The Impact of Healthscape on Customer Satisfaction and Loyalty in Public and Private Healthcare Institutions

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Abstract

The evaluation of services is highly dependable on consumers' experiences and emotions toward the service encounter. The service environment (the servicescape) has an influential aspect of customers' satisfaction and behavioral intentions including customer loyalty. This study aims to define the possible effects of the healthcare service environment (healthscape) on consumer experience, satisfaction, and loyalty. The data was collected from patients that have visited an outpatient clinic, ER, laboratory or had an operation from a private or public hospital within the last 30 days. A questionnaire was administrated to collect data on helathscape perceptions, emotional responses toward the healthscape, customer satisfaction, and customer loyalty including both re-purchase and WOM intentions. The study has yielded that the physical dimension of the healthscape to be the most influential antecedent of consumers' emotional responses.

Keywords: Healthscape, consumer emotions, customer experience, satisfaction, and loyalty

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1 Introduction

The evaluation and success of services highly rely on consumers' experiences due to their intangible nature (Newman, 2007). Service experience differs from other consumption situations. Customers feel a high level of uncertainty during service purchases (Reimer and Kuehn, 2005) and they perceive it riskier than physical product purchases (Hutton and Richardson, 1995). During the evaluation of service delivery consumers have a tendency to look for tangible cues, or physical evidence (Wilson *et al.*, 2016; Newman, 2007; Leong *et al.*, 1997). An important element of physical evidence is the physical environment (the servicescape) the service is being consumed (Wilson *et al.*, 2016)). The servicescape is "the physical surroundings" of a service provider (Reimer and Kuehn, 2005). According to Kotler *et al.* (2011, p. 418) atmosphere of the service encounter operates as a "packaged environment" that motivates the customer on giving the purchase decision.

Understanding the possible effects of the servicescape on consumers' cognitive, affective and conative responses has drawn attention from many researchers. Past research tried to define servicescape effects on different service encounters including hotels (Lin, 2004), healthcare (Sahoo and Ghosh, 2016), (Ladhari *et al.*, 2017), (Miaoulis Jr *et al.*, 2009), (Pai and Chary, 2016),(Ismail and Velnampy,

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2013),(Rosenbaum and Smallwood, 2011), (Sahoo and Ghosh, 2016), (Waterman and Faulkner, 2010), (Amin *et al.*, 2016),(Joon Choi and Sik Kim, 2013), (Vilnai-Yavetz and Gilboa, 2010), (Holder and Berndt, 2011), (Bonfanti *et al.*, 2017)(Rosenbaum and Massiah, 2011), (Hill and McCrory, 1997), (Fottler *et al.*, 2000), (Hutton and Richardson, 1995); restaurants (Reimer and Kuehn, 2005), (Harris and Ezeh, 2008), (Leong *et al.*, 1997) and leisure services (Dong and Siu, 2013), (Wakefield and Blodgett, 1996), (Lucas, 2003), (Arnould and Price, 1993).

Originating from the literature on servicescape healthscape refers to the physical environment of healthcare institutions. Consumer responses toward healthcare services differ from others. Most of the time the patients arrive at the service encounter with negative emotions (Pai and Chary, 2016) like anxiety, discomfort, panic, and frustration. As the servicescape is believed to call for different emotional responses ((Newman, 2007), (Sahoo and Ghosh, 2016)) the healthscape becomes critical in terms of creating the right emotions and responses.

Most of the time consumer experiences are related to hedonic consumption situations (Holbrook and Hirschman, 1982), but experiences in hospitals fall on the utilitarian side (Ladhari *et al.*, 2017). For hedonic services like leisure services, the physical aspect of the servicescape affects the consumer experience (Sahoo and Ghosh, 2016). But the experience that the patient goes through during healthcare service delivery is relatively different. When utilitarian services are present consumers responses toward the augmented service elements like the servicescape tend to differ (Mekoth *et al.*, 2011). In the healthcare service setting patient experience can be shaped by many aspects including social interactions with service personnel, physical characteristics of the service encounter to extra services provided to the patient (Holder and Berndt, 2011). Also, the interpersonal nature of the healthcare services calls for different servicescape dimension especially making the social dimension of the servicescape relatively more important when compared to different service encounters ((Ismail and Velnampy, 2013);(Miaoulis Jr *et al.*, 2009);(Joon Choi and Sik Kim, 2013)). The utilitarian and interpersonal ((Wilson *et al.*, 2016);(Mekoth *et al.*, 2011)) nature of the healthcare service is another dimension that created a difference with other service consumption situations.

Considering the differences of the healthscape, this study aims to further understand the dimensionality of the construct as well as to define the possible relationships between healthscape, consumer perceptions and satisfaction, re-patronage intentions and consumers' intentions to recommend. Healthcare providers that operate in Turkey include both private and public institutions and most of Turkey's population relies on the healthcare service provided by public hospitals. The present study aims to address a more holistic point of view in terms of healthscape perceptions through the use of multiple healthcare service institutions and the study focuses on especially outpatient healthcare facilities which include different physical cues like the treatment rooms, registration, and waiting areas, etc.

2 Theoretical Background and Hypothesis Development

2.1 Servicescape and Healthscape

Bitner (1992) was the first researcher who created a framework that summarizes the effects of the physical environment on consumer responses. According to her, the physical service environment is believed to consist of 3 environmental dimensions:

1. Ambient Conditions (the "background factors", i.e. temperature, noise etc.)
2. Space/Function (includes the layout, as well as equipment features)
3. Signs, Symbols, and Artifacts (signage, decoration and personal artifacts)

Bitner (1992) suggests that the environment's significance rely both on the qualifications of the service being provided and the nature of service experience. Even though her framework provides a

detailed view of the physical evidence present in service delivery and possible consumer response, the type of service and consumers emotions during service delivery might create a need for interpretation of the framework. The servicescape has both direct and indirect effect on consumers evaluations of service delivery and their perceptions of service quality ((Reimer and Kuehn, 2005); (Hutton and Richardson, 1995)). In her seminal work Bitner (1992) points out that hospitals shouldn't undermine the importance of the servicescape and that they are one of the few service organizations that the servicescape plays an important role in creating successful service outcomes. The servicescape is believed to be the most powerful tool in terms of affecting consumer responses (Fottler *et al.*, 2000).

Influenced by the importance of the servicescape on creating favourable consumer responses, healthcare institutions acknowledged the importance of physical environment and started to put greater thought on their atmospheric qualities (Ghosh and Sahoo, 2016).

Healthscape also gained attention from many researchers. Hutton and Richardson (1995) created a conceptual model of the servicescape based on Bitner's framework and Kotler *et al.* (2011)'s view on atmospherics. Their conceptual model included the following propositions:

- Healthscape as a combination of atmospherics and servicescape is measurable.
- The patients' perceptions toward the healthscape are related to their satisfaction, assessment of quality, patronage, WOM intentions and their loyalty.

Rosenbaum and Massiah (2011) suggested an expanded view of the servicescape for healthcare institutions. Their framework asserted the importance of controllability of the physical servicescape and they pointed out that social dimension also can affect the consumers' behaviors (Hutton and Richardson, 1995). According to their study, the servicescape is multi-dimensional (Ghosh and Sahoo, 2016) including "the physical dimension, social dimension, socially-symbolic dimension and the natural dimension" (Rosenbaum and Massiah, 2011). A healing environment should include both the physical and psychological comfort of the patients ((Fottler *et al.*, 2000); (Miaoulis Jr *et al.*, 2009)) and as a result, the healthscape is believed to include both the physical and the social dimensions.

In their study, Pai and Chary (2013) tried to reveal the main dimensions of the healthscape. Their conceptualization yielded three dimensions: visual appeal and layout, amenity, and cleanliness and hygiene. The cleanliness and hygiene dimension was found to be the most important one.

The physical dimension of the servicescape is objective and can be controlled by the service company easily ((Rosenbaum and Massiah, 2011); (Bitner, 1992);(Mari and Poggesi, 2013)). In healthcare business differentiation of the company through pricing becomes rather low, and there is intense competition between healthcare institutions (Hutton and Richardson, 1995). The physical dimension of the healthscape can be a tool for healthcare service providers to differentiate themselves from competition (Holder and Berndt, 2011). Although the physical dimension operates in three distinctive categories the responses from customers toward it is mostly holistic (Rosenbaum *et al.*, 2011).

The ambient elements like temperature, noise, odor etc. can create different emotional and perceptual outcomes (Wakefield and Blodgett, 1996) that are influential in terms of acquiring the desired consumer responses. Healthcare institutions use both the exterior (signage, parking, building, waiting areas etc.) and the interior (design, layout, equipment, décor, etc.) elements of the servicescape to induce the expected experience Amin *et al.* (2016).

Bitner (1992) states the importance of space and functions is dependable to the complexity of the service being offered. Healthcare is a complex service with multiple facets (both physical and also social) as a result this dimension of the healthscape is expected to have a high level of importance. Space and functions also include the physical appearance and the equipment used, the quality of the physical appearance and the adequacy and performance of the equipment have effects on customer satisfaction (Amin *et al.*, 2016).

Signs are used in or out of the service encounter to facilitate the efficient movement of customers (Bitner, 1992). In service settings like hospitals signage and navigation becomes relatively important;

as people spend a great deal of time and effort to get to the different parts of the service encounter. If the navigation and signage fall short than patient expectations, their anxiety might increase and in return, this can create negative emotions in terms patient satisfaction (Bonfanti *et al.*, 2017).

Besides the physical dimensions established for healthcare services before, hygiene and cleanliness are also expected to have an impact on consumers' evaluations. As cleanliness can create positive emotions it is expected to have an impact on consumer responses ((Vilnai-Yavetz and Gilboa, 2010); (Hill and McCrory, 1997)). In a study conducted by Hill and McCrory (1997) patients stated that hygiene and cleanliness and staff's behavior during service delivery is the most important dimensions in the evaluation of the service experience. Despite its importance in creating certain positive emotions in most research hygiene and cleanliness was left out the servicescape (Vilnai-Yavetz and Gilboa, 2010). Considering its importance in healthcare service setting hygiene and cleanliness will be considered as a dimension of the healthscape in this study.

In summary, the hospital's quality of equipment, hygiene and cleanliness, physical qualifications and the signs used to navigate patients within the hospital become vital elements in terms of healthcare service evaluation (Fottler *et al.*, 2000).

Based on the following explanations it can be concluded that researchers should pursue multiple dimensions to measure the possible effects of the servicescape on consumer perceptions(Lin, 2004). Therefore;

H1: The physical dimensions of the healthscape including (a) ambient conditions, (b) layout and functions; and (c) hygiene and cleanliness; (d)signage are positively related to patients' holistic view of the service environment.

Most of the studies on healthscape stress the importance of the physical environment, but the effect of social interactions during service delivery have a greater impact on behavioral responses (Miaoulis Jr *et al.*, 2009) like patient satisfaction ((Ismail and Velnampy, 2013);(Waterman and Faulkner, 2010)).

The social dimension of the healthscape includes employee-patient interactions (Rosenbaum and Massiah, 2011) and as a high contact service healthcare includes a high level of employee and patient interactions (Mekoth *et al.*, 2011), which makes the social dimension relatively important. In healthcare institutions, the perceptions of patients of the physical environment cannot be separated from the social interactions (Bitner, 1992). As the patients are receiving an interpersonal service ((Ismail and Velnampy, 2013);(Miaoulis Jr *et al.*, 2009); (Joon Choi and Sik Kim, 2013)) they combine the physical stimuli with the social interactions to create certain emotions (Rosenbaum *et al.*, 2011), and the physical environment also creates the quality of social interactions.

As this paper tries to investigate the effect of healthscape on patient loyalty (re-patronage and intention to recommend) it is important to analyze the environment by physical and social elements to get a more accurate view in defining the outcomes of the service experience, a route which was taken by other researchers in previous years (e.g. Harris and Ezeh (2008)). Therefore the second hypothesis of the study is,

H2: The social dimension of the healthscape is positively related to patients' holistic view of the service environment.

2.2 The Holistic View of The Healthscape and Its Effect on Patients' Responses

Servicescape believed to create certain emotions in the minds of consumers ((Ladhari *et al.*, 2017); (Rosenbaum and Smallwood, 2011); (Bitner, 1992) and result in positive or negative consumer responses ((Newman, 2007); (Ladhari *et al.*, 2017)). In healthcare institutions, the service performance should be determined solely based on consumer perceptions (Ghosh and Sahoo, 2016).

Oliver (2014, p. 8) provides the following definition of satisfaction:

> *"Satisfaction is the consumer's fulfillment response. It is a judgment that a prod-*

uct/service feature, or the product/service itself, provided a pleasurable level of consumption-related fulfillment, including levels of under-or over-fulfillment."

According to Oliver (2014), the pleasure is not always about the service itself, especially in the situation of over-fulfilment, it also includes "additional unexpected" outcomes. Customer satisfaction is the result of consumers' evaluations on many tangible and intangible dimensions of the service (Mortazavi *et al.*, 2009). Customer satisfaction recalls for a certain level of experience with the service provider (Yap and Kew, 2007). A patient's satisfaction with the overall healthcare service is the result of the patient's perceptions ((Leong *et al.*, 1997); (Ghosh and Sahoo, 2016)) and judgements on service delivery.

Patient satisfaction relies on certain characteristics of the service delivery including interpersonal communications between the patient and service delivery personnel (including doctors, nurses and also registration clerks) and the physical environment of the service encounter ((Ware *et al.*, 1983); (Sitzia and Wood, 1997)). The physical environment is very influential in creating satisfaction and in some situations, it is even perceived as important as the service performance. In healthcare, service personnel is a vital part of service encounter as a result understanding the effects of personal contacts and service delivery dimensions will provide a more holistic view on customer satisfaction (Hutton and Richardson, 1995). In healthcare, the social dimension affects customer satisfaction ((Joon Choi and Sik Kim, 2013); (Harris and Ezeh, 2008)) especially through the technical and social skills of employees. Therefore;

H3: (a)Patients' perceptions of the holistic service environment and (b)the social dimension of the healthscape are positively related to patient satisfaction.

As patients' satisfaction with the healthcare service increase so as their intention to use the hospital's services again ((Mekoth *et al.*, 2011);(Mortazavi *et al.*, 2009)) and their intention to recommend the service company to others (Miaoulis Jr *et al.*, 2009). Therefore;

H4: Patient satisfaction can result in (a) patients' intention to re-patronage and (b)patients' intention to recommend the healthcare institution.

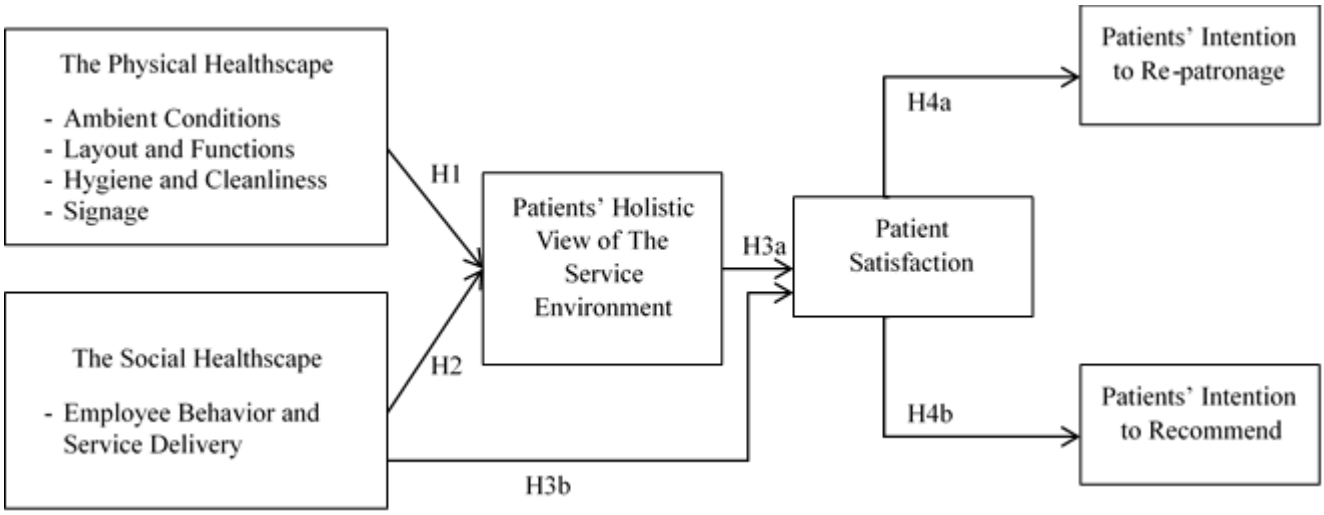

Figure 1: The Research Model

3 Data & Methodology

3.1 Data Collection Procedures and Tools

The data for the study was collected from patients that received outpatient clinic, ER, or laboratory services or had an operation in the last six months from either a private or public hospital, with an online survey.

The questionnaire was designed to collect the following information:

- The demographic structure of the sample including gender, age, income and educational level.
- Consumers' perceptions concerning the healthscape including ambient conditions, space and functions and signage and cleanliness and hygiene (measured with a 5-point Likert scale).
- Perceptions of social interactions with service employees and service delivery (measured with a 5-point Likert scale).
- Patients' perceptions of the holistic service environment (measured with a 5-point Likert scale).
- Perceptions of consumers' satisfaction with the service delivery (measured with a 5-point Likert scale).
- Patients' intentions on re-patronage and recommending the service encounter to others (measured with a 5-point Likert scale).

3.2 Sample Characteristics

Data collection yielded 239 responses. After reviewing the responses 16 questionnaires were eliminated from the study due to missing values. Analyses were conducted on the remaining 223 responses. 93 of the respondents received a health service from a private hospital, and 130 received a health service from a public hospital. The average age of the respondents was calculated as 30.16 years. The sample characteristics are summarized in Table (1).

Females completed around 43% of questionnaires and 57% were completed by male respondents. The education level of the respondents was found to be rather homogeneous resulting 76,7% of respondents to be falling into the high school category. The respondents were fairly distributed within income levels (Table (1)).

4 Results

4.1 Preliminary Analysis

Prior to analyzing the data with Partial Least Squares (PLS) to summarize the data structures and to understand the factor structure of the scales a group of factor analysis was conducted. To define factor structures more effectively Varimax rotation with Kaiser normalization was deployed. For the assessment of internal consistency reliability analysis, with the Cronbach Alpha coefficient, were computed. As the structures were drawn from previous literature the factor analyses were computed separately for each construct. The results of the factor and reliability analysis are summarized in Table (4.1).

For the interpretation of the factor analysis the first measure that should be taken into consideration is the Bartlett test of sphericity. The Bartlett test basically provides information on the appropriateness of the factor analysis by examining the correlations among the variables (Hair *et al.*, 1998). Significant results ($p < 0.05$) were obtained from each factor analysis.

The second indicator that should be taken into consideration is the Kaiser-Meyer Olkin Measure of Sampling Adequacy. This measure is expected to be above 0,50 to be determined as acceptable (Hair *et al.*, 2016). Values can be interpreted as follows:

	Frequency	Percentage
Gender		
Female	95	42,6%
Male	125	57,4%
TOTAL	**223**	
Education Level		
Primary School	2	0,9%
Secondary School	1	0,4%
High School	171	76,7%
Bachelor's Degree	32	14,3%
Master's Degree	2	0,9%
PhD	15	6,7%
TOTAL	**223**	
Income Level		
0-500 TLs	28	12,6%
501-1300 TLs	21	9,4%
1301-2500 TLs	63	28,3%
2501-4000 TLs	53	23,8%
Higher than 4001 TLs	58	26,0%
TOTAL	**223**	

Table 1: Sample Characteristics

Values	**Interpretation**
0,80 or above	Excellent
0,70-0,80	Good
0,60-0,70	Fair

Adopted from: Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2013). Multivariate data analysis. London, UK: Pearson Education Limited.

Table 2: Guidelines for Measuring Sampling Adequacy (MSA)

As seen in Table 3 the MSA for ambient conditions, hygiene and cleanliness, signage, employees and service delivery and perceptions of holistic service environment were all above 0,80, indicating an excellent sampling adequacy. The KMO measure for patient satisfaction and space and functions were 0,70 and 0,66 respectively. In summary, it can be concluded that MSA was achieved for all factors.

The final process in factor analysis is the evaluation of factor loadings. The factor loadings should exceed 0,70 to indicate a "well-defined structure" (Hair *et al.*, 1998). All of the variables included in the analysis were extracted with a loading exceeding that threshold, indicating the strength of the variables practical significance.

As stated earlier the internal consistency of the factors was assessed with the use of Cronbach's Alpha. The measure should exceed 0,70, in order to indicate internal consistency between variables. For all of the factors the reliability statistics were above the 0,70 threshold. As a result, the scales were also found to be representative in terms of reliability.

Variables	Factor Loading	Variance Explained (%)	Cronbach's Alpha (α)	KMO Measure
Ambient Conditions				
Temperature was satisfying.	,777	**63,071**	**,853**	**,856**
Air-conditioning wasn't disturbing.	,868			
The noise wasn't disturbing.	,791			
The music was appropriate.	,748			
The smell was not unsatisfying.	,782			
Space and Functions				
It was easy to enter the hospital from the parking lot.	,816	**59,295**	**,769**	**,661**
I could easily park my car.	,815			
The equipment worked properly.	,731			
The decorations were pleasing.	,712			
Hygiene and Cleanliness				
Every part of the hospital was clean.	,851	**75,629**	**,957**	**,947**
The toilets were clean.	,842			
The exam rooms were clean.	,877			
The dining areas were clean.	,832			
The halls of the hospital were clean.	,916			
The entrance and exit areas were clean.	,886			
The waiting areas were clean.	,903			
In general, the hospital was clean.	,918			
The clothing of the personnel was clean.	,773			
Signage				
The signs in the hospital were adequate.	,925	**85,944**	**,945**	**,837**
I could easily see the signs in the hospital.	,942			
I could easily understand the signs in the hospital.	,923			
Because of the signs, I could easily find my way around the hospital.	,918			
Employees and Service Delivery				
The registration personnel was kind to me.	,807	**65,561**	**,923**	**,898**
I didn't wait long for registration.	,745			
The personnel was very helpful.	,822			
I got satisfying answers to my questions.	,834			
The doctor's explanations were adequate.	,835			
The doctor was self-confident.	,794			
The doctor was caring.	,835			
The doctor was kind to me.	,802			
Patients Holistic View of The Service Environment				
During my time in the hospital I didn't feel uncomfortable.	,869	**77,964**	**,903**	**,837**
In general, the environment was not annoying.	,905			
In general, the environment was satisfying.	,897			
During my time in the hospital I felt comfortable.	,869			
Patient Satisfaction				
I was satisfied with the hospital's environment.	,964	**92,912**	**,924**	**,700**
I was satisfied with the hospital's healthcare service.	,964			
Re-purchase Intentions				
When I consider the level of service I received I don't think of visiting another hospital for healthcare service.	,903	**84,242**	**,937**	**,779**
This hospital will be my first choice for healthcare service.	,938			
I might visit the hospital for the same healthcare service again.	,909			
I might visit the hospital for another healthcare service again.	,921			

Table 3: Results of The Factor and Reliability Analysis

4.2 Preliminary Results of The Outer Measurement Model

In PLS to assess the significance of a measurement model the first step is to interpret the construct loadings, outer weights, AVEs (average variance explained) and construct reliabilities.

As internal consistency has been discussed in the preceding sections with the use of Cronbach's Alpha measures. In terms of defining internal consistency another measure is the composite reliabilities. Composite reliability is seen as more accurate in determining internal consistency as it uses the individual outer loading of each observed variable into account (Hair *et al.*, 2016). The composite reliability should be above 0.70. As seen in Table (4.2) the model has satisfactory reliability.

The second factor that should be interpreted to assess is the model's convergent validity. To assess convergent validity, the outer loadings together with the AVE value of each construct should be examined. The outer loadings and AVEs should exceed 0,70 and 0,50 respectively (Hair *et al.*, 2016). All of the outer loadings in the measurement model are above the 0,70 threshold, and the AVEs were also above the 0,50 threshold demonstrating convergent validity.

Constructs and Items	**Composite Reliability**	**Range of Loading**	**AVE**
Healthscape			
Ambient Conditions	0.894	0.722-0.861	0.630
Space and Functions	0.845	0.708-0.815	0.577
Cleanliness and Hygiene	0.965	0.780-0.918	0.754
Signage	0.960	0.915-0.942	0.857
Employees and Service Conduct	0.938	0.742-0.840	0.655
Patients' Holistic View of The Service Environment	0.933	0.852-0.904	0.776
Patient Satisfaction	0.963	0.962-0.965	0.929
Re-patronage	0.955	0.900-0.936	0.842
Recommendations*	1	1	1

Table 4: Preliminary Findings on Constructs

The final process in determining the model's suitability is the assessment of discriminant validity. Discriminant validity implies that a construct is not representative of other constructs in the model (Hair *et al.*, 2016). We applied two different approaches to assessing the model's discriminant validity. The first approach is the Fornell-Larcker Criterion. According to the Fornell-Larcker Criterion the square roots of AVEs should be higher than the correlations between constructs (Hair *et al.*, 2016). The second approach suggests that discriminant validity can be examined with the use of composite reliabilities (Ngo and O'Cass, 2009). According to this criterion if the composite reliability value exceeds the correlations between latent constructs discriminant validity can be achieved. All the correlations among the constructs are lower than the square root of AVEs and their composite reliabilities (Table 5) indicating that discriminant validity is achieved.

4.3 Hypothesis Testing

SmartPLS was used to test the structural model. To test for statistical significant bootstrap method were applied. The results of the hypothesis are summarized in Table 6 and Figure (2).

In relation to the first group of hypothesis all of the physical dimensions were predicted to be positively related to patients' view of the holistic service environment. The results support H1a, H1b, H1c and H1d with path weights 0.276 (t-value:3.98; $Sy.x$=0.07; p=0.000); 0.212 (t-value:5.68; $Sy.x$=0.04; p=0.000); 0.238 (t-value:3.12; $Sy.x$=0.08; p=0.002), and 0.102 (t-value:2.64; $Sy.x$=0.04; p=0.008). For

	Mean	SD	1	2	3	4	5	6	7	8	9
Healthscape											
1 Ambient Conditions	2.42	0.85	**0.793 (0.894)**								
2 Space and Functions	2.60	0.93	0.753	**0.760 (0.845)**							
3 Cleanliness and Hygiene	2.26	0.83	0.789	0.747	**0.868 (0.965)**						
4 Signage	2.33	0.94	0.459	0.467	0.518	**0.793 (0.960)**					
5 Employees and Service Conduct	2.16	0.87	0.615	0.581	0.673	0.561	**0.810 (0.938)**				
6 Holistic View of The Service Environment	2.36	0.96	0.787	0.758	0.840	0.588	0.755	**0.881 (0.933)**			
7 Patient Satisfaction	2.23	0.99	0.703	0.656	0.761	0.544	0.833	0.805	**0.963 (0.963)**		
8 Re-patronage	2.53	0.98	0.662	0.596	0.684	0.464	0.767	0.732	0.777	**0.918 (0.955)**	
9 Recommendations	2.43	0.89	0.652	0.588	0.668	0.487	0.745	0.743	0.756	0.893	**1 -1**

Values in bold are the square roots' of the AVE and composite reliabilities (in paranthesis). Others present the correlations between latent variables.

Table 5: Discriminant Validity

H2, it was predicted that the social dimension of the healthscape is positively related to patients' perceptions on the holistic service environment. H2 is also supported (t-value:5.14; $Sy.x$=0.05; p=0.000). The strongest dimension that effects consumers perceptions is the ambient conditions with the path weight of 0.276, followed by the social dimension of the healthscape. The dimension with the least effect was found to be signage.

In H3 it was predicted that (a) patients' holistic view of the service environment and (b) the social dimension of the healthscape is positively related to customer satisfaction. As shown in Table 6 and Figure 3 the results of the PLS analysis support both of these hypothesis. The path weight for H3a is 0.549 (t-value:9.86; $Sy.x$=0.006; p=0.000) and H3b is 0.419 (t-value:6.70; $Sy.x$=0.06; p=0.000).

Predicted Variables	***Predictor Variables***	***Path Weights***	***Path Variance***	***R2***	***AVA***	***Critical Ratio***
Hypothesis 1a-1e and 2						
Patients' Holistic View of The Service Environment	Ambient Conditions	0.276	0.07			3.98[a]
	Space and Functions	0.212	0.04			5.68[a]
	Cleanliness and Hygiene	0.238	0.08			3.12[a]
	Signage	0.102	0.04			2.64[a]
	Employees and Service Conduct	0.244	0.05	**0.840**		5.14[a]
Hypothesis 3a-3b						
Patient Satisfaction	Patients' Holistic View of The Service Environment	0.549	0.006			9.86[a]
	Employees and Service Conduct	0.419	0.06	**0.825**		6.70[a]
Hypothesis 4a-4b					**0.833**	
Re-patronage	Patient Satisfaction	0.777	0.03	**0.604**		23.91[a]
Recommendations	Patient Satisfaction	0.756	0.04	**0.569**	**0.71**	20.35[a]

([a]) Exceeds minimum acceptable level 1.96, $p < 0.01$.

Table 6: Partial Least Squares Results For The Structural Model

In relation to the last group of hypothesis patient satisfaction is found to be positively related to both patients' intention to re-patronage (t-value:23.91; $Sy.x$=0.03; p=0.000) and to recommend (t-value:20.35; $Sy.x$=0.04; p=0.000). As a result H4a and H4b are also supported.

The R^2 values are ranging between 0.569 and 0.840. R2 values are interpreted as follows (Hair et al.. 2014: p.186):

- values exceeding 0.75 imply a strong relationship,
- values between 0.50 and 0.75 imply a moderate relationship,
- and values between 0.25 and 0.50 imply a weak relationship between variables.

The R^2 values are a good indicator of statistical significance. For the first and second hypothesis R^2 is 0.840; indicating a strong relationship between the independent and dependent variables. For H3 R^2 is calculated as 0.825, proving the strong relationship between patients' holistic perceptions of the servicescape and the social dimension with patients' satisfaction. The R^2 values for re-patronage and intention to recommend are 0.777 and 0.569 respectively. There is a strong relationship between re-patronage and patient satisfaction, but the relationship between patient satisfaction and intention is relatively weak.

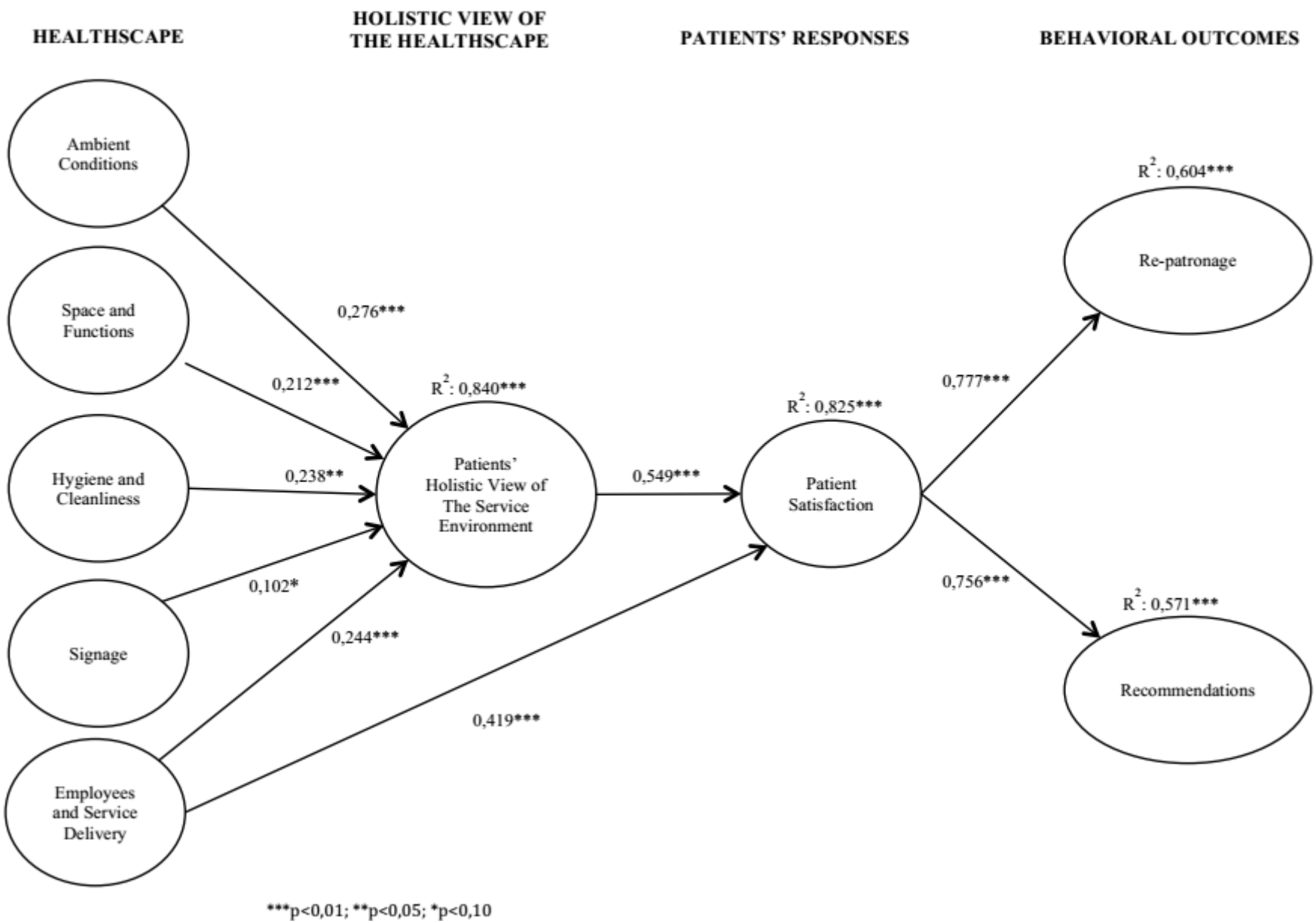

Figure 2: The Path Model

5 Discussion and Limitations

Services are different than physical products. Their intangible nature challenges consumers to find the right cues to determine their performance and evaluate their experience. Creating a favourable service environment is between the many different routes that could be taken by service marketers. In this sense, the primary aim of this paper is to identify the possible relationships with healthscape and possible consumer responses.

The findings of this study support the proposed theoretical model and provide implications for service marketers. The most significant finding uncovered by this study is the strong association between patients' holistic view of the service environment and customer satisfaction.

In the formation of this holistic view ambient conditions were found to be the most influential. The social dimension of the healthscape and cleanliness and hygiene follows ambient conditions. The least significant element of the healthscape is signage. Even though previous research has not confirmed any relationship between the social dimension of the healthscape and patient satisfaction (e.g. (Sahoo and Ghosh, 2016)) significant relationships between the social dimension and patient satisfaction were discovered in this study.

All of the dimensions of the healthscape were found to be strong antecedents of patients' holistic view of the healthscape. Even though healthcare is a utilitarian service encounter symbolic aspects still play an important role in consumers' satisfaction. The view of the servicescape is found to be more important than the social dimension for creating a higher level of patient satisfaction. Therefore healthcare institutions should identify important healthscape cues that will help them to establish a more favorable service encounter.

Despite its contributions, this study also has certain limitations. It might provide a different insight if patients' evaluations of service quality were also included in the research model. Testing both dimensions would provide a more holistic view of the subject and also create a comparative point of view in terms of patient satisfaction.

Second, even though both private and public healthcare institutions were included in the study the antecedents may apply differently in those service encounters. Public healthcare's patients might have different expectations when compared to private healthcare's patients. The difference between expectations may result in different dimensions to be more influential in creating higher levels of patient satisfaction.

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