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Traveler anxiety and enjoyment: The effect of airport environment on traveler's emotions

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ABSTRACT

The physical attributes of service settings significantly influence customers' emotional responses and are used as critical differentiators among service providers. Following changes in the airport industry, this study aims to investigate the relationship between physical servicescape elements, a travelers' enjoyment and/or anxiety, and traveler satisfaction in the airport environment context. Two separate studies were conducted. The findings confirmed the validity of the instrument proposed in the first study. Six airport servicescape factors—design, scent, functional organization, air/lighting conditions, seating, and cleanliness—should be considered when evaluating traveler response. An SEM test suggested that airport design features and pleasant scent have a positive influence on traveler enjoyment, generating satisfaction. On the other hand, poor functional organization and inadequate air and lighting conditions are major predictors of traveler anxiety, which leads to low satisfaction. This study also provides valuable implications for airport design, organization and development.

1. Introduction

Being aware of recent technological advancements, contemporary air travelers have become more demanding in every way. Such demands have positively impacted airport architecture, encouraging experiential as opposed to utilitarian design. A standard in the airport industry is to "treat passengers as customers," and to design the airport environment so that its atmosphere offers "a sense of place" (Gee, 2013). However, the positive trends in airport environment in the past few decades were accompanied with the increased threat of terrorist attacks that led to strict and invasive security measures (Beck et al., 2016). These measures can negatively affect travelers' experience with the increase in wait-time, thus forcing airports to come up with creative ways to increase overall satisfaction with improved service, amenities and physical environment. Prior research suggested that the atmosphere of a service establishment helps service providers differentiate themselves from their competition (Kotler, 1973). Furthermore, several classifications of environmental stimuli have been established. Baker (1987), for example, identified three groups of environmental stimuli (*ambient*, *design*, and *social* factors) which strongly influenced customers' perceptions of a provider's image. Bitner (1992) proposed a holistic "servicescape" framework, composed of three environmental dimensions (*ambient conditions*, *spatial layout & functionality*, and *signs, symbols & artifacts*) to explain the relationship between service environments and participants in the service delivery process.

Depending on the service context, servicescapes are traditionally identified as either "lean" (i.e., —"simple, with few elements, few spaces and few forms") (p.58) or "elaborate" (Bitner, 1992). Although numerous studies have identified airports as "elaborate" servicescapes, servicescape dimensions have been largely evaluated based on service quality and passenger satisfaction questionnaires (Chang and Chen, 2012; Chen and Chang, 2005; Correia et al., 2008; De Barros et al., 2007). As a consequence, many studies have oversimplified Bitner's framework. For instance, Fodness and Murray (2007) incorporated spatial layout and sign, symbols & artifacts dimensions into a single factor named *effectiveness*, thus

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excluding the ways ambient and aesthetic attributes contribute to customer perceptions of airport service quality. Jeon and Kim (2012) employed Baker (1987) retail environment variables to examine emotional responses and behavioral intentions in an international airport context. Because previous studies examined servicescape dimensions in the context of a single airport, they omitted to consider a variety of servicescape elements that contribute to the functionality, comfort, and attractiveness airports today.

To address these limitations, the current study aims to develop a new framework of airport servicescape attributes and further examine the impact of different attributes on travelers' reactions. Extant studies on consumer behavior suggested that customers often react positively to aesthetic characteristics of service environments such as color, materials, décor, and style (Baker, 1987). While this state of enjoyment is associated with a reduction in perceived risk and stress (Chaudhuri, 2012), air travel is often considered a stressful experience (McIntosh et al., 1998). McIntosh et al. (1998) suggested that this stress is not only related to flight but also to poor airport organization and procedures. Adequately designed airport environments should potentially reduce a traveler's anxiety and contribute to a traveler's enjoyment. Because these emotional responses affect traveler satisfaction (Hennig-Thurau et al., 2004) it is vital to reexamine the relationship between travelers' emotional responses and satisfaction in the context of elaborate airport servicescapes. Therefore two main objectives of this study are to (1) develop an instrument to measure different attributes of the airport servicescape, and (2) test a model that includes the relationships among airport servicescape, travelers' anxiety, enjoyment and satisfaction.

2. Airport servicescape

In order to evaluate the efficiency of an airport environment, airport management personnel have traditionally analyzed airport performance by either measuring workload unit expenses and revenues, or comparing daily operations and the physical environment to official standards and regulations (Francis et al., 2002; Humphreys and Francis, 2002). Even though such measures provided crucial benchmarks for airport efficiency, they frequently neglected passengers' perceptions of the airport environment. Travelers' perceptions of airport environments have been vaguely incorporated in service quality and passenger satisfaction questionnaires. Among the six attributes of service quality identified by Yeh and Kuo (2003), which include processing time, convenience, staff courtesy, security, information visibility, and comfort, only two factors, comfort and information visibility, addressed elements of the physical environment. Likewise, Correia et al. (2008) calculated the level of service at airports by measuring only the *functionality* of the airport's physical environment, explained by variables such as orientation/information, walking time, walking distance, space availability and number of seats in seating areas. Bezerra and Gomes (2015) divided airport service quality divisions into check-in, security, convenience, ambiance, basic facilities mobility, and prices attributes. Their instrument covered a broad range of airport attributes but did not provide sufficient distinction between physical environment dimensions, as ambiance and basic facilities were the only two true servicescape factors.

Similarly, Fodness and Murray (2007) incorporated Bitner's servicescape into their comprehensive airport service quality instrument, which sampled a large number of U.S. frequent flyers. According to their study, spatial layout and sign & symbols dimensions loaded into a single factor: *effectiveness*. They also considered a second factor, *efficiency*, which acquired travelers' movement and waiting times through the airport. Although Fodness and Murray (2007) study recognized the significance of intuitive, functionally-organized airports for travelers, it failed to capture ambient and aesthetic attributes. Jeon and Kim (2012) turned to Baker (1987) physical environment variables instead (*ambient*, *design*, and *social* factors), testing her framework in the international airport environment and adding a fourth variable – *safety*. Their findings showed that design and safety factors generate travelers' positive emotional responses, which lead to positive behavioral intentions. Moreover, ambient factors were identified as antecedents of negative emotions, which do not have a significant effect on behavioral outcomes, while social factors were found to elicit both positive and negative emotions. van Oel and Van den Berkhof 's (2013) study of travelers' design preferences in airports examined physical environment factors through a conjoint analysis method. A virtual 3D model of a passenger area was used to manipulate eight design and ambient factors (layout, scale, form, color, lighting, signage, greenery, distinctiveness of Holland). The results indicated travelers' preferences toward wider, curved areas materialized in light wood with warm lighting. Previous research also demonstrated that passengers recognize the airport as a versatile service setting where adequate design contributes to functionality, comfort and the attractiveness of the building.

Given these wide-ranging research frameworks, it seems there is a need to establish a comprehensive instrument for measuring the effect of service environments on customer's emotional responses and satisfaction. As the first step toward this goal, this study intents to capture the variety of environmental cues in an airport service setting. In order to address the gap from the previous research, two separate studies were conducted. The first study aims to recognize the features of airport servicescapes that demand our attention and the second one incorporates identified airport servicescape features, passenger emotions, and satisfaction into a single model.

3. Study 1

3.1. Methods

Study 1 which aimed to identify important features of airport servicescapes was based on an online survey design. The data collection procedure required participants to answer a survey regarding an airport layover that occurred in the last 6 months. This study utilized a snowball sample. The students in two undergraduate classes were asked to obtain a criterion-based snowball sample from the population of their friends and families who travel frequently (Goodman, 1961). The students were not allowed to complete the survey. To qualify for the study, all participants had to confirm the age of at least 18 and a previous airport layover within 6 months prior to taking the survey. For the first study, 174 valid responses were collected. This is a relatively small sample size and somewhat reduces generalizability of the results though it is within the guidelines for the exploratory factor analysis (Hair et al., 2010).

A self-administered questionnaire was developed utilizing measures from the previous literature. Participants were first instructed to answer several questions to refresh their memory about their most recent airport experience (e.g. the airline company, airport location, reason for travel). These questions were acting as memory cues aimed to improve the quality of retrospective reports in surveys based on the life history calendar framework (Belli, 1998). They were then asked to indicate their perceptions of airport environmental cues which reflected distinct ambient, aesthetic, and functional cues. Thirty-two 7-point Likert items that captured servicescape features such as design, scent, music, air/lighting conditions, spatial layout, signage, seating, and

cleanliness were adapted from Wakefield and Blodgett (1996), Fodness and Murray (2007), Hightower et al. (2002), Ryu and Jang (2007), Harris and Ezeh (2008) and Lin and Mattila (2010). Finally, the participants answered several demographic questions.

The completed questionnaires were used to check for face validity (Hair et al., 2010) to (a) identify potential questionnaire design issues, (b) improve on spelling or grammar mistakes and (c) check whether the questions were understandable to participants. Based on the results of these steps, minor revisions were made before distributing the final questionnaire for Study 2. An exploratory factor analysis (EFA) was performed to identify various constructs of airport servicescapes and leverage the number of items in the questionnaire (Gorsuch, 1988; Mulaik, 1987).

3.2. Exploratory factor analysis

A hundred and seventy four valid responses were collected in Study 1. The age range of the respondents was between 18 and 73 years, with the average age being 27 years. Based on the gender structure there was a larger portion of females with 70.2% respondents compared to 29.8% male respondents. The participants were also asked to report how many times they utilized air transportation in the past 12 months. Majority of the respondents, 51.2% of them traveled once or twice, followed by 26.5% of those who had 3-4 flights and 14.7% of the respondents who were flying 5–6 times a year. The percentages of more frequent flyers were relatively low ranging from 2.4% to 2.9%. Participants were also asked at which airport they had the last layover prior to taking a survey. All airports listed were located in the U.S. The largest number of participants, 26 of them had a layover at Hartsfield Jackson – Atlanta International Airport, followed by 20 at Chicago O'Hare International Airport, 19 at JFK International Airport, 17 at Dallas/Fort Worth International Airport, 15 at Miami International Airport and 11 at Los Angeles International Airport. None of the other airports were reported by more than 10 participants, however most of the major hubs in the U.S. were listed by at least several participants.

Exploratory Factor Analysis (EFA) was utilized to identify the latent factors of airport servicescapes. Besides evaluating 32 items on a 7-point Likert scale, participants were also able to select "not applicable" option if the item did not refer to the visited airport or they could not evaluate the item with certainty. Two items describing airport background music and one item capturing airport shuttle service had a high number on "not applicable" and were thus removed from the analysis (Sound 2 = 9.2%, Sound 3 = 9.2%, Layout 3 = 17.2%). The analysis of additional missing values indicated that the data was missing completely at random (MCAR). Imputation was deemed appropriate, and we selected a linear regression method.

In the next step, an EFA with principle axis factoring and Oblimin rotation was conducted on the remaining 29 items. Because the observed variables violated normality assumption, maximum likelihood was not deemed appropriate (Hair et al., 2010). The item illustrating respondents' opinions regarding terminal shuttle connectivity did not load into any of the identified factors and it was removed from the further analysis, thus a second step EFA was conducted on 28 items. The Kaiser-Meyer-Olkin measure of sampling adequacy with value of 0.90 was higher than the recommended value of 0.60. Bartlett's test of sphericity was significant ($\chi 2\ (378) = 4950$, $p < 0.01$). The diagonals of the anti-image correlation matrix were all over 0.50, supporting the inclusion of each item in the factor analyses. The rotated component matrix of the remaining items summarizes the constructs that emerged in factor analysis (Table 1).

EFA resulted in six factors with eigenvalues higher than 1.0 that together explained 75.8% of the entire variance. Based on the characteristics of the items in the component matrix, the six factors were assigned the following names: design, air/lighting, functional organization, seating, scent, and cleanliness. *Design*, which captured 43.6% of variance, consisted of eight items that depicted facility architecture, interior design, colors, materials and décor. The second, five-item factor *air/lighting* explained air facilities' temperatures, ventilation and lighting conditions. This factor captured 12.2% of variance. Six items that described terminal layout and signage usefulness loaded into a single factor named *functional organization* that accounted for 7.7% of variance. The remaining three factors were *seating* consisting of three items, *scent* with two items and *cleanliness* with four items. To meet the three items per variable rule, one additional item was included in the main study survey, capturing passenger perceptions of the airport scent.

Table 1
Rotated component matrix for 6 servicescape factors.

	Code	Factor					
		1	2	3	4	5	6
Design2	DE1	0.942					
Design4	DE2	0.909					
Design1	DE3	0.903					
Design3	DE4	0.898					
Colors_materials2	DE5	0.876					
Colors_materials3	DE6	0.837					
Design5	DE7	0.834					
Colors_materials1	DE8	0.797					
Air3	AL1		0.874				
Lighting1	AL2		0.818				
Lighting2	AL3		0.810				
Air2	AL4		0.748				
Air1	AL5		0.644				
Layout4	FO1			−0.883			
Layout1	FO2			−0.793			
Signage3	FO3			−0.731			
Layout2	FO4			−0.714			
Signage1	FO5			−0.710			
Signage2	FO6			−0.685			
Seating1	SE1				0.941		
Seating2	SE2				0.848		
Seating3	SE3				0.625		
Aroma2	SC1					0.921	
Aroma1	SC2					0.856	
Cleanliness4	CL1						−0.696
Cleanliness2	CL2						−0.598
Cleanliness1	CL3						−0.584
Cleanliness3	CL4						−0.576

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.

4. Model development

After identifying six factors of airport servicescapes, we conducted another study to develop a model to capture the relationship between airport attributes, travelers' emotional responses, and satisfaction. Previous studies argued that pleasurable characteristics of servicescapes led to positive emotional responses (Donovan and Rossiter, 1982). For instance, airport passengers' perception of terminal design features was more positive for passengers that expressed higher levels of pleasure (van Oel & Van den Berkhof, 2013). Similarly, ambient cues such as music and odor elicited pleasant emotions in retail customers (Baker and Cameron, 1996; Dubé et al., 1995). Moreover, various service outlets such as healthcare facilities, hotels, resorts and even theme parks installed aroma diffusion systems to improve their patrons' emotional responses through arometherapy (Chebat and Michon, 2003). For

example, bakeries in Walt Disney theme parks release the aroma of freshly-baked cookies to relax visitors and draw them inside. In addition, Mattila and Wirtz (2001) reported that pleasant ambient scents like these enhance the customer retail experience. Therefore, the following hypotheses are proposed:

H1. Airport design features have a positive effect on traveler enjoyment.

H2. Pleasant background scent has a positive effect on traveler enjoyment.

Given customers' positive emotional responses to pleasurable airport design features and background scents, it can be expected that less pleasurable features of a servicescape tend to cause customer stress and anxiety. Therefore, it is also important to consider facilitating features of servicescape. Some of the facilitating features are air quality, temperature, humidity, and ventilation, and store cleanliness. According to Hightower and Shariat (2009) spatial layout and comfort are considered to be functional environmental cues. Layout, defined as the plan configuration (Fewings, 2001) or the arrangement of furniture and equipment (Bitner, 1992) fulfills individual's utilitarian needs (Baker et al., 1994). Efficient building layouts accompanied by directional signs are essential to a servicescape's successful functional organization and navigation (Fewings, 2001; Cave et al., 2013). Likewise, furniture's ergonomic characteristics, and the number of seats and distance between them are considered to be core layout components in stores where customers spend lengthy amounts of time (Wakefield and Blodgett, 1996).

Prior research in the traveling context identified spatial layout, air-conditioning, cleanliness, and comfort as utilitarian factors that lead to traveler anxiety (Cheng, 2010; Li, 2003; McIntosh et al., 1998; Reisinger and Mavondo, 2005). Since airport is a place that can bring uncertainty and uneasiness, the importance of functional/utilitarian features is salient and their negative influence can even be amplified in the air travel context. Considering that airports are complex service settings where the efficiency of the environment is mandatory for travelers (Fodness and Murray, 2007) we propose that:

H3. Airport functional organization has a negative effect on traveler anxiety.

H4. Airport air and lighting conditions have a negative effect on traveler anxiety.

H5. Airport cleanliness has a negative effect on traveler anxiety.

H6. Airport seating comfort has a negative effect on traveler anxiety.

Finally, a number of previous studies have examined the relationship between customers' emotional responses and satisfaction (e.g. Liljander and Strandvik, 1997; Oliver et al., 1997; Szymanski and Henard, 2001). These studies posited that an increase in satisfaction is a consequence of expressing positive emotional responses, while a decrease in satisfaction is a consequence of negative emotions (Liljander and Strandvik, 1997; Oliver et al., 1997). Consequently, we expect that traveler enjoyment has a positive effect on satisfaction (Kandampully and Suhartanto, 2000). On the other hand, anxiety as a negative emotion can lead to a decrease in satisfaction. (Gountas and Gountas, 2007; Lee et al., 2008). Therefore, the following hypotheses are proposed:

H7. Traveler enjoyment has a positive effect on traveler satisfaction.

H8. Traveler anxiety has a negative effect on traveler satisfaction.

Based on the previous hypotheses, a model that presents the relationship between eight variables has been created (Fig. 1).

5. Study 2

5.1. Methods

For Study 2, a survey questionnaire was distributed by an online marketing agency to a random sample of adult travelers (18 years of age or older) in the U.S. who took a flight with a layover in the past 6 months for a total of 311 respondents. Participants were asked at which airport they had the last layover prior to taking a survey. Chicago O'Hare International Airport was listed by the largest number of participants, 55, followed by with Dallas/Fort Worth International Airport with 48, Hartsfield Jackson – Atlanta International Airport with 28, Los Angeles International Airport with 24, and JFK International Airport with 22.

The instrument for Study 2 was developed based on the results of the EFA from Study 1. Traveler enjoyment was measured with four items adapted from Childers, et al. (2002). Three items that measured respondents' level of enjoyment anxiety were adapted from Saadé and Kira (2006) and Meuter et al. (2003). Finally, satisfaction was measured with four items adapted from Cronin et al. (2000) and Hightower et al. (2002). In the first step confirmatory factory analysis (CFA) was executed to verify the measurements of the airport servicescape. In the following step, structural equation modeling (SEM) was performed to test the overall model fit and the proposed hypotheses.

5.2. Confirmatory factor analysis

A total of 311 valid responses was collected. The participants had an average age of 32.43 years which is slightly higher than the Study 1 sample. A maximum likelihood method of extraction (MLE) was used in the analysis. All six factors had a construct reliability coefficients (CR) higher than 0.7 threshold. Similarly, standardized factor loadings were above the minimum value of 0.40 (Ford et al., 1986). Both convergent and discriminant validity were appropriate based on the average variance extracted (AVE) values and the maximum shared variance (MSV) values that were far below AVE (Fornell and Larcker, 1981) (Table 2).

Finally, the measurement model had a good fit based on the number of fit indices (Hair et al., 2010): χ^2-to-df was 1.8; AGFI was 0.851; GFI was 0.879; RMSEA was 0.050; PCLOSE was 0.454; and CFI was 0.963.

5.3. Structural equation model

The measurement model served as a foundation for a new structural model. The model included nine latent factors and 40 observed variables. The fit indices for the proposed model were acceptable indicating that the model fits the data well: χ^2-to-df was 1.774; AGFI was 0.811; GFI was 0.837; RMSEA was 0.050; PCLOSE was 0.500; and CFI was 0.951. Eight hypotheses were reflected in eight regression paths that were each tested for significance (Table 3). The sign (±) indicates the nature of the relationship between variables. Study results suggest that six out of eight paths were significant in the structural model.

Hypothesis 1 stated that airport design has a positive effect on traveler enjoyment. This hypothesis was confirmed since the path coefficient between "design" and enjoyment was 0.679, which was positively significant at $p < 0.001$. According to Hypothesis 2 scent has a positive effect on enjoyment. The path coefficient between "scent" and enjoyment was 0.230, which was positively significant at $p = 0.003$, thus confirming H2.

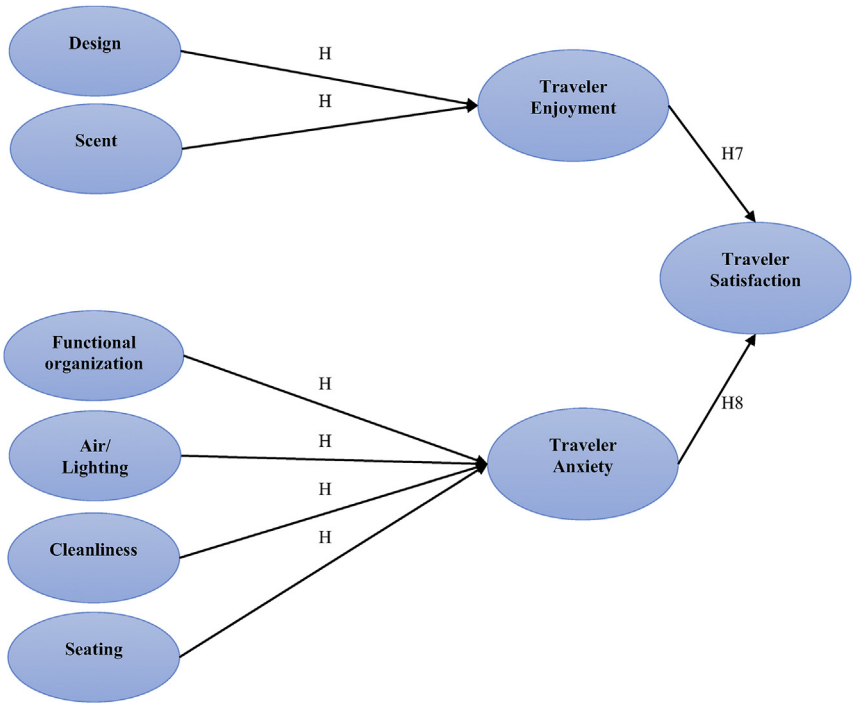

Fig. 1. Proposed theoretical model.

Table 2
Item loadings, reliabilities and validities.

Construct	Items	Standardized loadings	Construct reliability	AVE	MSV
Design	DE7: The artwork at the terminal was interesting.	0.786	0.946	0.687	0.352
	DE2: Wall decor at the terminal was visually appealing.	0.846			
	DE4: The style of the interior accessories at the airport was fashionable.	0.901			
	DE1: The airport was decorated in an attractive fashion.	0.894			
	DE3: The terminal architecture gave it an attractive character.	0.842			
	DE6: Materials used inside the airport were pleasing and of high quality.	0.809			
	DE5: The interior wall and floor color schemes at the airport were attractive.	0.790			
	DE8: This airport was painted in attractive colors.	0.749			
Air/lighting	AL3:The lighting at the airport was adequate.	0.679	0.863	0.560	0.289
	AL2: The lighting at the airport created a comfortable atmosphere.	0.639			
	AL1: Air humidity at the airport was acceptable.	0.822			
	AL4: Air circulation at the airport was appropriate.	0.862			
	AL5: The temperature at the airport was comfortable.	0.717			
Functional organization	FO2: Overall, the airport signs & symbols made it easy to get where I wanted to go.	0.640	0.898	0.606	0.194
	FO6: Clarity of the airport terminal signs and symbols was adequate.	0.599			
	FO5: The signs used at the airport were helpful to me.	0.557			
	FO1: Overall, the airport layout made it easy to get where I wanted to go.	0.959			
	FO4: The airport layout made it easy for me to move around.	0.918			
	FO2: The airport layout made it easy to walk to my gate.	0.890			
Cleanliness	CL2: The airport maintained clean food service areas.	0.775	0.896	0.684	0.262
	CL4: The airport maintained clean walkways and gates.	0.901			
	CL1: Overall, that airport was kept clean.	0.839			
	CL3: The airport maintained clean restrooms.	0.787			
Scent	SC2: The airport had a pleasant smell.	0.871	0.937	0.833	0.289
	SC1: The aroma at the airport was fitting.	0.930			
	SC3: The aroma at the airport was adequate.	0.935			
Seating	SE2: The airport provided sufficient number of comfortable seats.	0.920	0.891	0.733	0.352
	SE3: The furniture at the terminal was appropriately designed.	0.779			
	SE1: The seat arrangements at the airport gates provided plenty of space.	0.864			

Hypothesis 3 stated that functional organization in airports has a negative effect on travelers' anxiety. The path coefficient between "functional organization" and anxiety with a value of −0.329 was significant at $p < 0.001$, thus confirming H3. Hypothesis 4, which claimed that airport air and lighting conditions have a negative effect on traveler anxiety, was also confirmed with a path coefficient value of −0.258, significant at $p = 0.010$. The relationship between anxiety and the cleanliness and seating was hypothesized in Hypotheses 5 and 6. Hypothesis 5 stated that airport cleanliness has a negative effect on anxiety and Hypothesis 6 stated that airport seating has a negative effect on anxiety. The path coefficient of - 0.179 between "cleanliness" and anxiety was not

Table 3
Path estimates.

	Estimate	S.E.	C.R.	P	Hypothesis	Confirmed
Enjoyment ← Design	0.679	0.087	7.816	<0.001	H1	Yes
Enjoyment ← Scent	0.230	0.079	2.926	0.003	H2	Yes
Anxiety ← Functional organization	−0.329	0.093	−3.542	<0.001	H3	Yes
Anxiety ← Air/lighting	−0.258	0.100	−2.574	0.010	H4	Yes
Anxiety ← Cleanliness	−0.179	0.112	−1.604	0.109	H5	No
Anxiety ← Seating	0.070	0.101	0.695	0.487	H6	No
Satisfaction ← Enjoyment	0.585	0.049	11.878	<0.001	H7	Yes
Satisfaction ← Anxiety	−0.279	0.042	−6.620	<0.001	H8	Yes

significant at $p = 0.109$. Likewise, the path coefficient of 0.070 between "seating" and anxiety was not significant at $p = 0.487$. Based on the test results, H5 and H6 were not confirmed.

The last two hypotheses, H7 and H8, examined the relationship between traveler emotional states and satisfaction. Both hypotheses were confirmed with the significant positive path coefficient between enjoyment and satisfaction (0.585, $p < 0.001$) and he significant negative path coefficient between anxiety and satisfaction (−0.279, $p < 0.001$). To summarize, the model testing resulted in six out of eight confirmed hypotheses.

6. Discussion and conclusion

By combining previous research on servicescapes and airport design, this study confirms the significance of servicescape attributes in transit service settings. Unlike existing research, which observed the interaction between physical evidence and service quality in airport service settings, this study focused on the effect of physical environmental cues on passengers' emotional responses at airports. Earlier research considered the airport servicescape using previously established servicescape dimensions (Fodness and Murray, 2007; Jeon and Kim, 2012). This study optimized the existing dimensions, recognizing that six specific attributes (design, scent, functional organization, air/lighting conditions, seating and cleanliness) are particularly important in the airport servicescape. Even though music has frequently been emphasized as a relevant servicescape attribute, our exploratory factor analysis suggested that music should not be considered in assessments of airport servicescapes. This finding is found to be consistent with previous research. Hightower and Shariat (2009) agreed that music is not a crucial attribute in all service industries, and various studies (Grewal et al., 2003; Kim and Moon, 2009; Lin, 2009; Mattila and Wirtz, 2001) argued that, while being a prominent ambient construct in restaurants, bars and retail outlets, background music and even noise is irrelevant in an airport servicescape. Through this and other observations, the present study identifies servicescape features that ought to be prioritized in airport assessments.

This study confirmed a positive relationship between traveler enjoyment and design and scent. In fact, the design factor was found to be the strongest predictor of traveler enjoyment. In addition, scent also elicited positive emotions from airport customers. Considering that the effect of scent was explored as an important factor in retail and leisure industry contexts (Mattila and Wirtz, 2001; Michon and Chebat, 2004; Ward et al., 2007; Zemke and Shoemaker, 2007), it is possible that the scent factor captured travelers' perspectives of airport retail areas in our study. Relatively surprisingly, scent in this study was viewed from a positive perspective and it only had an effect on traveler's enjoyment. In fact, the more negative traveler's perception of the scent is, the lower the traveler's enjoyment would be. However, the traveler's anxiety would not be affected. The results regarding design and scent demonstrate that the presence of hedonic stimuli is paramount, even in an extremely serviceable environment, such as an airport.

Our analyses confirmed that two out of four hypothesized relationships, functional organization and air/lighting, were found to be negatively correlated with traveler anxiety. Consistent with the previous research (Cave et al., 2013; Fewings, 2001), the study results emphasize the importance of "functional organization," i.e., successful orientation at the airport achieved through functional spatial layout and comprehensible signage system. Unless the terminal has an intuitive configuration and signs that facilitate navigation through the facility, passengers experience great anxiety during their visit. Additionally, air and lighting conditions also contribute to traveler anxiety, suggesting on the overall importance of physical comfort for airport trevelers. Interestingly, seating and cleanliness attributes were found to have little impact on traveler anxiety. Considering that the respondents mainly traveled within the United States, it might be assumed that U.S. airports maintain seating and cleanliness standards across the board. For example, Eames' Tandem Sling Airport Bench, installed at the majority of the U.S. terminals, has become an iconic symbol of airport seating lounges since 1962 (Schaberg, 2012), and consequently, travelers became insensitive to this issue.

Although passengers may develop preferences toward certain airport environments (Gupta et al., 2008; Loo, 2008), airport choice often depends on the traveling destination, the choice of airline company (Grigolon et al., 2012; Pels et al., 2001), loyalty toward an airline (Dolnicar et al., 2011), and location convenience (Harvey, 1987; Tierney and Kuby, 2008). Nonetheless, this study establishes a relationship between traveler enjoyment/anxiety and satisfaction. Congruent with the existing research, our results confirm that traveler enjoyment results in satisfaction, while anxiety and satisfaction are negatively correlated. Moreover, the study findings provide evidence for the mediating effect of traveler anxiety and enjoyment between airport servicescape features and traveler satisfaction.

7. Implications and limitations

The results of this study may help airport industry practitioners understand the airport environment from a passenger's perspective. Traditional airport design practice was based on standardized formulas that calculated passenger and cargo flow to improve transport efficiency. However, the contemporary traveler experience goes beyond efficiency. The findings of this study suggest that airports could create enjoyable experiences if they emphasize on the design and scent aspects of terminal environments. Additionally, these experiences would result in higher traveler satisfaction. Contemporary airports should rely on design elements, such as high quality materials and equipment, colors, symbolic decorations, and artwork to convey a pleasing and amusing image. Furthermore, airport practitioners should pay attention to the olfactory cues in the environment. Installing aromatherapy systems in air-

conditioning could create a relaxing atmosphere for the passengers and enhance their enjoyment.

On the other hand, bad signage systems, poor plan configuration, inadequate lighting, and air quality can induce anxiety in travelers and result in their dissatisfaction. Considering that air travelers are extremely time-sensitive, airports are advised to provide successful way-finding through the facility. In ideal conditions, passengers should spend as little time as possible commuting between terminals and gates, or trying to identify information on signs. As a result, airport practitioners are advised to adopt the most functional designs for the terminal layout or to improve poor design with adequate navigation systems. In addition, maintaining satisfactory physical comfort in the terminal is always desirable.

This study has few limitations. The main limitation of this study is that the data were conducted through an online survey that requested participants to remember their last airport experience. It is possible that over time only the most positive and the most negative aspects of the service experience tend to prevail, thus creating some response bias in responses of air travelers who did not take their flights in the recent time. Additionally, emotional responses tend to fade with time and the true extent of enjoyment and anxiety might not be adequately captured with the online survey that is filled out some time after the event. Additionally, this study only analyzed the effect of physical environment on anxiety and enjoyment. Other social and service factors can have a significant effect on traveler's emotions. For example, crowding as a social dimension of servicescape is known to cause anxiety (Tombs and McColl-Kennedy, 2003) and can be included as a variable in the future studies. Similarly, check-in procedures, security process, and queuing can cause time stress which, would be a large determinant of anxiety. Additional relevant aspects of the airport environment are retail, foodservice and hospitality amenities (Han et al., 2012; Rendeiro Martín-Cejas, 2006; Lin and Chen, 2013; Rowley and Slack, 1999), which were not captured in this study. Finally, this study did not investigate the potential moderating effects of time spent at an airport, terminal type (international vs. domestic), or age (young vs. old travelers).

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