

There is debate on the sequence and interplay between cognition and affect. One school of thought suggests cognition occurs prior to affective reactions (Bigne *et al.*, 2003; Lazarus, 1982). However, others have conceptualized affect as the precursor of

cognition (Solvic *et al*., 2002; Zajonc 1980, 2000). A more likely scenerio is proposed by Epstein (1994) who suggests a "dual-processing theory" in which cognitive analysis is more important in some decision making circumstances, however, reliance on affect and emotion is a quicker, easier, and more efficient way to navigate in others.

Nelson (1970) conceptualized two categories of qualities for consumer goods: search and experience attributes. Search attributes are ones a consumer may evaluate before purchase of the good. Experience attributes are ones that can only be evaluated during or after consumption. Darby and Karni (1973) added a third category, credence attributes which refer to attributes that a consumer may not be able to evaluate even after purchase and consumption. For example, a heart procedure is high in credence attributes and may not be assessable even after the procedure is performed. Aside from correction of the heart illness, few patients possess the ability to evaluate the procedure itself (e.g., size of the incision, proper stitching technique used, quality of blood flow, etc.). Researchers have shown that affective responses may be better predictors of satisfaction than purely cognitive processes such as disconfirmation in situations in which services are said to have high credence attributes (Alford and Sherrell, 1996; Dube, 1990; Wyer and Srull, 1989). Customers are thought to rely on congruency with intuitive logic, guided by scripts and schemas (Alford and Sherell, 1996), as an alternative to the more cognitively-based, expectancy-disconfirmation framework. For the most part, consumers rely on sensory cues to evaluate these experiences rather than cognitive processes designed to understand the reasons why the experience is either pleasurable or not.

2.6 Conceptual Model and Research Hypotheses

This section consolidates and discusses the main points of the literature review that support the hypothesized relationships depicted in Figure 2.2.

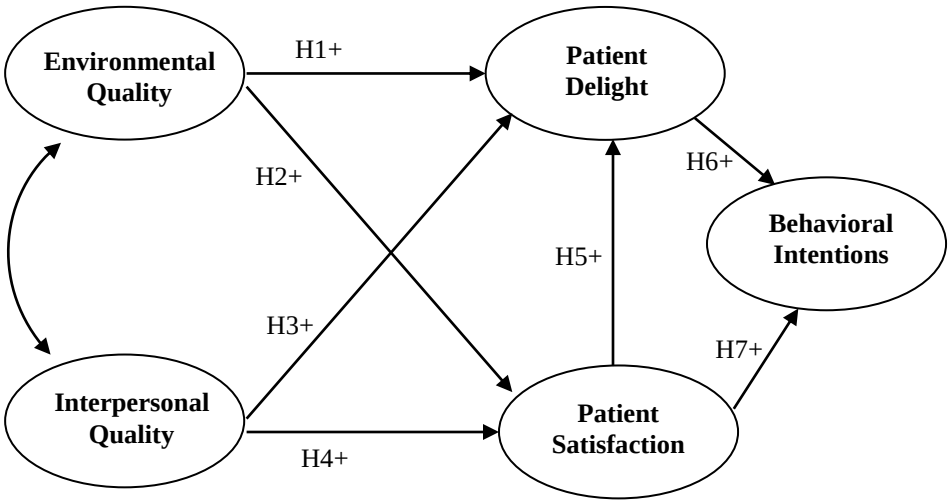


Figure 2.2 Conceptual Model & Hypotheses

2.6.1 Environmental Services, Patient Delight and Satisfaction

Based on research in environmental psychology, consumers' reactions to the service environment have been shown to be emotional in nature (Russel and Pratt, 1980). Since delight is a positive emotional reaction to a service or product (Chandler, 1989; Schlossberg, 1990), the emotions associated with the service environment should be positively related to patient delight. Furthermore, research has shown that the extent of the influence of the service environment on consumers' affective responses (emotions) are especially pronounced when the consumer spends extended periods of time observing

and experiencing the service environment, such as a hospital stay. (Bitner, 1992; Wakefield and Blodgett, 1999). Therefore;

H1: Environmental services are positively related to patient delight.

Past research has shown contradictory findings regarding the effect of the environment on customer satisfaction. A possible explanation of this effect being found in a hospital setting, when it was not found in other settings, relates to the idea that environmental aspects are more likely to influence consumers' responses when the consumer spends extended periods of time observing and experiencing the service environment, such as a hospital stay (Wakefield and Blodgett, 1999). Past studies, in which no effect was found, focused on service encounters of a relatively short duration, such as travel agencies, banking, insurance, dry cleaning, pest control, fast-food restaurants and public utilities (Bitner, 1990; Cronin and Taylor, 1992; Parasuraman *et al.*,1991; Zeithaml *et al*., 1996). Exposure to the actual facilities is extremely limited, relative to a hospital stay which typically averages 4 days in length. Additional support for this rationale is the fact that these results support similar findings in hospital settings in which aspects of the physical facilities (cleanliness, modern equipment, room appearance) were found to be related to perceived patient satisfaction (Andaleeb, 1988; Swan *et al.*, 2003). Therefore;

H2: Environmental services are positively related to patient satisfaction.

2.6.2 Interpersonal Behaviors, Patient Delight and Satisfaction

Although not specific to healthcare, research has shown that interpersonal behaviors influenced customer delight in an auto dealership context (Kumar and Iyer, 2001) as well as a hotel context (Torres and Kline, 2006). Others (Arnold *et al.,* 2005; Verma, 2003) have identified interpersonal services as important contributors to delight, by utilizing qualitative research techniques in which respondents described attributes considered to represent "delightful" service encounters. Therefore;

H3: Interpersonal services are positively related to patient delight.

In satisfaction and service quality literature, interpersonal interactions have been found to influence evaluations (Bitner,1990, 1992; Mehrabian, 1974; Wakefield & Blodgett, 1999; Parasuraman *et al*., 1985, 1988). Interpersonal aspects of care have also been shown to be significantly related to patient satisfaction (Westaway, 2003).

H4: Interpersonal services are positively related to patient satisfaction.

2.6.3 Patient Delight, Satisfaction & Behavioral Intentions

Core attributes are considered to be the basic requirements expected of all providers of the service if any level of satisfaction is to be attained (e.g. Kano *et al*., 1984; Keiningham and Vavra, 2001; Rust and Oliver, 2000). If mere satisfaction is absent on core attributes, the ability to delight customers is unattainable (Zeithaml and Bitner, 2003). For example, Wang (2011) found that the relationship between delight and

behavioral intentions with restaurant patrons was significant only when satisfaction with the service quality attributes was at a high level. In other words, satisfaction on expected services, regardless of whether they are environmental or interpersonal, are necessary conditions for delight to occur. Therefore,

H5: Patient satisfaction is positively related to patient delight.

Westbrook and Oliver (1991) conceptualize consumption emotions as a set of emotional responses elicited specifically during a product usage or consumption experience. Furthermore, these emotions leave strong affective traces or "markers" in episodic memory when they have been elicited during consumption experiences. When an evaluation of the relevant consumption experience (or its associated product or service) is required, the affective traces are readily retrieved and their valences integrated into the evaluative judgments. The emotion of joy would therefore create positive memory traces to be retrieved at the time of evaluation. In addition, one of the characteristics of the surprise emotion is that combining it with any of the other emotions results in amplification of those other emotions (Charlesworth 1969; Desai 1939). In addition to amplification of other emotions, surprise is expected to create: interruption of normal processing and elaboration of the source of surprise, which in turn leaves stronger traces in memory for the surprising occurrence. The interruption of ongoing activities and subsequent focusing of attention on the surprising event enhances processing of that attribute at the expense of other facets of the encounter (Kahneman, 1974). This enhanced processing, coupled with the amplification of the joy emotion, is thought to

leave stronger traces in memory, which makes it more easily retrieved (e.g., Meyer *et al*., 1997). Emotions associated with delight are expected to create traces in memory that are more easily retrieved when consumers are assessing behavioral intentions (Meyer *et al*., 1997). Support for the relationship between delight and behavior intentions has been demonstrated among symphony goers (Oliver, *et al*., 1997), in relation to website users (Finn, 2005), rural lodging guests (Loureiro and Kastenholz, 2010), hotel guests (Torres and Kline, 2006), cell phones, laptop computers and automobiles (Chitturi *et al.*, 2008). Therefore;

H6: Patient delight is positively related to behavioral intentions.

Experiencing positive service encounters creates a desire for future recurrences (Hirschman & Holbrook, 1982; Zuckerman 1979). A positive relationship between satisfaction and behavioral intentions has been overwhelmingly supported (Bowden and Dagger, 2011; Chitturi, *et al*., 2008; Finn, 2005; Loureiro and Kastenholz, 2010; Oliver *et al.*, 1997; Torres and Kline, 2006). Therefore;

H7: Patient satisfaction is positively related to behavioral intentions.

2.7 Summary

In a seminal article, Oliver *et al*. (1997) provided a structural foundation for investigating the antecedents and behavioral consequences of customer delight. This research was a call that delight is an important aspect of the link between satisfaction and

behavioral intentions. The authors suggested further research directed at exploring the conceptual domain of delight and corresponding empirical testing.

Throughout the literature review, similarities and differences among the concepts of delight and satisfaction have been discussed. Although debate continues regarding the distinction of the concepts, recent research seems in agreement that there are many situations in which the two concepts are distinct (Dabholkar, 1995; Iacobucci *et al*., 1995). One of the distinctions often cited is customer satisfaction being considered a more complex concept that includes both cognitive and affective components (Oliver, 1997). Satisfaction measurement has usually been considered mostly from a cognitive framework. Integrating delight into the model would provide the affective (emotions) based portion that has often been omitted in the past.

The concept of delight is important and distinct and should be treated somewhat differently than the traditional techniques used to conceptualize patient satisfaction. This, however, has not been the case in much of the previous research on the topic. Many academicians have framed the concept of customer delight as an extreme level of satisfaction (Kumar *et al*., 2001; Oliver *et al*., 1997; Rust *et al*., 1996). Others have taken the view that the current research proposes, which suggests that delight is an entirely different, albeit related, construct from satisfaction and that it should not be considered as merely the extreme level of the satisfaction continuum.

The research regarding the influence of delight on behavioral intentions provides mixed results, perhaps in part due to the inconsistent interpretation of past research on the topic. In addition, two service quality dimensions (environmental and interpersonal) have been identified as important determinants of patient evaluations, however, they have

not been examined in relation to delight in the context of an inpatient hospital stay. The sparse literature relating delight to service quality is curious, given the inexplicit relationship between satisfaction and service quality and their subsequent influence on customer behavior has a long history of research (Boulding *et. al.*, 1993; Cronin and Taylor, 1992; Zeithaml *et al*., 1996; Zeithaml, 2000). Therefore the purpose of this study is to test a model for the hospital industry that examines the relations between the service quality dimensions (environmental and interpersonal), patient delight, satisfaction and behavioral intentions (willingness to return and recommend to others). A summary of the hypothesized relationships is listed in Table 2.1.

Environmental Services, Patient Delight and Satisfaction

H1: Environmental services are positively related to patient delight.

H2: Environmental services are positively related to patient satisfaction

Interpersonal Services, Patient Delight and Satisfaction

H3: Interpersonal services are positively related to patient delight.

H4: Interpersonal services are positively related to patient satisfaction.

Patient Delight, Satisfaction and Behavioral Intentions

H5: Patient satisfaction is positively related to patient delight.

H6: Patient delight is positively related to behavioral intentions.

H7: Patient satisfaction is positively related to behavioral intentions.

Table 2.1 Summary of Hypotheses

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

A description of the research methodology, including the research design, sampling frame, data collection method, questionnaire, and measurement of variables used to test the hypotheses will be presented. In addition, there will be discussion of the results of a pre-test that was conducted for the purpose of assessing the wording flow of the questionnaire, construct dimensionality and initial items used to represent the constructs. The chapter will conclude with a discussion of the modifications suggested based on the pre-test findings.

3.1 Research Design

3.1.1 Rationale for Research Method

The current research incorporates a cross-sectional research design. There are advantages and disadvantages to the cross-sectional design compared to an experimental

design. The cross-sectional design is based on respondent's recall of a past experience. Additionally, the research addresses a single point in time and therefore does not address previous circumstances that may have impacted the results, such as a longitudinal design. Despite these shortcomings, this design is preferred over an experimental design for several important reasons. Perhaps the most important advantage is the superior generalizability and greater external reliability because they are based on actual experiences (Churchill and Iacobucci, 2005). In addition, a large set of variables can be assessed. And, emotionally-based evaluations are difficult to replicate in an experimentally simulated environment. Since emotion is hypothesized to play a key role in the research, as well as the other advantages discussed in this section, the cross-sectional design was selected.

3.1.2 Sampling Frame and Data Collection Method

The sample includes patients' evaluations of a recent stay at a hospital located in the mid-west of the United States. An inpatient hospital stay was selected over other types of health care experiences, such as a visit to a primary care physician office or an outpatient procedure, for several reasons. An overnight stay at a hospital involves a wider range of exposure to a variety of attributes such as eating food, sleeping arrangements and other boarding services that are not available in other healthcare settings. In addition, the average length of stay at a hospital is four days. This provided patients ample opportunity to be exposed to the environmental aspects of the facility. This was an important consideration, given the criticism of previous studies regarding environmental attributes (Wakefield and Blodgett, 1999).

A phone survey utilizing quantitative and qualitative measures was conducted with the patients' regarding their stay. The phone survey was conducted 2-3 weeks following their stay, and required approximately 15 to 20 minutes to complete. Completion rates for the survey instrument was 40% (76 respondents out of sample of 190). Additionally, a qualitative assessment was conducted to supplement the interpretation of the results and provide more depth on the attributes patients considered delightful.

3.1.3 Survey Instrument

A copy of the phone survey appears in Appendix A. The parts of the survey instrument that were relevant to the current research include the questions related to service quality, patient satisfaction, patient delight and behavioral intention. There was also a question that probed respondents to identify surprising or unexpected services that were encountered during their stay. There were also several demographic questions used as control variables. With the exception of delight, most of the measures were adapted from previous research, which is the topic of the next section.

3.2 Measurement

The survey items for each construct, as well as the sources of previous studies utilizing the items appears in Table 3.1. A detailed description of each is discussed next.

3.2.1 Behavioral Intentions Measure

A 2-item measure is utilized to evaluate behavioral intentions. The two types of behavioral intentions measured include intentions to repatronize, and intentions to engage in positive word-of-mouth communication. Both behavioral intentions were measured on a 7-point scale, adapted from Tax *et al*. (1998). The anchors were changed to be consistent with the other scales used on the questionnaire.

3.2.2 Patient Satisfaction Measure

The patient satisfaction scale is composed of four items used in past research to measure satisfaction with hospital services. Consistent with Vinagre and Neves (2008), the scale reflects the relationship between patient's hospitalization and their satisfaction, taking into account a series of hospital service characteristics. The scale consists of 4 items and includes: "Overall, I was satisfied with the doctors"; "Overall, I was satisfied with the nurses"; "Overall, I was satisfied with the support services"; and, "Overall, I was satisfied with the hospital". The items are measured on a 7-point scale.

3.2.3 Patient Delight Measure

Oliver *et al*., (1997) was one of the first to conceptualize customer delight as a distinct construct from customer satisfaction. Although a stream of articles resulted from this seminal article, very few questioned the measurement model in general and the validation of the measurement scales in particular. An exception was the work of Finn (2005) who questioned the items used to measure the theoretical concepts. Of particular relevance to the current research was the manner in which delight and surprise were

conceptualized and measured. Finn (2005) pointed out that Oliver *et al*., (1997) used measures of surprising consumption that were not distinguishable from their measure of disconfirmation. In other words, they used traditional satisfaction constructs as their measure of delight. In addition, Finn (2005) appropriately criticized the validity of not including the emotions of surprised and astonished in their measure of surprising consumption, when in fact their factor analysis suggested this was appropriate.

Convincing evidence demonstrates that because delight and satisfaction are distinct constructs, delight should not be considered as the extreme level of satisfaction (Finn, 2005; Kwong and Yau, 2002; Loureiro and Kastenholz, 2011; Oliver *et al.,* 1997). In fact Oliver *et al.,* (1997) suggest that future research should examine the concept of delight as separate and apart from satisfaction. However, much of the research on delight has inappropriately treated delight as the extreme form of satisfaction, instead of a distinct emotions-based one (Ngobo, 1999; Keiningham *et al.,* 1999; Kumar and Iyer, 2001; Verma, 2003; McNeilly and Barr, 2006). Others have used single and multi-item emotions-based measures (Oliver *et. al.*, 1997; Finn, 2005; Burns and Neisner, 2006; Chitturi *et al*., 2008; Loureiro and Kastenholz, 2011; Wang, 2011).

Consistent with its theoretical origins, the current research approaches the identification of items from the perspective that they should include emotionally-based items as opposed to the extreme form of the satisfaction measure. Emotions-based measures, although used frequently in the psychology literature, are relatively new to the consumer satisfaction field, and as such, the psychometric properties must be clearly established. Drawing from research in social psychology, delight has been defined as a secondary-level emotion, which is characterized by a combination of the lower level

"primary" emotions of joy and surprise (Plutchik, 1980; Richins, 1997; Oliver *et al.*, 1997). An initial pool of items was generated to reflect the two dimensions of delight, joy and surprise. Item generation relied on published, popular, and theoretical conceptions of the delight construct, extracted from a comprehensive review of the literature.

Early research utilizing the joy construct borrowed items based on the work of Izard (1977) and Plutchik (1980). Measures used in the past to represent the joy emotion have included joyful, delighted and pleased (Westbrook and Oliver, 1991; Richins, 1970).

Similar to the emotion of joy, early research measurement of surprise relied on borrowed items based on the work of Izard (1977) and Plutchik (1980). For example, Westbrook and Oliver (1991) and Allen, Machleit, and Kleine (1992) used a 3-item scale consisting of "surprised," "astonished" and "amazed." Each of the various items demonstrated adequate reliability in the context of the research to which it was applied. Westbrook and Oliver (1991) reported alpha of .77 for the scale and Allen, Machleit, and Kleine (1992) calculated alpha of .83. However, Mano and Oliver (1993), found that the core emotions loading the highest on the factor they labeled surprise was "surprised", "astonished" and "inspired." More contemporary work conducted specifically with regard to delight has utilized "surprised," "astonished" and "excited" as items to represent the surprise construct (Finn, 2005).

Based on the literature review, six items associated with the two dimensions of delight were selected for inclusion into the initial item pool. The six items included: delighted, pleased, joyous, astonished, surprised and excited. Each of the items selected

were formatted into a 7-point (strongly disagree to strongly agree) Likert-type response scale.

3.2.4 Service Quality Dimensions

A 15-item scale was constructed based on adaptations of previous measures and a review of the literature. Many of the items were adapted from items used specifically in healthcare settings (Westaway *et al*., 2003; Butler *et al*., 1996). These articles related specifically to environmental and interpersonal aspects of healthcare. For example, Westaway *et al*., (2003) demonstrated the importance of assessing satisfaction with specific attributes of the interpersonal relationship, along with the attributes of the settings in which care occurs. The items included are listed in Table 3.1 Each of the items selected were formatted into a 7-point (strongly disagree to strongly agree) Likert-type response scale.

Measures	Item (Sources)
Behavioral Intentions • 2-items, • 7-point Likert-type scale • 1 = strongly disagree, 7=strongly agree	(Tax *et al*., 1998) • Return • Recommend
Patient Satisfaction • 4-items, • 7-point Likert-type scale • 1 = strongly disagree, 7=strongly agree	(Vinagre & Neves, 2008) • Doctors • Nurses • Support staff • Hospital
Service Quality: ***Interpersonal Dimension*** • 10-items, • 7-point Likert-type scale, • 1=strongly disagree, 7=strongly agree ***Environmental Dimension*** • 5-items, • 7-point Likert-type scale, • 1=strongly disagree, 7=strongly agree	(Westaway *et al*., 2003; Butler *et al*., 1996) ***Interpersonal Dimension*** fulfilled promises • kept promises • staff skill/knowledge • kept informed • timely response • attentive • courteous • coordinated care • individual attention • concern • caring towards special needs ***Environmental Dimension*** • equipment • cleanliness • food quality • noise levels • comfort
Patient Delight: ***Joy Dimension*** • 3-items, • 7-point Likert-type scale, • (1=strongly disagree, 7=strongly agree) ***Surprise Dimension*** • 3-items, • 7-point Likert-type scale, • (1=strongly disagree, 7=strongly agree)	(Izard, 1977; Plutchik, 1980; Westbrook and Oliver, 1991; Allen, Machleit, and Kleine 1992) ***Joy Dimension*** • joyful, • delighted • pleased ***Surprise Dimension*** • astonished • surprised • excited

Table 3.1. Summary of Major Variables

3.3 Pre-test

The primary objective of the pre-test was to test the questionnaire for problems with the flow, wording, phrasing, interpretation of the questions and the need for item and dimensionality modification. An exploratory factor analysis (EFA) was conducted using the Statistical Package for the Social Sciences (SPSS 19.0) for initial validation of the subscale items and assessment of dimensionality for each of the constructs. Given the relatively small size (N=76) of the pre-test, the overall measurement model fit was not assessed. In this section, respondent profiles, results of initial data screening procedures for the variables, results of the EFA and the subsequent modifications are described.

The questionnaire was administered over the phone to a sample of 190 patients discharged between December, 2008 and February, 2009 from two hospitals located in the mid-western United States. The data were collected by professional interviewers. Guidelines for respondent eligibility were provided to insure that the respondent was the actual patient and not a friend or family member. Patients in intensive care units and psychiatric care were omitted from the survey. The phone survey was conducted within 2-3 weeks following the patient stay. A research supervisor contacted 10% of the respondents to verify that the interviews were conducted properly and to check for response consistency. Table 3.2 shows that the 76 completed surveys represented a response rate of 40%.

Call Disposition	Number	Percentage
Completed Survey	76	40%
Refused Survey	58	31%
Terminated Early	56	29%
Total Sample Size	190	100%

Table 3.2. Pre-test Sample Profile

3.3.1 Respondent Profile

This section of the chapter presents a review of the patient respondents based upon their gender, age, education level and previous experience with the hospital. When available, comparative data was collected for all hospital patients discharged during a similar time period and is reported under the column heading, "Hospital Percent."

Gender

As presented in Table 3.3, approximately one half (51.3%) of the respondents were female, compared to just under one half (48.7%) male. These distributions are somewhat different from the total hospital patients discharged during the survey period with females (63%) and males (37%). The sample includes about 11% more males than would typically be discharged from the hospital in a similar time period.

Age

The "64-79" age cohort represented the largest responding age group, followed by the "48-63" age group with just under 62% of the total respondents falling into these two categories. Only 9.2% of the respondents were below the age of 32 years old. These distributions are fairly representative of the overall patient age groups typically discharged from the hospital over a similar time period.

Education

Approximately 42% of the patient respondents reported high school as their highest education level attained, followed by college graduates (26.3%). Only two (2.6%) of the respondents refused to report their education level attained on the survey. No hospital comparative information is available for this variable.

Hospital Admissions

Respondents were asked to report the number of times they had been a patient over the past ten years, including the most recent admission. Approximately three quarters (77.6%) reported that they had been admitted to a hospital 3 or more times during the past ten years. No hospital comparative information is available.

Category		Sample Number	Sample Percent	Hospital Percent
Gender	Male	37	48.7%	37%
	Female	39	51.3%	63%
	No Response	0	0%	0%
	TOTAL	76	100%	100%
Age	Less than 15 Years	0	0%	1.1%
	16 –31 Years	7	9.2%	10.3%
	32-47 Years	13	17.1%	14.5%
	48-63 Years	14	18.4%	26.4%
	64-79 Years	33	43.4%	33.0%
	80 and Older	9	11.8%	14.7%
	Refused	0	0%	0%
	TOTAL	76	100%	100%
Education	Less than High School	7	9.2%	NA
	High school graduate	25	32.9%	NA
	Some College	20	26.3%	NA
	College Graduate	12	15.8%	NA
	Post-college Courses	4	5.3%	NA
	Advanced Degree	6	7.9%	NA
	Refused	2	2.6%	NA
	TOTAL	76	100%	NA
Admissions	Never	4	5.3%	NA
	1-2 times	13	17.1%	NA
	3 or more times	59	77.6%	NA
	TOTAL	76	100%	NA

Table 3.3. Pre-test Respondent Profiles

3.3.2 Data Screening

Each variable for the main constructs in the proposed model was examined to determine whether the data met the normality assumption for the maximum likelihood estimation (MLE). It is an important preliminary analysis step for subsequent structural equation (SEM) analyses to be meaningful (Hair *et al.*, 1998).

Constructs	Variable Names	Skewness	Kurtosis
Service Quality Dimensions	Equipment operated properly	-1.853	2.745
	Room cleanliness	-2.853	11.355
	Food quality	-1.514	1.939
	Comfort of accommodations	-2.130	5.009
	Noise levels	-1.036	1.513
	Kept promises	-2.543	6.558
	Kept informed	-2.388	7.719
	Response time	-2.354	7.509
	Attentive to requests	-2.293	5.675
	Coordination of caregivers	-2.678	9.669
	Courteousness	-3.104	10.645
	Staff knowledge/skill	-2.694	7.882
	Individual attention	-2.882	8.680
	Concern	-2.920	9.451
	Caring of special needs	-2.920	9.450
Patient Delight	Delighted	-.842	-.384
	Joyous	-.629	-.692
	Pleased	-1.109	.237
	Surprised	-.451	-.583
	Astonished	-.440	-.647
	Excited	-.362	-1.145
Patient Satisfaction	Doctors	-1.025	1.132
	Nurses	-4.413	24.701
	Support Staff	-3.652	20.734
	Hospital	-2.940	9.511
Behavioral Intentions	Use in future	-3.197	10.185
	Recommend to others	-3.046	9.230

Table 3.4. Pre-test Normality Test of Proposed Model Variables

The normality was assessed by evaluating the skewness and kurtosis of each variable in the study. These tests indicated that most values for univariate skewness and kurtosis were inside or very close to the acceptable ranges (-3 to 3 for skewness and -10 to 10 for kurtosis) identified by Kline (1998), indicating no extreme departure from normality as shown in Table 3.3. However, the values associated with patient satisfaction were substantially outside of the ranges (especially nurses and support staff). Therefore, the scale was not assessed for dimensionality. Steps taken to address this issue will be discussed in a later section of this chapter.

3.3.3 Exploratory Findings

Service Quality

Prior to the exploratory factor analysis, the data were evaluated for the suitability of utilizing exploratory factor analysis for the service quality latent variable. The sample size of 76 patients fulfilled Hair's (1998) minimum criterion of at least five times as many observations as there are variables (15 variables) to be analyzed. Significance of the Bartlett's test of sphericity (chi-square = 947.24, df=105, $p<.001$) indicated that the items had adequate common variance to conduct exploratory factor analysis. A Kaiser-Meyer-Olkin (KMO) value of 0.892 also supported exploratory factor analysis (Kaiser, 1974).

Principle components analysis, followed by a forced two factor orthogonal rotational (VARIMAX) solution, was conducted on the 15 items. As shown in Table 3.5 all communality estimates, with the exception of response time, exceeded the criterion of 0.30 (Child, 1970). The total variance extracted was 64.7%, with Factor 1 accounting for

43.2% and Factor 2 accounting for 21.5% of the variance. One criterion for elimination of items was factor loadings lower than 0.40 on the factors they were expected to load on. The only variable that did not have a significant loading above 0.40 on the factor it was expected to load on was response time, which actually didn't load on either factor. None of the variables showed high cross loadings. Therefore, response time was the only variable eliminated.

		Factors	
Items	**Communalities**	**1**	**2**
Equipment	.514		.706
Food quality	.630		.793
Room cleanliness	.589		.679
Accommodations/Comfort	.497		.681
Atmosphere/Noise level	.762		.836
Kept promises	.612	.730	
Staff skill/Knowledge	.834	.883	
Kept informed	.581	.714	
Attentive	.487	.696	
Coordinated care	.734	.857	
Courteousness	.862	.886	
Individual attention.	.811	.886	
Concern	.845	.879	.600
Caring of special needs	..816	.864	
Response time	.131		
Variance Explained (%)		43.2	21.5
Cronbach's alpha			
K-M-O Sampling Adequacy		.892	
Bartlett's test of sphericity		947.24, df=105, p<0.001	

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 3.5. Pre-test Service Quality (Initial) Rotated Factor Matrix

A second forced two factor solution was conducted on the remaining 14 items. All communality estimates exceeded the criterion of 0.30 (Table 3.6). Significance of the Bartlett's test of sphericity (chi-square = 923.91, df = 91, p<.001) indicated that the items had adequate common variance to conduct exploratory factor analysis. A Kaiser-Meyer-Olkin (KMO) value of 0.894 also supported exploratory factor analysis (Kaiser, 1974).

		Factors	
Items	**Communalities**	**1**	**2**
Equipment	.514		.707
Food quality	.629		.793
Room cleanliness	.585		.682
Accommodations/Comfort	.496		.683
Atmosphere/Noise level	.762		.837
Kept promises	.613	.729	
Staff skill/Knowledge	.842	.885	
Kept informed	.589	.718	
Attentive	.465	.680	
Coordinated care	.742	.861	
Courteousness	.873	.891	
Individual attention.	.803	.880	
Concern	.852	.881	
Caring of special needs	.826	.868	
Response time	---	---	---
Variance Explained (%)		45.4	23.1
Cronbach's alpha		.951	.813
K-M-O Sampling Adequacy		.894	
Bartlett's test of sphericity		923.91, df=91, p<0.001	

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 3.6. Pre-test Service Quality (Revised) Rotated Factor Matrix

The total variance extracted was 68.5%, with Factor 1 accounting for 45.4% and Factor 2 accounting for 23.1% of the variance. Factor 1 contained 9 significant loadings (>.60). Table 3.6 shows that the items most representative of Factor 1 were: courteousness (.89), staff skill/knowledge (.89), concern (.88), individual attention (.88), caring of special needs (.87) and coordinated care (.86). Factor 1 is representative of interpersonal interactions between staff and patients, and was therefore interpreted as the interpersonal service quality dimension. Factor 2 contained five significant loadings (>.60). Table 3.6 shows that the items representative of Factor 2 were: atmosphere/noise levels (.84), food quality (.79), equipment (.71), comfort of accommodations (.68), and room cleanliness (.68). Factor 2 was interpreted as representative of the environmental dimension of service quality. The reliability coefficients (Cronbach's alpha) were excellent for both dimensions at 0.951 (interpersonal dimension) and .81 (environmental dimension).

Delight Scale

Prior to the exploratory factor analysis, the data were evaluated for the suitability of utilizing exploratory factor analysis for the delight latent variable. The sample size of 76 patients fulfilled Hair's (1998) minimum criterion of at least five times as many observations, with ten times as many observations as there are variables (6 variables) to be analyzed. Significance of the Bartlett's test of sphericity (chi-square = 352.49, df = 15, $p<.001$) indicated that the items had adequate common variance to conduct exploratory factor analysis. A Kaiser-Meyer-Olkin (KMO) value of 0.740 also supported exploratory factor analysis (Kaiser, 1974).

Principle components analysis, followed by an orthogonal rotational (VARIMAX) solution, was conducted on the 6 items. As shown in Table 3.7 all communality estimates exceeded the criterion of 0.30 (Child, 1970). Two factors were extracted. The total variance extracted was 84.1%, with Factor 1 accounting for 51.4% and Factor 2 accounting for 32.7% of the variance. With the exception of excited, all items had high loadings (>.90) on the factors they were expected to load on, and low cross loadings (<.40) on the factors they were not expected to load on. Excited had high loadings on both factors (0.72 on Factor 1 and 0.37 on Factor 2) and had the higher loading on the factor is was not expected to load on. Therefore, excited was eliminated.

		Factors	
Items	**Communalities**	**1**	**2**
Delighted	.849	.908	
Pleased	.818	.901	
Joyous	.865	.905	
Surprised	.923		.957
Astonished	.932		.913
Excited	.657	.721	
Variance Explained (%)		51.4	32.7
Cronbach's alpha			
K-M-O Sampling Adequacy		.740	
Bartlett's test of sphericity		352.490, df=15, p<0.001	

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 3.7. Delight (Initial) Rotated Factor Matrix

A second factor solution was conducted on the remaining 5 items. All communality estimates exceeded the criterion of 0.30. Significance of the Bartlett's test of sphericity (chi-square = 283.081, df = 10, p<.001) indicated that the items had adequate common variance to conduct exploratory factor analysis. A Kaiser-Meyer-Olkin (KMO) value of 0.740 also supported exploratory factor analysis (Kaiser, 1974).

		Factors	
Items	**Communalities**	**1**	**2**
Delighted	.886	.923	
Pleased	.880	.932	
Joyous	.830	.882	
Surprised	.938		.965
Astonished	.930		.919
Excited	--	--	--
Variance Explained (%)		51.8	37.5
Cronbach's alpha		.848	.916
K-M-O Sampling Adequacy		.690	
Bartlett's test of sphericity		283.081, df=10, p<0.001	

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 3.8. Delight (Revised) Rotated Factor Matrix

The total variance extracted was 89.3%, with Factor 1 accounting for 51.8% and Factor 2 accounting for 37.5% of the variance. Factor 1 contained 3 significant loadings (>.80). Table 3.8 shows that the items representing Factor 1 were; pleased (.93), delighted (.92), and joyous (.88). Factor 1 was interpreted as the joy dimension of

delight. Factor 2 contained two significant loadings (>.90). Table 3.8 shows that the items representing Factor 2 were surprise (.97) and astonished (.92). Factor 2 was interpreted as the surprise dimension of delight. The reliability coefficients (Cronbach's alpha) were excellent for both dimensions at 0.85 (joy) and .92 (surprise).

3.3.4 Qualitative Analysis

Over the past decade the critical incident technique (CIT) has become increasingly popular among healthcare researchers (Aveyard & Woolliams, 2006; Bormann *et al*., 2006; Bradbury Jones *et al*., 2007; deMontigny and Lacharite, 2004; Hensing *et al*., 2007; Irvine *et al*., 2008; Schluter *et al*.,2007; Sharoff, 2007; Persson and Martensson, 2006) to name a few. Researchers have found that CIT is particularly well suited to understand the dynamic interactions among patients, family members, nurses, physicians and other clinicians (Byrne, 2001).

The objective of the qualitative portion of the current research is to identify specific incidents occurring during the service encounter that are more or less likely to produce a delightful emotional response. In other words, what aspects of a patient's care during an inpatient hospital stay encounter will create the emotion of delight in the patient's evaluation of the experience? Consistent with the intended use of CIT, as described by Flanagan (1954), the current research seeks to identify those events that occurred during a patient's stay at a hospital that were considered unexpected or out of the ordinary. More specifically, patients were asked to identify a particularly surprising event that occurred during their stay.

Since the CIT method relies upon content analysis, it has sometimes been criticized based on the validity and reliability of the categories (Kolbe and Burnett, 1991;

Weber, 1985). However, when proper checks and balances are incorporated into the design, the information has been found to be both reliable and valid (Andersson and Nilsson, 1964; Whit and Locke, 1981). The process involves identifying the data to be analyzed, coding or tagging the data, and identifying patterns in order to provide an explanatory framework. Through a deductive/inductive iterative process, the researcher generates and refines categories and subcategories in the taxonomy.

The process of inductive analysis involves at least two levels of interpretation. The initial coding relates to the analysis of the individual transcripts and involves reading and re-reading individual participant transcripts several times to identify categories and themes. It is important that the transcripts are first read individually to ensure independent categories are not overlooked. Iterative reading allows for consistencies and inconsistencies to be discovered and emerging themes to develop (Polit and Beck, 2004). Developing categories and themes allows the researcher to organize the data and can become a crucial step in subsequent data analysis. This step was accomplished during the pre-test phase of this research, primarily to test whether the responses would generally fall within the items used to represent the environmental and interpersonal dimensions of service quality.

The sample size of a critical incident study is based on the number of critical incidents rather than the number of participants (Flanagan, 1954), as it is the incidents rather than the participants that are analyzed. There is no set rule for how many incidents are sufficient (Butterfield *et al*., 2005), however, Twelker (2003) recommends that no less than 50 incidents be collected. There is agreement (Schluter *et al*., 2007) that 50 incidents

may be an appropriate minimum, however the complexity of the research question would dictate if modifications would be needed. Respondents generated 100 reported incidents.

Identified by Judges	Quantitative Items	Representative Comments
Staff Attitude/ Attention/Caring	• Courteousness • Individual attention. • Concern • Caring of special needs	• "The staff went out of their way to make me feel comfortable." • "They would come in on their breaks just to keep me company." • "The physician came in on his day off to make sure I was doing OK."
Information/ Communication	• Kept informed	• "They kept me informed about what was going on."
Physician/Staff/ Technician Skill	• Staff skill/ Knowledge	• "The nurse found my vein on the first try." • "The therapist did something that made my back feel better immediately."
Responsiveness/ Timeliness	• Kept promises • Attentive to special requests • Response time	• "She said she would find me slippers, and she did." • "They went out of their way to find answers to my questions." • "It took the nurse less than 20 seconds to respond to my call light."
Coordination of Care	• Coordinated care	• "I was taken to the radiology department , and they called me by my first name when I arrived."
Atmosphere	• Room cleanliness • Accommodations/ Comfort • Atmosphere/Noise level	• "The room was more like a hotel then a hospital room." • "I couldn't believe how clean they kept the room." • "There weren't any overhead pages."
Physical Plant & Equipment	• Equipment	• "The TV was twice the size I have at home."
Food	• Food quality	• "The food was like a 5-star restaurant."

Table 3-9 Categories and Representative Comments

Following the steps outlined by Haney *et al*., (1998), emergent coding was conducted on the pre-test sample of respondents that generated 100 surprising events. Two judges independently reviewed the comments and sorted them into categories. Differences in categories were reconciled by a third judge. The consolidated list resulted in 8 categories, which were similar to those representative of the environmental and interpersonal items used in the quantitative analysis. The categories, as well as sample statements representative of the category appear in the Table 3-9.

The main research will utilize a new set of researchers to review the individual transcripts and categorize them into the categories identified in the pre-test. This type of *a priori* schema can be helpful in sorting large amounts of complex and intertwined data and is important in validation and interpretation. Given the wide variation in incidents typically reported by participants in a CIT study; this can be a helpful means of managing data to enable sufficient depth of analysis.

3.3.5 Modifications Based on Pre-test Findings

The current research conceived of the service quality scale in a two dimensional context represented by environmental and interpersonal dimensions. The original 5 items representing the environmental services factor loaded on the factor demonstrated good reliability. The original 10 items representing the interpersonal services will be modified to exclude response time based on the results of the exploratory factor analysis.

The patient satisfaction scale used in the pre-test was adapted from Donavan and Hocutt's (2001) and Dube and Menon (2000). The scale consisted of 4 items including: "Overall, I was satisfied with the doctors"; "Overall, I was satisfied with the nurses";

"Overall, I was satisfied with the support services"; and, "Overall, I was satisfied with the hospital". Assessment of the dimensionality and reliability of this measure was not conducted because of substantial skewness and kurtosis issues. To address the issue, an alternative scale for satisfaction will be included in the main research. An accepted measure of satisfaction that has often been used in similar studies (Crosby and Stevens, 1987; Jones and Suh, 2000; Oliver and Swan, 1989) uses three semantic differential items, anchored by satisfied/dissatisfied, pleased/displeased and favorable/unfavorable. The 3-tem scale selected has demonstrated validity and reliability in previous research (Jones and Suh 2000).

Delight has been measured in a variety of manners, including multi-dimensional, one-dimensional, single-item and as the extreme level on satisfaction scales. The current research conceived of the measures in a two dimensional context represented by joy and surprise. The item representing "excited" was omitted from the final solution. In an attempt to avoid having a 2-item factor, an additional item "inspired" that had been identified in previous research will be assessed in the main research as a potential third item to represent the surprise dimension. An additional item (happiness) that had been identified in previous research (Allen *et al.*, 1992; Richins, 1997) was also added as a potential item for the joy dimension. The final 5-item, 2-factor solution also demonstrated enough correlation with each other to suggest that the two factors could potentially represent a higher-order factor, delight. This will be tested further in the main study.

A concern was raised during the dissertation proposal defense regarding the use of a 2-item behavioral intentions scale. To address the issue, an additional scale for

behavioral intentions will be included in the main research. The behavioral intentions measure used in the main research was adapted from Pollack (2009). It includes items related to both word-of-mouth communication and repurchase intentions. The items are: (1) I say positive things about them to other people; (2) I recommend them to someone who seeks healthcare services; (3) I encourage friends and relatives to do business with them; (4) I consider them my first choice for health related services from; (5) I will do more business with them in the next few years. These five items are measured on a 7-point scale.

In addition to the scale modifications, the sample frame and script were modified. The pre-test utilized two hospitals in the mid-western United States. However, a concern arose that the results may be biased due to the fact that a new hospital was set to open around the time of the main research study. To avoid the potential bias, only one hospital was used. Also, as a result of a high termination rate (29%) the order of the survey questions was revised and interviewers modified the script to provide periodic updates on progress towards completion. No modifications were needed for the qualitative section of the research.

CHAPTER 4

ANALYSIS AND FINDINGS

This chapter presents the analysis and results related to the main research. Findings address the primary research questions dealing with the relationships among service quality, patient delight, satisfaction and behavioral intentions. The chapter is divided into seven sections: (1) preliminary data analysis, including profiles of survey respondents and data screening; (2) exploratory results related to the dimensionality and item refinement of the measures; (3) confirmatory results of tests conducted on the measurement model including overall fit, reliability, and validity; (4) the structural equation results associated with testing an integrated model, which includes service quality dimensions (environmental/interpersonal), patient delight, patient satisfaction, and behavioral intentions constructs; (5) hypotheses testing; (6) analysis of the control variables; and (7) qualitative findings.

4.1 Preliminary Data Screening Results

In this section, respondent profiles, initial data screening and exploratory factor analysis results are discussed.

4.1.1 Respondent Profile

A review of the respondent characteristics are based upon their gender, age, education level and previous experience with the hospital. When available, comparative data was collected for all hospital patients discharged during the same period that the phone calls took place and is reported under the column heading "Hospital Percent."

A total of 463 patients that had an inpatient hospital stay at a mid-western United States community hospital during December, 2009 – February, 2010 were contacted by phone. The phone survey was conducted 2-3 weeks following the patient stay. The data were collected by professional interviewers. Guidelines for respondent eligibility were provided to insure that the respondent was the actual patient and not a friend or family member. Patients in intensive care units and psychiatric care were omitted from the survey. A research supervisor contacted 10% of the respondents to verify that the interviews were conducted properly and to check for response consistency. Table 4.1. shows that the 250 completed surveys represented a response rate of 54%.

Call Disposition	Number	Percentage
Completed Survey	250	54%
Refused Survey	139	30%
Terminated Early	74	30%
Total Sample Size	463	100%

Table 4.1. Main Research Sample Profile

Gender

As presented in Table 4.2., approximately two thirds (68%) of the respondents were female, compared to just under one third (32%) male. These distributions are similar to the total hospital patients discharged during the survey period for females (63%) and males (37%).

Age

The "65-79" age cohort represented the largest responding age group, followed closely by the "48-64" age group with just under 65% of the total respondents falling into these two categories. Less than 3% of the respondents were below the age of 20 years old. These distributions are fairly representative of the overall patient age groups discharged over the same time period.

Education

Approximately 43% of the respondents reported high school as their highest education level attained, followed by college graduates (25.2%). Only four (1.6%) of the respondents refused to report their education level attained on the survey. No hospital comparative information is available for this variable.

Hospital Admissions

Respondents were asked to report the number of times they had been a patient over the past ten years, including the most recent admission. Approximately one-fifth (20.4%) reported that their most recent stay was the only time they had been admitted to a hospital during the past ten years. Another quarter (26.4%) of the respondents had been admitted twice to a hospital over the past ten years. The most admissions reported over the past ten years was fifteen times, which was reported by three patients.

Category		Sample Number	Sample Percent	Hospital Percent
Gender	Male	79	31.6%	37%
	Female	171	68.4%	63%
	TOTAL	250	100%	100%
Age	Less than 20 Years	7	2.8%	1.1%
	21 –31 Years	29	11.6%	10.3%
	32-47 Years	34	13.6%	14.5%
	48-64 Years	79	31.6%	26.4%
	65-79 Years	83	33.2%	33.0%
	80 and Older	18	7.2%	14.7%
	TOTAL	250	100%	100%
Education	Less than High School	18	7.2%	NA
	High school graduate	89	35.6%	NA
	Some College	63	25.2%	NA
	College Graduate	57	22.8%	NA
	Post-college Courses	8	3.2%	NA
	Advanced Degree	11	4.4%	NA
	Refused	4	1.6%	NA
	TOTAL	250	100%	NA
Admissions	One	51	20.4%	NA
	Two	66	26.4%	NA
	Three	41	16.4%	NA
	Four	20	8.0%	NA
	Five	24	9.6%	NA
	Six	19	7.6%	NA
	Seven or More	29	11.6%	NA
	TOTAL	250	100%	NA

Table 4.2. Main Research Respondent Profiles

4.1.2 Data Screening

Each variable in the proposed model was examined to determine whether the data met the normality assumption for the maximum likelihood estimation (MLE). It is an important preliminary analysis step for subsequent structural equation (SEM) analyses to be meaningful (Hair *et al.*, 1998). The normality was assessed by evaluating the skewness and kurtosis of each variable in the study (Table 4.3). These tests indicated all values for univariate skewness and kurtosis were within acceptable ranges (Kline, 1998).

Constructs	Variable Names	Skewness	Kurtosis
Service Quality Dimensions	Equipment operated properly	-1.711	2.328
	Room cleanliness	-1.811	2.532
	Food quality	-1.103	1.109
	Comfort of accommodations	-1.392	1.463
	Noise levels	-.954	.385
	Kept promises	-1.547	2.358
	Staff skill/Knowledge	-2.840	11.484
	Kept informed	-1.889	3.084
	Attentive to requests	-1.521	3.292
	Coordination of care	-1.876	3.308
	Courteousness	-2.130	6.402
	Individual attention	-1.939	4.115
	Concern	-2.115	5.873
	Caring of special needs	-1.980	4.431
Patient Delight	Happy	-.991	-.306
	Delighted	-.920	-.568
	Pleased	-.633	-.812
	Joyous	-1.324	.701
	Surprised	-.677	-.507
	Astonished	-.309	-.708
	Inspired	-.595	-.941
Patient Satisfaction	Favorable or unfavorable	-1.633	2.150
	Satisfying or dissatisfying	-1.562	2.094
	Pleasing or displeasing	-1.546	1.858
Behavioral Intentions	Use in future	-1.735	2.377
	Consider first choice	-1.376	.978
	Say positive things to others	-1.782	2.568
	Recommend to others	-1.698	2.068
	Encourage friends and relatives	-1.623	2.876

Table 4.3. Normality Test Results for Variables Included in the Proposed Model

4.1.3 Exploratory Findings

Service Quality

Prior to the exploratory factor analysis, the data were evaluated for the suitability of utilizing exploratory factor analysis for the service quality latent variable. The sample size of 250 patients fulfilled Hair *et al.*, (1998) criterion of at least 5 times as many observations as there are variables (14 variables) to be analyzed. Significance of the Bartlett's test of sphericity (chi-square = 923.91, df = 91, $p<.001$) indicated that the items had adequate common variance to conduct exploratory factor analysis. A Kaiser-Meyer-Olkin (KMO) value of 0.935 also supported the appropriateness of exploratory factor analysis (Kaiser, 1974).

Principle components analysis, followed by a forced two factor orthogonal rotational (VARIMAX) solution, was conducted on the 14 items. As shown in Table 4.4, all communality estimates exceeded the criterion of 0.30 (Child, 1970). The total variance extracted was 68.8%, with Factor 1 accounting for 42% and Factor 2 accounting for 26.8% of the variance. All of the items loaded on the factor they were expected to load on and no high cross loadings were found. Factor 1 contained nine significant loadings (>.60). Table 4.4 shows that the items representing Factor 1 were; courteousness (.87), attentive (.83), concerned (.81), coordinated care (.80), staff skill/knowledge (.79), caring of special needs (.76), individual attention (.74), kept promises (.72), and kept informed (.66). Factor 1 is representative of interactions between staff and patients, and was interpreted as the interpersonal dimension of service quality. Factor 2 contained five significant loadings (>.50). Table 4.4 shows that the items representing Factor 2 were; accommodations/comfort (.86), atmosphere/noise

levels (.85), room cleanliness (.82), equipment (.78), and food quality (.58). Factor 2 was interpreted as the environmental dimension of service quality. The reliability coefficients (Cronbach's alpha) were good for both dimensions at 0.93 (interpersonal) and .89 (environmental) and consistent with the results of the pre-test 0.95 (interpersonal) and .81 (environmental).

		Factors	
Items	**Communalities**	**1**	**2**
Equipment	.701		.777
Room cleanliness	.760		.821
Food quality	.404		.581
Accommodations/Comfort	.847		.864
Atmosphere/Noise	.766		.853
Kept promises	.591	.720	
Staff skill/Knowledge	.669	.791	
Kept informed	.492	.660	
Attentive	.777	.831	
Coordinated care	.755	.796	
Courteousness	.819	.873	
Individual attention.	.642	.739	
Concern	.793	.812	
Caring of special needs	.639	.762	
Variance Explained (%)		42.0	26.8
Cronbach's alpha		.934	.886
K-M-O Sampling Adequacy	.935		
Bartlett's test of sphericity	923.91, df = 91, p<0.001		

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 4.4 Service Quality Rotated Factor Matrix

Delight Scale

In an attempt to strengthen the construct, two items (inspired and happy), not included in the pre-test, were added. Since the item, excited, did not load on the surprise factor, a two-item solution resulted. Adding inspired is an attempt to create a 3-item solution. This was considered an appropriate addition, considering that inspired has been used in previous research as representative of the surprise factor (Mano and Oliver, 1993). The emotional item, happy, has also been used in previous studies to represent the joy factor (Allen, Machleit, and Kleine, 1992; Westbrook and Oliver, 1991). More recently, Richins (1997) found support for a factor structure for joy that included "happy", "joyful" and "pleased" with reported alphas of .91 and .88.

Prior to the exploratory factor analysis, the data were evaluated for the suitability of utilizing exploratory factor analysis for the delight latent variable. The sample size of 250 patients fulfilled Hair *et al.,* (1998) most aggressive criterion of at least 20 times as many observations as there are variables (7 variables) to be analyzed. Significance of the Bartlett's test of sphericity (chi-square = 1176.42, df = 21, $p<.001$) indicated that the items had adequate common variance to conduct exploratory factor analysis. A Kaiser-Meyer-Olkin (KMO) value of 0.867 also supported the appropriateness of exploratory factor analysis (Kaiser, 1974).

Principle components analysis, followed by an orthogonal rotational (VARIMAX) solution, was conducted on the 7 items. As shown in Table 4.5, all communality estimates exceeded the criterion of 0.30 (Child, 1970). Two factors were extracted and the total variance explained was 79.1%, with Factor 1 accounting for 53.3% and Factor 2 accounting for 25.8% of the variance. With the exception of inspired, all

items had high loadings (>.80) on the factors they were expected to load on, and low cross loadings (<.30) on the factors they were not expected to load on. Similar to the excited variable used in the pre-test, the inspired variable had higher loadings on the factor it was not expected to load on. Therefore, inspired was eliminated.

		Factors	
Items	**Communalities**	**1**	**2**
Happy	.824	.893	
Delighted	.823	.879	
Pleased	.760	.819	
Joyous	.772	.864	
Surprised	.820		.874
Astonished	.827		.887
Inspired	.708	.803	
Variance Explained (%)		53.3	25.8
Cronbach's alpha			
K-M-O Sampling Adequacy		.867	
Bartlett's test of sphericity	1176.44, df =21, p<0.001		

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 4.5 Delight Initial Rotated Factor Matrix

A second factor solution was conducted on the remaining 6 items. All communality estimates exceeded the criterion of 0.30. Significance of the Bartlett's test of sphericity (chi-square = 942.67, df = 15, p<.001) indicated that the items had adequate common variance to conduct exploratory factor analysis. A Kaiser-Meyer-Olkin (KMO)

value of 0.833 also supported the appropriateness of exploratory factor analysis (Kaiser, 1974).

The total variance extracted was 81.5%, with Factor 1 accounting for 52.2% and Factor 2 accounting for 29.3% of the variance. Factor 1 contained four significant loadings (>.80). Table 4.6 shows that the items representing Factor 1 were; happy (.91), delighted (.88), joyous (.86) and pleased (.84). Factor 1 was interpreted as the joy dimension of delight. Factor 2 contained two significant loadings (>.80). Table 4.6 shows that the items representing Factor 2 were astonished (.89) and surprised (.87). Factor 2 was interpreted as the surprise dimension of delight. The reliability coefficients (Cronbach's alpha) were excellent for joy (alpha = .92) and acceptable for surprise (alpha = .79)

		Factors	
	Communalities	**1**	**2**
Happy	.849	.906	
Delighted	.832	.882	
Pleased	.792	.838	
Joyous	.765	.858	
Surprised	.821		.871
Astonished	.829		.893
Inspired	---	---	---
Variance Explained (%)		52.2	29.3
Cronbach's alpha		.92	.79
K-M-O Sampling Adequacy		.833	
Bartlett's test of sphericity	942.67, df = 15, $p<0.001$		

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 4.6 Delight Revised Rotated Factor Matrix

Patient Satisfaction and Behavioral Intentions.

In order to verify the dimensions of the remaining constructs (patient satisfaction and behavioral intentions), another EFA was performed. The results of the EFA indicated that both constructs were uni-dimensional. For patient satisfaction, factor loadings of all three items were higher than 0.90 and the measurement was reliable with Cronbach's alpha at 0.953. Factor loadings for all five items for behavioral intentions were also high and had a Cronbach's alpha value of 0.972. Table 4.7 shows the items retained for both scales as well as the loadings and associated reliability.

Constructs	**Items**	**Commu-nalities**	**Factor Loadings**	**Reliability (*a*)**
Patient Satisfaction	Dis/Satisfying	.917	.958	.953
	Un/Favorable	.903	.950	
	Dis/Pleasing	.926	.963	
Behavioral Intentions	Use in future	.899	.948	.972
	First choice for future care	.869	.932	
	Say positive things	.864	.930	
	Recommend to others	.937	.968	
	Encourage friends to use	.933	.966	

Principle Components Analysis with VARIMAX rotation.
Only Loadings >.40 are displayed.

Table 4.7. Factor Loadings/Reliability for Patient Satisfaction and Behavioral Intentions.

4.2 Confirmatory Factor Analysis – Measurement Model

To validate the measurement models and further purify the measures before testing the hypothesized relationships between the variables as illustrated in the conceptual model, confirmatory factor analysis (CFA) using the maximum likelihood method was conducted to assess the validity of the retained scale items for the latent constructs.

Various goodness-of-fit statistics were used to assess the models tested. In addition to the magnitude of the χ^2, the ratio of the chi-square to the degrees of freedom is a complementary index used to assess the goodness of fit. Different researchers have recommended using ratios as low as 2 or as high as 5 to indicate a reasonable fit (Marsh and Hocevar, 1985). Joreskog and Sorbom (1993) suggested that a ratio less than 5 indicates adequate fit and ratios of less than 3 indicating good fit. The normed fit index (NFI), comparative fit index (CFI) and goodness of fit (GFI) are additional measures of fit, with values greater than .90 indicating acceptable fit (Marsh *et al.*, 1996). Finally, the root mean square error of approximation (RMSEA) is also included. RMSEA values less than .05 indicate a good fit, between .05 and .08 a reasonable fit, between .08 and .10 a mediocre fit, and more than .10 a poor fit (Byrne, 1998). These indices are summarized in Table 4.8.

Indices	Ranges for Good Model Fit
Chi-square statistics (χ^2)	Insignificant p-value (p>.01)[a]
Ratio of χ^2 to degrees of freedom (χ^2 / *df*)	Ratio of less than 3
Normed Fit Index (NFI)	>.90
Comparative Fit Index (CFI)	>.90
Goodness of Fit Index (GFI)	>.90
Root Mean Square Error of Approximation (RMSEA)	<.08

[a] *χ^2: There is a problem of sample size dependency. With increasing sample size, the χ^2 statistic provides a highly sensitive statistical test, but not a practical test of model fit (Bollen, 1989; Browne and Cudeck, 1993; Chung and Rensvold, 2002; Garson, 2006)*

Table 4.8 Recommended Goodness-Of-Fit Indices

4.2.1 Evaluation of Delight as a Higher-order Factor

A separate CFA was conducted for the delight construct, prior to pooling all latent variables together in assessing the overall measurement model fit. Corresponding with its theoretical basis, the scale should exhibit the latent structure of a higher-order factor model in which each of the two dimensions (joy and surprise) are first-order factors that collectively are accounted for by a higher-order factor (delight). Several models, including the hypothesized model, will be assessed as to their ability to fit the data.

The latent variable joy is manifested by four (happy, pleased, delighted, and joyous) observed variables and the latent variable surprise is manifested by two (surprised and astonished) observed variables. The χ^2 statistic for model fit is 23.95 with degrees of freedom of 8 and thus, the ratio of the chi-square to the degrees of freedom is 2.99, indicative of a good fit (Table 4.9). The NFI, CFI and GFI are all greater than .90, but the Root Mean Square Error of Approximation (RMSEA) 0.09 is not indicative of a

good fit. A review of the modification indices suggest removal of the pleased item will substantially improve the fit.

The revised higher-order factor model with pleased removed, and the latent variable joy manifested by three (happy, delighted, and joyous) observed variables was evaluated next. The χ^2 statistic for model fit is 4.18 with degrees of freedom of 4 and thus, the ratio of the chi-square to the degrees of freedom is 1.1, indicative of a good fit. The NFI, CFI and GFI are all greater than .90, and the Root Mean Square Error of Approximation (RMSEA) 0.01 which is also indicative of a good fit. All of these indices suggest that the model represented a good fit to the data and support acceptance of the revised higher-order factor model.

Competing Models	x^2	***df***	***p***	x^2/df	**NFI**	**CFI**	**GFI**	**RMSEA**
Initial Higher-order Model	23.95	8	.002	2.99	.98	.98	.97	.09
Revised Higher-order Model	4.18	4	.38	1.1	.99	.99	.99	.01
Independent Model	663.85	10	.000	66.4	.00	.00	.46	.51
One-factor Model	102.01	5	.000	20.4	.85	.85	.88	.28

Table 4.9 Model Fit Indices for Competing Delight Measurement Models

The revised higher-order model was assessed against several other models to confirm that it was indeed the best representation of the delight latent construct. The independent model, in which the *a priori* specification is made that all observed variables are unrelated, (i.e., the items on the scale have no loadings on any factors) was assessed next. Technically speaking, this reflects a restricting to zero of all covariances among the observed variables and allowing only the variances to be estimated. The fit of independent model is considered a good baseline against which alternative models may be compared (Babyak *et al*., 1993; Bolen, 1993.) Listed in Table 4.9, the χ^2 is 663.85, which is so large that the independent hypothesis of a good fit is rejected at the .05 level ($p<.000$). Also, the degrees of freedom is 10 and thus, the ratio of the chi-square to the degrees of freedom is 66.4. The Root Mean Square Error of Approximation (RMSEA) 0.28 is also indicative of a poor fit. Taken in total, the results suggest that this model shows a poor fit.

The next assessment is a one-factor model, where the latent variable delight is manifested by the 5 (happy, delighted, joyous, surprised, and astonished) observed variables. Various goodness-of-fit statistics listed in Table 4.9 shows the χ^2 is 102.01, which is so large that the null hypothesis of a good fit is rejected at the .05 level ($p<.000$). The degrees of freedom is 5 and thus, the ratio of the chi-square to the degrees of freedom 20.4, also indicative of a poor fit. The NFI, CFI and GFI are all less than .90, and the Root Mean Square Error of Approximation (RMSEA) 0.28 is also indicative of a poor fit. Taken in total, the results suggest that this one factor model shows a poor fit. The revised higher-order model provided the best fit.

4.2.2 Full Measurement Model

A CFA was performed to validate the overall fit of the measurement model of all 27 observed variables and the underlying constructs that the variables are presumed to measure. The proposed measurement model is shown in Figure 4.1.

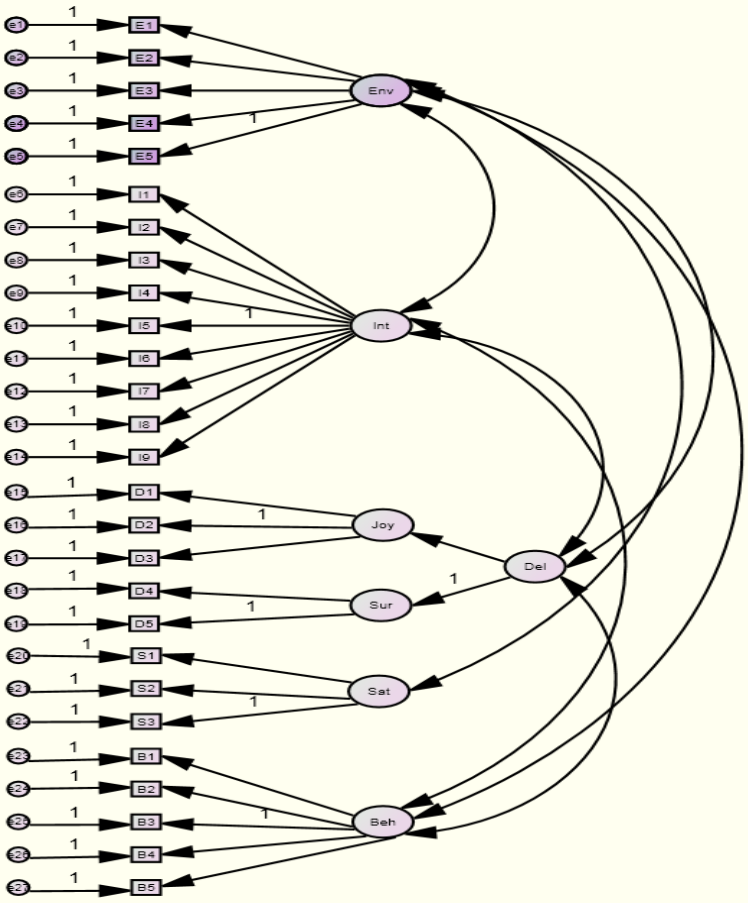


Figure 4.1. Graphic Measurement Model for the Patient Delight, Overall Satisfaction, and Behavioral Intentions

The proposed measurement model consists of five constructs and 27 observed variables. Interpersonal service quality is specified by nine observed variables. Environmental service quality is specified by five observed variables. Patient satisfaction is specified by three observed variables. Behavioral intention is specified by five observed variables. Patient delight is specified by five observed variables that represent a higher-order factor model in which each of the two dimensions (joy and surprise) are first-order factors that collectively are accounted for by a higher-order factor (delight).

The proposed measurement model with the 27 observed variables provided mixed results regarding the fit of the model with the data χ^2 (313) = 652.79; p =.000; χ^2/df ratio = 2.08; GFI = .85; CFI = .95; NFI = .91, RMSEA = .07 (Table 4.10). As shown in Table 4.10, although the ratio of the chi square to degrees of freedom was acceptable at 2.08, and the CFI and NFI were above .90, the GFI was .85, which is below the recommended levels (Marsh *et al*., 1996). Additionally, the RMSEA of .07 was toward the high end of the acceptable range (Byrne, 1998).

Competing Models	x^2	*df*	*p*	x^2/df	**NFI**	**CFI**	**GFI**	**RMSEA**
Initial Model	652.79	313	.000	2.08	.91	.95	.85	.07
Modified Model	305.81	178	.000	1.71	.95	.98	.90	.05

Table 4.10 Comparison of the Proposed and Modified Full Measurement Models

The modification indices suggested that the model could be improved by removing items from the service quality dimensions, specifically: four of the observed items associated with the interpersonal dimension (coordination of care, staff skilled at their job, kept promises and kept informed); and, one of the items associated with the environmental dimension (food quality). However, it is not advisable to eliminate variables without theoretical support as well. The inherent nature of "coordination of care" suggests the involvement of multiple services and care providers, as opposed to the actions of individual's interpersonal interactions. It may be seen as an evaluation of the overall experience, encompassing a variety of actions performed throughout the stay. The items "kept informed" and "kept promises" are likely captured in the "attentive to request". The item representative of medical competence of the caregivers, "staff skill and knowledge" is considered a credence-type service quality item. Services that are characterized as having high credence properties are those in which the consumer has a difficult time evaluating even after consumption. The services provided by healthcare professionals typically fall into this category (Alford and Sherrell, 1996: Dube 1990). Therefore, patients most likely had difficulty evaluating the skill or knowledge of the caregiver. It is not difficult to understand that consumers would not associate the "food quality" with the environment, as many patients are aware that the food served is provided by vendors that are sub-contracted with by the hospital.

The modified measurement model with the remaining 21 observed variables was a good fit with the data $\chi 2$ (178) = 305.81, p =.000, $\chi 2/df$ ratio = 1.71, GFI = .90, CFI = .98, NFI = .95, RMSEA = .05. Table 4.10 shows the χ^2 statistic for model fit is 305.81 with degrees of freedom of 178 and thus, the ratio of the chi-square to the degrees of

freedom is 1.71, indicative of a good fit. The NFI, GFI and CFI are all greater than .90 and the Root Mean Square Error of Approximation (RMSEA) 0.05 which is indicative of a good fit. Although χ^2 statistic was not indicative of a good fit, with increasing sample size, the value increases and it leads to the problem that plausible models might be rejected, although the discrepancy between the sample and the model-implied covariance matrix is actually irrelevant (Bollen, 1989; Cheung and Rensvold, 2002; Schermelleh-Engel *et al*., 2003). Joreskog and Sorbom (1993) suggested that the χ^2 statistic is not a formal test and it should not be focused on too much but rather viewed as a descriptive goodness-of-fit index due to the problem of sample size (Bollen, 1989; Schermelleh-Engel *et al.,* 2003). Therefore, it was concluded that the modified model was acceptable.

4.2.3 Assessment of Reliability and Validity of the Full Measurement Model

Reliability

The reliability test was conducted using Cronbach's alpha and a composite reliability, which indicates the internal consistency of the observed variables measuring each factor. As shown in Table 4.11, Cronbach's alpha of all the factors exceeded the recommended .70 (Nunnally, 1978). Composite reliability was also conducted to measure true reliability because Cronbach's alpha may over- or under-estimate scale reliability (Raykov, 1998). All factors were acceptable at the recommended .70 level (Chin, 1998).

Construct	Item	Standardized Loading	Cronbach's alpha	Composite Reliability	AVE
Environment Services	Noise level	.80*	.91	.79	.44
	Comfort	.93*			
	Cleanliness	.85*			
	Equipment	.80*			
Interpersonal Services	Concern	.91*	.91	.88	.60
	Courteous	.92*			
	Attentive	.89*			
	Caring	.73*			
	Individualized	.75*			
Patient Satisfaction	Un/Favorable	.93*	.95	.95	.87
	Dis/Pleasing	.95*			
	Dis/Satisfying	.92*			
Patient Delight	Happy	.86*	.84	.93	.72
	Delighted	.88*			
	Joyous	.87*			
	Surprised	.85*			
	Astonished	.77*			
Behavioral Intentions	Encourage	.97*	.97	.97	.89
	Recommend	.96*			
	First Choice	.91*			
	Future Use	.93*			

Note: * Standardized loadings are all significant at p<.001

Table 4.11 Measures of Reliability and Convergent Validity

Convergent validity

Convergent validity refers to the degree of association between the observed variables of a factor and is used to determine whether different observed variables used to measure the factors are highly correlated. Convergent validity can be examined by reviewing the results of the factor loadings (Hatcher, 1994). As displayed in Table 4.11, all factor loadings for the observed variables were statistically significant ($p < .001$) and standardized factor loadings were all above 0.70. Thus, it can be concluded that convergent validity was supported.

Discriminant validity

Discriminant validity is the degree to which items differentiate among constructs. Testing was performed to evaluate whether the subscale items were better associated with their respective latent construct than with other latent constructs. Table 4.12 shows that the average variance extracted (AVE) for each of the constructs is greater than their shared variance (Fornell and Larcker, 1981), supporting the discriminant validity.

	Environmental Services	Interpersonal Services	Patient Satisfaction	Patient Delight	Behavioral Intentions
Environmental Services	.72[a]				
Interpersonal Services	.41[b]	.71			
Patient Satisfaction	.46	.56	.87		
Patient Delight	.34	.34	.61	.89	
Behavioral Intentions	.36	.45	.64	.55	.72

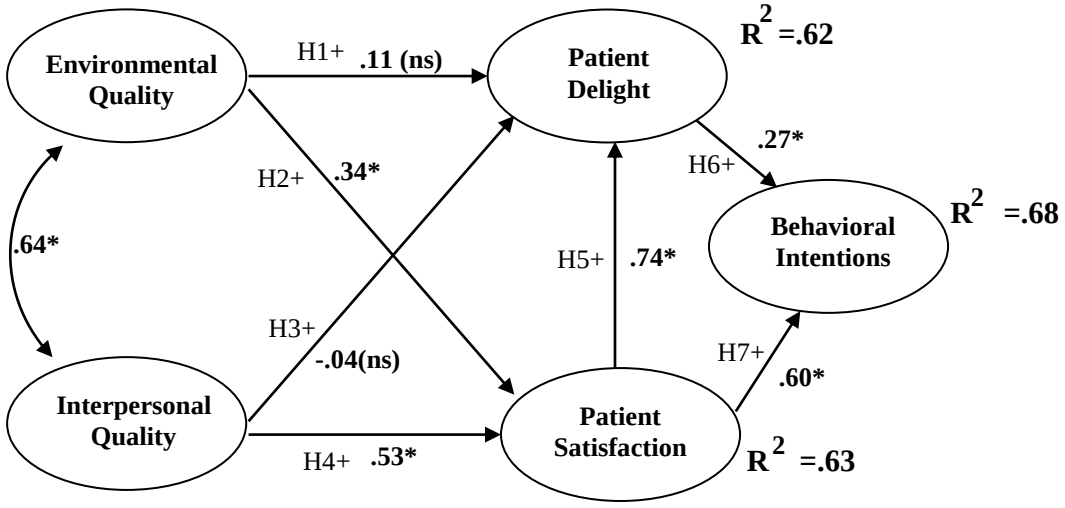
[a] Average Variance Extracted = Sum of squared standardized loadings/ (Sum of squared standardized loadings + Sum of indicator measurement error)

[b] Shared Variance = Square of the standardized correlation between constructs

Table 4.12 Discriminant Validity Matrix

4.3 Testing the Structural Equation Model and Hypotheses Testing

The proposed structural equation model and path diagram is presented in Figure 4.2. The path diagram shows standardized path coefficients, representing the direction and strength of the direct influence of one factor on another, and the squared multiple correlations indicating the total variance in a factor explained by the factor(s). The results show that the model fits the data with all fit indices $\chi 2$ (180) = 314.71; p =.055, $\chi 2/df$ ratio = 1.75, GFI = .90, CFI = .98, NFI = .95, RMSEA = .055.



p<.001

Note: $\chi 2$ (180) = 314.71; p =.000, $\chi 2/df$ ratio = 1.75,
GFI = .90, CFI = .98, NFI = .95, RMSEA = .055

Figure 4.2. Structural Equation Model with Standardized Path Coefficients and Squared Multiple Correlations

The seven hypotheses regarding the relationships among the factors were tested in the structural equation model and the results of the hypotheses testing are presented in Table 4.13, including the standardized path coefficients estimated by SEM and the results of the tests of hypotheses.

	Standardized Path Coefficient β	**t-value**	**P-value**	**Hypotheses testing results**
Environmental Services → Patient Delight (H1)	.11	1.55	0.12	Not Supported
Environmental Services → Patient Satisfaction (H2)	.34	5.58	0.00	Supported
Interpersonal Services → Patient Delight (H3)	-.04	-0.53	0.60	Not Supported
Interpersonal Services → Patient Satisfaction (H4)	.53	8.75	0.00	Supported
Patient Satisfaction → Patient Delight (H5)	.74	8.36	0.00	Supported
Patient Delight → Behavioral Intentions (H6)	.27	3.71	0.00	Supported
Patient Satisfaction → Behavioral Intentions (H7)	.63	8.35	0.00	Supported

Table 4.13 Path Coefficient of Hypothesized Relationships

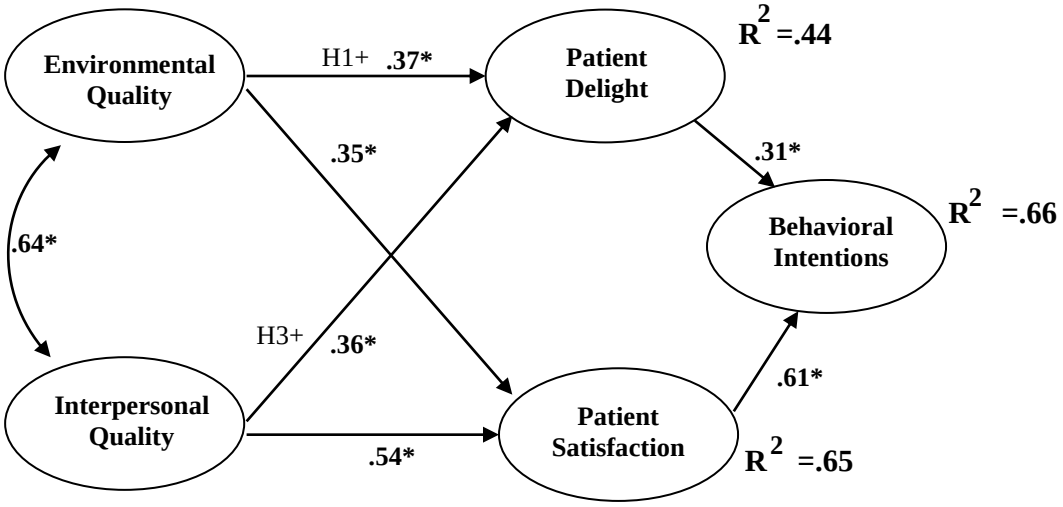
The Multiple Squared Correlations displayed in Figure 4.2, show that 68 percent of variance in behavioral intentions was explained by satisfaction and delight. Sixty-three percent of the variance in patient satisfaction was explained by environmental and interpersonal services. Sixty-two percent of variance in patient delight was explained by the influences of patient satisfaction, environmental and interpersonal services.

Five of the seven hypotheses were supported, as shown in Table 4.13. Environmental and interpersonal services were both positively related to patient satisfaction (support for H2 and H4). Patient satisfaction was positively related to patient delight (support for H5). Patient delight was positively related to behavioral intentions (support for H6). Patient satisfaction was positively related to behavioral intentions (support for H7). However, the results suggest that environmental (H1) and interpersonal (H3) services were not related to patient delight.

4.3.1 Testing the Mediating Role of Customer Satisfaction

The insignificant relationships between environmental and interpersonal service quality and patient delight may be explained by a mediation effect of patient satisfaction. To examine whether or not patient satisfaction mediates the relationships between environmental and interpersonal service quality and patient delight, another SEM was performed as a follow-up test of the initial SEM. Specifically, the relationship between patient satisfaction and patient delight was removed in the second SEM (See Figure 4.3). If the direct impact of environmental and interpersonal service quality on patient delight becomes significant after the path between patient satisfaction and patient delight is removed from the conceptual model, it can be concluded that patient satisfaction fully

mediates the relationship between environmental and interpersonal service quality and patient delight..



$\chi 2$ (181) = 382.68; p =.000, $\chi 2/df$ ratio = 2.11,
GFI = .90, CFI = .96, NFI = .93, RMSEA = .067

Figure 4.3. Structural Equation Model with Standardized Path Coefficients to Test Mediation Effect

The SEM results showed that both the environmental service quality (β = .37, p < .001) and interpersonal service quality (β = .36, p < .001) were significantly related to patient delight. Although the results of the initial SEM analysis showed that perceived environmental and interpersonal service quality were not related to patient delight, with customer satisfaction in the model, these direct relationships became significant when the path between patient satisfaction and patient delight was excluded from the model. Thus, the results suggest that patient satisfaction fully mediates the relationship between environmental and interpersonal service quality and patient delight.

4.3.2 Testing the Incremental Contribution of Delight

This section examines whether delight provides incremental contribution of the explained variance in behavioral intentions, beyond that explained by the traditional service quality - customer satisfaction - behavioral intentions model. The Multiple Squared Correlations displayed in Figure 4.2, showed that 68 percent of variance in behavioral intentions was explained by the model that included delight. The revised model that excludes delight explains only 65 percent of the variance in behavioral intentions. Therefore, the addition of delight to the model contributes an additional 3 percent in explained variance. It is also noteworthy to mention that the fit indices were also slightly better for the model that includes delight. The fit indices for the model excluding delight were $\chi 2$ (100) = 183.76; p =.000, $\chi 2/df$ ratio = 1.84, GFI = .90, CFI = .98, NFI = .93, RMSEA = .06. The fit indices for the model that includes delight were, $\chi 2$ (178) = 305.81, p =.000, $\chi 2/df$ ratio = 1.71, GFI = .90, CFI = .98, NFI = .95, RMSEA = .05.

There was a statistically significant difference between groups as determined by one-way ANOVA (F(2,249) = 37.71, p = .000). The test revealed that the mean evaluation for behavioral intentions (6.67) was statistically significantly higher for patients that evaluated delight as being a 6 or a 7 on the 7-point delight scale, as compared to the mean evaluation for behavioral intentions (5.33) for patients that evaluated delight as less than 6 on the 7-point delight scale. The cumulative results of these tests suggest that delight contributes to an incremental enhancement of patient behavioral intentions, beyond that provided by patient satisfaction alone.

4.4 Control variables

The control variables included were gender, age, education level and number of times that the respondent had been a patient at the hospital. In order to investigate whether the groups have statistically significant differences, analysis of variance (ANOVA) tests were performed. Table 4.14 and 4.15 show the results of the ANOVA. There was no statistically significant difference between any of the groups as determined by one-way ANOVA on any of the model constructs.

		Patient Delight		Patient Satisfaction		Behavioral Intentions	
Variable	**Grouping**	**Mean**	**ANOVA F, (Sig)**	**Mean**	**ANOVA F, (Sig)**	**Mean**	**ANOVA F, (Sig)**
	Male	5.00	F =.333	5.88	F =.352	5.91	F =.013
Gender	Female	4.88	p =.565	5.77	p =.553	5.89	p =.909
	First Visit	4.89		5.89		5.85	
Prior	2 – 4 Visits	5.10	F =2.96	5.91	F =2.00	6.04	F =1.71
Experience	> 4 Visits	4.56	p =.054	5.51	p =.137	5.62	p =.182
	< 32 Years	5.14		5.64		5.99	
Age	32–65 Years	5.07	F =.2.64	5.92	F =.794	5.88	F =.096
	> 65 Years	4.66	p =.074	5.73	p =.453	5.87	p =.908
	High School	5.11		5.83		6.03	
Education	Some College	4.84	F =1.75	5.66	F =.456	5.75	F =.817
	College Grad	4.71	p =.176	5.88	p =.634	5.82	p =.443

Table 4.14 ANOVA Results for Patient Delight, Satisfaction and Behavioral Intentions

		Environmental Services		Interpersonal Services	
Variable	**Grouping**	**Mean**	**ANOVA F, (Sig)**	**Mean**	**ANOVA F, (Sig)**
Gender	Male	5.80	F =.446	6.34	F =.776
	Female	5.68	p =.505	6.23	p =.379
Prior Experience	First Visit	5.58		6.25	
	2 – 4 Visits	5.80	F =.672	6.31	F =.456
	> 4 Visits	5.62	p =.512	6.17	p =.634
Age	< 32 Years	5.85		6.29	
	32–65 Years	5.78	F =.636	6.26	F =.020
	> 65 Years	5.60	p =.530	6.25	p =.980
Education	High School	5.78		6.31	
	Some College	5.62	F =.269	6.12	F =.998
	College Grad	5.71	p =.765	6.31	p =.370

Table 4.15 ANOVA Results for Environmental and Interpersonal Services

4.5 Qualitative Findings

The sample size of a critical incident study is based on the number of critical incidents rather than the number of participants (Flanagan, 1954), as it is the incidents rather than the participants that are analyzed. There were 300 reported incidents from patients discharged between December, 2009 and February, 2010.

The 300 "surprising events" were distributed to two judges (different than the ones used in the pre-test sample) along with the list of the (groupings) and the categories that made up the groupings, as developed during the pre-test phase. After judges were provided definitions and training on the categories and groupings, they independently coded each comment into one of the groups. To assess the reliability of the coding, different people should code the same text in the same way (Weber, 1990). Inter-rater reliability relates to the concept that the coding schemes lead to the same text being

coded in the same category by different people? This involves simply adding up the number of cases that were coded the same way by two raters and dividing by the total number of cases. A typical guideline found in the literature for evaluating the quality of inter-rater reliability based upon consensus estimates is that they should be 70% or greater (Stemler, 2004). As Table 4.16 indicates, the inter-rater agreement was 92% overall.

	# in Agreement	**% in Agreement**
Interpersonal	208/225	92.4%
Environmental	69/75	92.0%
TOTALS	**277/300**	**92.3%**

Table 4.16 Inter-Rater Reliability

As was mentioned, CIT can be combined with quantitative information to provide more insight into the research question. Following the description of an unexpected or surprising incident, respondents were asked to rate the incident utilizing the same items used to represent delight scale. Table 4.17 summarizes the frequency of comments within the two service quality dimensions in terms of those that were associated with delight (a rating of more than 4 on the delight scale) and non-delightful experiences (a rating of less than 4 on the delight scale).

The most telling finding is the fact that most incidents (75%) related to interpersonal services. Likewise, the delightful experiences associated with surprising incidents that related to interactions with the staff was 83%. Non-delightful incidents

were also dominated by interpersonal aspects with about two-thirds (62%) suggesting that the surprises they encountered were negative.

	Delightful Incidents		Non-Delightful Incidents		Totals	
Interpersonal	134	87%	91	62%	225	75%
Environmental	20	13%	55	38%	75	25%
TOTALS	**154**	**100%**	**146**	**100%**	**300**	**100%**

Table 4.17 Surprising Incidents Frequency Distribution

CHAPTER 5

DISCUSSION, IMPLICATIONS AND CONCLUSIONS

The purpose of this study was to examine the relationship of patient delight, satisfaction and behavioral intentions by empirically testing a model. Furthermore, the study aimed to better understand the influence of environmental and interpersonal service quality dimensions on patient delight and satisfaction. The subjects of this study were 250 patients discharged from a mid-western hospital, during December, 2009 - February, 2010. All subjects completed a phone survey consisting of questions regarding their most recent stay at the hospital. The questions solicited their perceptions regarding environmental and interpersonal service quality, patient delight, satisfaction and behavioral intentions, followed by questions regarding demographic information. Additionally, patients were asked to describe anything related to the services provided that were particularly unexpected or surprising that occurred during their stay. To answer the research questions, structural equation modeling (SEM) was conducted to explore the relationships between the constructs. The Statistical Package for the Social Science (SPSS) was also used for all descriptive analyses including the frequency distributions.

This chapter consists of four sections: (1) discussion of the findings in relation to the major research questions and associated hypotheses; (2) the theoretical contributions and managerial implications; (3) limitations and directions for future research; and (4) concluding comments.

5.1 Discussion of Hypotheses Findings

In a hospital setting, is patient satisfaction related to delight? Is patient satisfaction and patient delight related to behavioral intentions? Are service quality dimensions (environmental/interpersonal) related to patient delight and satisfaction? These are the primary questions the current research sought to address and is the focus of the next section.

5.1.1 Patient Delight, Environmental and Interpersonal Services

The hypotheses regarding the positive influence of environmental services (H1) and interpersonal services (H3) on patient delight were initially not supported. However, subsequent analysis provided support for a relationship that was mediated by patient satisfaction. These findings provide empirical evidence in support of the literature that adequate performance on the basic requirements of what is expected of all providers is necessary if any level of satisfaction is to be attained (e.g. Kano *et al*., 1984; Keiningham and Vavra, 2001; Rust and Oliver, 2000). If mere satisfaction is absent on these expected attributes, the ability to delight customers is unattainable (Zeithaml and Bitner, 2003). For example, Wang (2011) found that the relationship between delight and behavioral

intentions with restaurant patrons was significant only when satisfaction with the service quality was at a high level.

5.1.2 Patient Satisfaction, Environmental and Interpersonal Services

The hypotheses regarding the positive influence of environmental services (H2) and interpersonal services (H4) on patient satisfaction were supported. The findings related to H2 provide clarification to an area in which past research has shown contradictory findings. A possible explanation of this effect being found in a hospital setting, when it was not found in other settings, relates to idea that environmental aspects are more likely to influence consumers' responses when the consumer spends extended periods of time observing and experiencing the service environment, such as a hospital stay (Wakefield and Blodgett, 1999). Past studies, in which no effect was found focused on service encounters of a relatively short duration, such as banking, insurance and public utilities (Parasuraman *et al.*,1991), dry cleaning and pest control (Cronin and Taylor, 1992). Exposure to the actual facilities is extremely limited, relative to a hospital stay which typically averages 4 days in length. Additional support for this rationale is the fact that these results support similar findings in hospital settings in which aspects of the physical facilities (cleanliness, modern equipment, room appearance) were found to be related to perceived patient satisfaction (Andaleeb, 1988; Swan *et al.*, 2003).

The findings related to H4 provide empirical evidence that supports previous studies demonstrating that interpersonal aspects of care have been shown to be significantly related to customer satisfaction in general (Bitner,1990, 1992; Mehrabian,

1974; Wakefield and Blodgett, 1999; Parasuraman *et al*., 1985, 1988) and patient satisfaction in particular (Westaway, 2003).

5.1.3 Patient Delight, Satisfaction and Behavioral Intentions

The hypothesis regarding the positive influence of patient satisfaction (H5) on patient delight was supported. The findings related to H5 provide empirical evidence in support of the literature that suggests adequate levels of satisfaction must be achieved on core attributes requirements if any level of delight is to be attained (e.g. Kano *et al*., 1984; Keiningham and Vavra, 2001; Rust and Oliver, 2000). If mere satisfaction is absent on core attributes, the ability to delight customers is unattainable (Zeithaml and Bitner, 2003). For example, Wang (2011) found that the relationship between delight and behavioral intentions with restaurant patrons was significant only when satisfaction with the service quality attributes was at a high level. In other words, satisfaction on expected services, regardless of whether they are environmental or interpersonal, are necessary conditions for delight to occur.

The hypotheses regarding the positive influence of patient delight (H6) and patient satisfaction (H7) on behavioral intentions were supported. The findings related to H6 provide clarification to an area that has shown contradictory findings. The findings related to H7 provide empirical evidence that supports previous studies demonstrating the relationship between customer satisfaction and behavioral intentions (Anderson and Sullivan, 1993; Anderson *et al.,* 1994; Bernhardt *et al.,* 2000; Bolton, 1998; Szymanski and Henard, 2001).

5.2 Theoretical Contributions

The present study provides several theoretical contributions for consumer behavior research. First, this study is one of the early empirical studies on customer satisfaction, delight, and behavioral intentions, and the first one conducted in a hospital context. In particular, this study extends support for the conceptualization of customer satisfaction and delight as distinct constructs (Hicks *et al.*, 2005; Oliver *et al.*, 1997; Rust and Oliver, 1994; Westbrook and Oliver, 1991).

Second, prior studies have shown mixed results regarding the relationships among delight and behavioral intentions. The current research supports those previous studies (Oliver *et al*., 1997; Finn *et al*., 2005; Loureiro and Kastenholz, 2010) that demonstrated a relationship between delight and behavioral intentions. The findings show that delight is an important antecedent of behavioral intentions.

Third, this research developed and applied a new emotionally-based measure of delight. Scholars have consistently called into question the issues associated with measuring delight. Although scholars are in agreement that delight is an emotionally-based construct, subsequent research on delight has often utilized the cognitively-based disconfirmation of expectations. This research demonstrated acceptable psychometric properties for a newly developed measure that incorporates a higher-order delight construct utilizing an emotions-based scale. The new measure demonstrated acceptable psychometric properties.

Fourth, despite strong evidence for the positive effects of customer satisfaction on behavioral intentions (Anderson and Sullivan 1993; Bolton 1998; Szymanski and Henard 2001), researchers also identified situations in which the correspondence was found to be

low (Jones and Sasser, 1995; Mittal and Kamakura, 2001; Reichheld, 1996; Skogland and Siquaw, 2004). The findings of this study reinforces the traditional view that there is a statistically strong and critical relationship between customer satisfaction and behavioral intentions, and that customer satisfaction is one of the main antecedents of behavioral intentions (Mittal & Kamakura, 2001).

Fifth, satisfaction research has been disproportionately focused on a more cognitive (disconfirmation of expectations) perspective in previous studies (Oliver, 1980; Bigne *et al*., 2003; Oliver and Swan, 1989). This research supports literature showing the benefits of incorporating both cognitive and affective concepts when evaluating customer satisfaction and behavioral intentions (Bigne *et al.*, 2003; Mano and Oliver, 1993; Oliver, 1993; Oliver *et al.,* 1997; Westbrook and Oliver, 1991; Wirtz and Bateson, 1999; Wirtz *et al*., 2000).

Sixth, the findings of this study provide new insights by integrating interpersonal and environmental service quality dimensions together with customer delight and satisfaction concepts in an effort to better explain behavioral intentions. The results show that efforts directed at interpersonal and environmental services aimed at delighting the customer (patient) will only be effective if customer satisfaction is at adequate levels. Although the relationship among interpersonal services, satisfaction and delight has been established, the relationship among environmental services, satisfaction and delight, had not been attempted, prior to the current research. The current research provides support for the literature that suggest satisfaction is a necessary but not sufficient criteria for creating delightful experiences and subsequent favorable behavioral intentions.

5.3 Managerial Implications

Healthcare administrators are facing unprecedented changes in the market environment at the same time that patients are becoming more demanding. More often, their expectations are being shaped by their experiences at other service industries, such as hotels. Providing rewarding service experiences for patients has become increasingly important, as payment for services become aligned with those patient experiences. This study provides several practical implications for administrators. Perhaps the most important message is to deliver an experience that is ultimately considered delightful, an organization must first deliver on those services that customers expect to be present. If satisfaction on those services is inadequate, delight cannot be achieved. For example, an exquisite room with an outstanding view, equipped with a bed that is so uncomfortable the patient can't sleep, will not result in a delightful experience.

Second, this study shows that the environment of care in which services are provided is important to creating, not only satisfying experiences, but also delightful ones. Environmental aspects are much more controllable than interpersonal services and therefore provide an organization a vehicle to deliver a more consistent impression on consumers. Given the influence of environmental services on delight and the subsequent influence of delight on behavioral intentions, the physical environment provides management a more predictable strategy to address satisfaction and delight. As Wakefield and Blodgett (1999) suggest, the physical environment may, in a sense, become an insurance policy to compensate for service failures on the part of employees.

Third, the steps hospitals have taken in terms of facility improvements seem to be good investments however, to fully leverage the benefit, these efforts should be done in

parallel with attention to the interpersonal interactions between patients and staff. Interpersonal services play a critical role in determining satisfaction, and satisfaction has a greater impact on behavioral intentions. Personal attention seems to be important to patients. As such, implementation of standardized processes should not constrain employees from creating a personalized service experience for the customer. Inspired by improvements realized in manufacturing, service industries tried to apply standardization techniques such as zero defects, TQI and Six Sigma to ensure that deviations in performance from customer expectations were minimized (Fleming, *et al*., 2005). Many hospital administrators diligently implement rigid standards of performance for their front-line workers, designed to ensure that these important customer service processes are delivered in a predictable way for the customer. However, there is evidence that these "standardized" approaches that focus on the efficiency of the process are less effective than "customized" service offerings that focus on the individual situation of each customer (Solomon and Surprenant, 1985; Surprenant and Solomon, 1987). In other words, customers are satisfied when the company can avoid problems (i.e., the ''zero defects'' strategy), but to keep customers for the long-run, companies must do more (Arnold, *et al*., 2005). For example, quality improvement methodologies such as Six Sigma, which are extremely useful in manufacturing contexts, where ingredients with predictable properties are repeatedly combined in the same ways, but they're less useful when it comes to the employee-customer encounter, with its volatile human dimensions (Fleming, *et al.*, 2005). Even if service organizations were able to successfully implement these techniques, the current research findings suggest that unexpected positive events are typically generated by the uncommon or out of the ordinary actions of

front line staff. Given the preceding discussion, perhaps there has been too much focus on developing rigid policies that dictate the manner in which service providers can perform services that truly go beyond customer expectations. This also provides a potential solution to one of the biggest concerns related to customer delight, the effect of raising the bar of customer's expectations about future performances, making it more difficult for marketers to reliably create customer delight in the future (Arnold *et al.*, 2005; Rust and Oliver, 2000). Developing initiatives that are difficult to replicate by competitors, and also provide customers with unique experiences on subsequent visits, seems to be key. A culture in which the front-line employees feel empowered to respond to individual customer needs is a difficult thing for competitors to replicate. The most effective strategy is to build a workforce of individuals that look for opportunities to provide services that go beyond what is expected. This can be done by hiring individuals that have leadership skill sets. In addition, constantly rewarding employees for displaying these behaviors reinforces the behavior. Furthermore, sharing the stories with the entire organization through company newsletters further reinforces the behavior with all employees.

Fifth, the research suggests that measures of emotional reactions to environmental and interpersonal services are important. Likewise, strategies to affect emotions are important. Collecting information from patients up front will provide managers with information regarding the type of emotions the patient is having.

5.4 Limitations and Future Studies

Although this study provides several theoretical and practical implications for the healthcare industry, there are several limitations that would provide excellent opportunities for future contributions to this important stream of research. First, Since the study was restricted to patients discharged from a single hospital located in the mid-western United States, generalizing the results is limited. To be generalized to other populations, the theoretical structure should be tested with different samples such as types of hospitals (e.g., teaching hospitals, long-term care hospitals), locations (e.g., other states, other countries), and service industries (e.g., airline, education).

Second, there are limitations associated with the cross-sectional design of the research. As such, the research addresses a single point in time and therefore does not address previous circumstances that may have impacted the results. Additional research incorporating longitudinal methodology would help address such questions as sustainability of delighting customers over time or actual behaviors as opposed to behavioral intentions.

Third, although several variables were controlled for (age, prior experience, gender, and education) the variables assessed were certainly not exhaustive. Future research could also assess factors, such as, service involvement (shorter/longer lengths of stay), or type of service (delivering a baby versus open heart surgery) or outcome of the stay (health status improvement).

A fourth limitation of this study relates to the measure of delight items in the survey. Although the new delight measure demonstrated acceptable psychometric properties, results need to be repeated and refined to assess reliability and validity.

Additional research should expand the emotional items under consideration and compare to other models such as a correlated two factor. Also, the research focused on the emotion of delight. However, healthcare involves a variety of emotions (anxiety, fear, anticipation, guilt, anger, etc.). Future research should expand the emotions evaluated.

5.5 Conclusion

This study aimed to test the impact of patient delight and satisfaction on behavioral intentions in the context of an inpatient hospital stay. The findings demonstrate that behavioral intentions are directly influenced by customer satisfaction and delight and patient delight is influenced by patient satisfaction. Furthermore, environmental and interpersonal services have a direct influence on satisfaction and an indirect influence on delight that is mediated by satisfaction.

The results of this study have both theoretical and practical value in that they fill gaps in previous healthcare research on patient satisfaction, delight, and behavioral intentions. Furthermore, the research introduced a new measure of delight that is consistent with an emotions-based conceptualization. Future research should: (1) be extended to different samples; (2) incorporate longitudinal methodology; (3) incorporate other factors; (4) continue to assess and refine the measurement of delight; and, (5) seek to provide more specific actions associated with the environmental and interpersonal attributes.

Because today's consumers are more informed and sophisticated, they tend to look beyond the mere satisfaction of their expectations. They seek fulfillment of their desires (Spreng, *et al*., 1992) and unique experiences (Prahalad and Ramaswamy, 2003;

Vandenbosch and Dawar, 2002) from their interactions with organizations. In summarizing the current shift in consumer behavior, Mascarenhas *et al*., (2004) observes, that consumers seek much more than a product or service to satisfy them, they want an engagement, an experience…they want to be delighted (Keiningham *et al*., 1999; Keiningham and Vavra, 2001; Schneider and Bowen, 1999). This research extends the sentiment expressed in other studies (Liljander and Strandvik, 1997; Westbrook and Oliver, 1991; Wong, 2004), that judgments pertaining to consumer satisfaction and future behavioral intention are better explained when the emotion of delight is considered.

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APPENDIX A

Survey Questionnaire

HOSPITAL SURVEY INSTRUMENT

[ASK FOR PATIENT LISTED; ASK FOR PARENT IF PATIENT IS UNDER 21 YEARS OLD] **Hello, my name is ___ from BRS on behalf of Lake West Hospital. We are asking recent patients for their opinions to help the hospital better understand areas to improve. Your individual answers will be kept confidential and will only be reported in an aggregate total with all the other patients we speak with. Can you help us?**

You probably had some expectations regarding the services you would have in regards to your stay. However, I would like to ask you about anything that was unexpected that may have happened. It may have been a caregiver who did something out of the ordinary, or a feature of the room that you weren't expecting. The event may have been positive or negative.

Q1. Can you recall any experience or event that happened to you during your Lake West Hospital stay that was unexpected or surprising?

-1 Yes -2 NO

[IF NO, Thank you, that's the only question I have.]

Q1a. **[IF YES]** Please tell me about the unexpected or surprising experience you're thinking about at Lake West Hospital? **[PROBE FOR SPECIFICS YOU CAN DISCUSS]**

_____

_____

_____

Q2. Using a 7-point scale; with 1 meaning "an extremely negative experience" and 7 meaning "an extremely positive experience", how would you rate the unexpected experience at Lake West Hospital that you mentioned?

Extremely Negative							***Extremely Positive***
1	2	3	4	5	6	7	

I'm going to read you a list of emotions that you may or may not have felt related to this unexpected event**. Please rate the level at which you agree with the statements using a 7-point scale with 1 meaning you "strongly disagree" and 7 meaning you "strongly agree".**

[Rotate Qts 3a to 3m]

The **unexpected event** made me feel…	***Strongly Disagree***						***Strongly Agree***
3a. happy.	1	2	3	4	5	6	7
3b. delighted.	1	2	3	4	5	6	7
3c. surprised.	1	2	3	4	5	6	7
3d. pleased.	1	2	3	4	5	6	7
3e. joyous.	1	2	3	4	5	6	7
3f. astonished.	1	2	3	4	5	6	7
3g. inspired.	1	2	3	4	5	6	7
3h. relieved.	1	2	3	4	5	6	7
3i. angered.	1	2	3	4	5	6	7
3j. disgusted.	1	2	3	4	5	6	7
3k. contempt.	1	2	3	4	5	6	7
3l. sadness.	1	2	3	4	5	6	7
3m. fearful.	1	2	3	4	5	6	7

Q4. The unexpected event was the result of actions from a physician, nurse or staff member, and not hospital policies.	1	2	3	4	5	6	7

Now I'm going to read you a series of statements regarding **your stay at Lake West Hospital**. Please rate your level of agreement using a 7-point scale with a 1 meaning you "strongly disagree" and 7 meaning you "strongly agree".

[Rotate Qts 25 to 28]

OVERALL SERVICE QUALITY	**Strongly Disagree**						**Strongly Agree**
Q25. Overall, the services at Lake West were excellent.	1	2	3	4	5	6	7
Q26. The services I received at Lake West were of a very high quality.	1	2	3	4	5	6	7
Q27. I received a high standard of service at Lake West.	1	2	3	4	5	6	7
Q28. I received superior service at Lake West in every way.	1	2	3	4	5	6	7

HEALTH OUTCOME	**Strongly Disagree**						**Strongly Agree**
Q36. My health improved as a result of the Lake West Hospital stay.	1	2	3	4	5	6	7

[Rotate Qts 37 to 41]

BEHAVIORAL INTENTIONS ***(Q38, Q39 & Q41 added based on pre-test results)***							
Q37. I will use Lake West Hospital if I need care in the future.	1	2	3	4	5	6	7
Q38. I consider Lake West Hospital my first choice for future care.	1	2	3	4	5	6	7
Q39. I will say positive things about Lake West Hospital to other people.	1	2	3	4	5	6	7
Q40. I will recommend this Lake West Hospital to others who need care.	1	2	3	4	5	6	7
Q41. I will encourage friends and relatives to use Lake West Hospital.	1	2	3	4	5	6	7

I'm going to read you a list of emotions that you may or may not have felt related to your overall experience with your stay at Lake West Hospital. Please rate the level at which you agree with the statements using the 7-point scale with a 1 meaning you "Strongly Disagree" and 7 meaning you "Strongly Agree".

[Rotate Qts 42a to 42m]

The overall experience made me feel…	***Strongly Disagree***						***Strongly Agree***
42a. happy.	1	2	3	4	5	6	7

42b. delighted.	1	2	3	4	5	6	7
42c. surprised.	1	2	3	4	5	6	7
42d. pleased.	1	2	3	4	5	6	7
42e. joyous.	1	2	3	4	5	6	7
42f. astonished.	1	2	3	4	5	6	7
42g. inspired ***(excited used in pre-test)***	1	2	3	4	5	6	7
42h. relieved.	1	2	3	4	5	6	7
42i. angered.	1	2	3	4	5	6	7
42j. disgusted.	1	2	3	4	5	6	7
42k. contempt.	1	2	3	4	5	6	7
42l. sadness.	1	2	3	4	5	6	7
42m. fearful.	1	2	3	4	5	6	7

[Rotate Qts 29 to 32]

OVERALL SATISFACTION ***(used in pre-test)***	***Strongly Disagree***						***Strongly Agree***
Q29. Overall, I was satisfied with the care provided by the doctors who treated me at Lake West Hospital.	1	2	3	4	5	6	7
Q30. Overall, I was satisfied with the care provided by the nurses who treated me at Lake West Hospital.	1	2	3	4	5	6	7
Q31. Overall, I was satisfied with the support services at Lake West Hospital.	1	2	3	4	5	6	7
Q32. Overall, I was satisfied with Lake West Hospital.	1	2	3	4	5	6	7

[Rotate Qts 33 to 35]

(*Q33, Q34, Q35 added based on results of pre-test)*

	Unfavorable						***Favorable***
Q33. Overall, would you rate your most recent experience at Lake West Hospital favorably of unfavorably? **[Probe for Extremely, Very or Somewhat]**	1	2	3	4	5	6	7

-1 Extremely Unfavorable
-2 Very Unfavorable
-3 Somewhat Unfavorable
-4 Neither Favorable or Unfavorable
-5 Somewhat Unfavorable
-6 Very Unfavorable
-7 Extremely Unfavorable

	Displeasing						***Pleasing***
Q34. Overall, would you rate your most recent experience at Lake West Hospital pleasing or displeasing? **[Probe for Extremely, Very or Somewhat]**	1	2	3	4	5	6	7

-1 Extremely Displeasing
-2 Very Displeasing
-3 Somewhat Displeasing
-4 Neither Pleasing or Displeasing
-5 Somewhat Pleasing
-6 Very Pleasing
-7 Extremely Pleasing

	Dissatisfying						***Satisfying***
Q35. Overall, would you rate my most recent experience at Lake West Hospital satisfying or dissatisfying? **[Probe for Extremely, Very or Somewhat]**	1	2	3	4	5	6	7

-1 Extremely Dissatisfying
-2 Very Dissatisfying
-3 Somewhat Dissatisfying
-4 Neither Satisfying or Dissatisfying
-5 Somewhat Satisfying
-6 Very Satisfying
-7 Extremely Satisfying

PRIOR EXPERIENCE

Q43. Approximately how many times have you been a patient at a hospital over the past 10 years? _____

EDUCATION

Q45. What is the highest level of education that you completed? **[READ LIST]**

-1 Less than high school
-2 High school graduate
-3 Some college
-4 College graduate
-5 Post-college course work
-6 Advanced degree
-9 Refused

SERVICE QUALITY - [Rotate Qts 5 to 24]

Thank you so much, this is our last section, rate your level of agreement using a 7-point scale with a 1 meaning you "strongly disagree" and 7 meaning you "strongly agree".

How much do you agree or disagree with this statement about Lake West Hospital?	***Strongly Disagree***						***Strongly Agree***
Q5. The equipment operated properly.	1	2	3	4	5	6	7
Q6. The room was kept clean.	1	2	3	4	5	6	7
Q7. The quality of the food was good.	1	2	3	4	5	6	7
Q8. The accommodations were comfortable.	1	2	3	4	5	6	7
Q9. I was not disturbed by excessive noise levels.	1	2	3	4	5	6	7

Q10. When they promised to do something, they did it.	1	2	3	4	5	6	7
Q11. They included me in decisions about my care.	1	2	3	4	5	6	7
Q12. They were skilled at performing their jobs.	1	2	3	4	5	6	7
Q13. They kept me informed regarding tests/treatments.	1	2	3	4	5	6	7
Q14. They responded to call lights in a timely manner.	1	2	3	4	5	6	7
Q15. They were attentive to my requests.	1	2	3	4	5	6	7
Q16. The wait time for services was reasonable.	1	2	3	4	5	6	7
Q17. The amount of staffing was appropriate.	1	2	3	4	5	6	7
Q18. The care was well coordinated.	1	2	3	4	5	6	7
Q19. They were generally courteous to me.	1	2	3	4	5	6	7
Q20. They gave me individual attention.	1	2	3	4	5	6	7
Q21. My sleep was not disturbed for tests and treatments.	1	2	3	4	5	6	7
Q22. The employees seemed genuinely concerned for me.	1	2	3	4	5	6	7
Q23. They seemed to have my best interest at heart.	1	2	3	4	5	6	7
Q24. They were caring towards my special needs.	1	2	3	4	5	6	7

Thank you for taking the time to answer our questions.

Q44. RECORD AGE OF PATIENT:

-1 (Less than 15)
-2 (16-20)
-3 (21 –31)
-4 (32-47)
-5 (48-64)
-6 (65-79)
-7 (80 or older)
-9 (Refused)

Q46: RECORD GENDER OF PATIENT.

-1 Male
-2 Female

Q47. RECORD WEEK PATIENT WAS DISCHARGED:

-1 Week Ending _____
-2 Week Ending _____
-3 Week Ending _____