

# Casino Atmospherics from a Customer's Perspective: A Re-Examination

*Lesley Johnson  
Karl J. Mayer  
Elena Champaner*

## Abstract

Considerable research in recent years has examined the influence of physical evidence, or atmosphere, in a variety of service settings, including leisure services. Not fully covered has been the area of atmosphere in a casino gaming setting. This extension of a previous study further investigates atmospherics in casinos. The findings showed that customers defined casino atmosphere in five key elements: theme, floor layout, ceiling height, employee uniforms, and noise level. Three of the five contributed positively to a player's satisfaction with the gaming experience as shown by the regression analysis. This reinforces previous indications of the need for casino management to create an inviting atmosphere that will maximize customer satisfaction, with specific attention to those aspects that players appear to value most highly.

Key words: casino, gaming, physical evidence, atmosphere, atmospherics, servicescape, customer satisfaction

## Introduction

Physical evidence in services is part of the expanded marketing mix for service industries (Booms and Bitner, 1981). There has been considerable research conducted in recent years that has examined the influence of physical evidence, or atmosphere, in a variety of service settings, including leisure services (Wakefield and Blodgett, 1994, 1996, 1999). Not extensively explored, however, has been the area of atmosphere in casinos. This study seeks to partially remedy this oversight. Throughout this presentation, the terms 'atmosphere' and 'atmospherics' are used interchangeably. Also employed in a similar manner is 'servicescape', a term Bitner (1992) used to define the totality of the service setting in which delivery of a service occurs, including its atmospheric elements.

The study contained in this paper represents a continuing investigation by the authors of the subject of casino atmospherics. In two prior studies (Mayer, Johnson, Hu, & Chen, 1998; Mayer & Johnson, 2003), the authors examined the elements that constitute atmosphere in a casino gaming environment, but did not link those elements to customer satisfaction. In this study, not only were the elements of casino atmospherics identified from the perspective of a gaming customer, but also the linkage of those elements to guest satisfaction was established. Thus, the present study incorporates and goes beyond the authors' prior work to demonstrate that the physical evidence that is present in a casino setting influences gaming customer satisfaction.

Lesley Johnson, Ph.D.  
Assistant Professor (Retired)  
William F. Harrah  
College of Hotel  
Administration  
University of Nevada,  
Las Vegas

Karl J. Mayer, Ph.D.  
Assistant Professor  
William F. Harrah  
College of Hotel  
Administration  
University of Nevada,  
Las Vegas  
(Corresponding Author)  
karl.mayer@cmail.nevada.edu

Elena Champaner, M.S.  
MGMMirage Corporation  
Las Vegas, Nevada

## Literature Review

Since the concept of atmospherics was introduced in the early 1970's, there has been a slow, but growing interest in understanding and predicting the impact of the physical environment, or atmosphere, on customer responses to it. Kotler (1974) defines atmospherics as the conscious designing of space to create certain effects in buyers. Turley, Fugate, and Milliman (1990) describe atmospherics as the controllable items connected with the internal and external environment of a service facility that elicit an emotional or physiological reaction from customers. More broadly, atmospherics today is thought of as the effort to design buying environments to produce emotional effects in a customer that enhance purchase probability. Thus, in both goods and services settings, atmospherics is thought to have an influence on customers' purchasing behavior.

Bitner (1992) described the servicescape as the man-made physical surroundings of a service setting, and all of its ambient factors. The servicescape includes three important aspects: (1) ambient conditions; (2) spatial layout and functionality; and, (3) signs, symbols and artifacts. Spatial layout and functionality pertain to the way in which entrances, exits, seats, hallways, or walkways, etc. are arranged. Functionality and layout are key factors in many leisure services because they affect the comfort of the customer (Wakefield & Blodgett, 1994). For instance, Mayer & Johnson (2003) and Wakefield and Blodgett (1996) found that casino floor layout was a significant factor in how gaming customers perceived casino atmosphere.

The first aspect of the servicescape, ambient conditions, includes components such as décor, theme, lighting, color, noise, temperature, architectural design, and other physical elements which customers experience in the servicescape. Such factors are important because they help create the facility's ambience. Several researchers have examined the subject of ambient conditions in casinos. Lucas (2003) found that ambient conditions in a casino setting included the elements of interior décor, navigation (i.e., floor layout), cleanliness and seating comfort. Mayer & Johnson (2003) also studied the elements that comprise casino atmosphere, and found that customers related the theme of the casino to the concept of atmosphere in this study. For that study, a new survey was developed to measure the elements of casino atmosphere from the perspective of a gaming customer, which was then reused by the authors for the current study in a different casino setting.

In addition to the fact that people may purposely go to the leisure service primarily to experience the facility environment, consumers of leisure services are more likely to be more highly involved with the service encounter (Wakefield & Blodgett, 1994). Thus, the second and third elements of the servicescape (i.e., spatial layout and functionality and signs, symbols and artifacts) are more commonly referred to as what Bitner (1992) calls the "built" environment. Management can largely control the built environment at its own discretion. Based on the perception of spatial layout and functionality and elements related to aesthetic appeal or ambience, customers will have particular thoughts and feelings that will eventually lead them to approach or avoid the leisure service (Wakefield & Blodgett 1994).

In a services context, Bitner (1990, 1992) and others have proposed that atmospherics also is directly linked to customer satisfaction. Wakefield and Blodgett (1994, 1996, 1999) point out that when customers go for emotional, rather than functional reasons, satisfaction is likely to be determined partially on the basis of the perceived quality of the servicescape. Thus, customers who go to the casino are likely to notice the theme, colors, décor, employee uniforms, lighting, and other elements that are part of the servicescape, and be influenced by these factors. For instance, Lucas (2003)

**Atmospherics today is thought of as the effort to design buying environments to produce emotional effects in a customer that enhance purchase probability.**

surveyed Las Vegas gaming customers to determine which attributes of casino atmosphere most influenced their satisfaction levels. He found that certain aspects of atmosphere in the casino were significantly related to guest environmental satisfaction, including interior décor, navigation (i.e., floor layout), cleanliness, and seating comfort. The cleanliness factor has also been noted in the literature for its importance in enhancing a brand in restaurants (Simon, 2003).

Wakefield and Blodgett (1994) emphasize that while the perceived quality of the servicescape is an issue that should be of some concern to marketers, the servicescape may take on additional importance for marketers of leisure services. The longer one

stays in the facility, the greater the chance that the servicescape will play a vital role in determining satisfaction with the service (Baker, 1987). Leisure services, such as gaming, usually necessitate that the customer spend longer amounts of time in the physical surroundings of the service provider (Turley & Fugate, 1992). For example, customers that spend several hours gambling in a casino are likely to be strongly influenced by the physical facility, whereas customers using a drive-through bank have minimal concern with its physical upkeep. In both

situations, the customers are primarily concerned with the quality of the functional service performed, but the importance of the perceived quality of the servicescape increases along with the time spent in it. This effect may be intensified if the customer is there primarily for the purpose of experiencing the servicescape for hedonic or emotional reasons (Wakefield & Blodgett, 1994).

Turley & Fugate (1992) also point out that the design of a stadium or arena may partially determine if customers will stay for the entire game or exit early to avoid crowds. Wakefield and Blodgett (1996) state that in addition to food quality and service, the quality of architecture, layout and interior design of a restaurant may influence how long customers will stay in the restaurant. Hence, with respect to the gaming environment, the longer a customer stays in the casino, the more he or she will probably spend. Thus, the servicescape of the casino becomes particularly important to gaming managers.

Previous research (Cronin and Taylor, 1992) has shown that perceived quality leads to satisfaction and subsequent repatronage in the provision of services. Satisfaction with the servicescape, therefore, may also influence repeat patronage intentions (Wakefield & Blodgett, 1994, 1996, 1999). In a study of sports stadiums, Wakefield and Blodgett (1994) found that respondents who perceived the quality of the stadium as high were more satisfied with the servicescape. Also, their study showed that those that had become more involved with the servicescape indicated a greater willingness for repeat patronage.

In a later study, Wakefield and Blodgett (1996) found that facility aesthetics, layout accessibility, cleanliness, seating comfort, and electronic equipment and displays played a role in determining satisfaction with the servicescape in casinos and sports stadiums. Interestingly, cleanliness had a major effect on perceived quality in casinos and less of an affect in sports stadiums.

Their research attributed this finding to the amount of time that is spent in the physical environment; i.e., a few hours in the stadium for an event compared to a few days in the casino on a typical gambling trip.

Further, Wakefield and Blodgett (1996) found that satisfaction with the servicescape had a positive impact on repatronage intentions and desire to stay. They found that with their casino players' sample, satisfaction with the servicescape had a stronger effect on customers' desire to stay than on repeat patronage. The authors point out that although customers may be attracted to a property for a variety of reasons, it is their satisfaction with the servicescape that keeps them there (Wakefield & Blodgett, 1996). Once inside the property, the length of time that customers stay depends, in part, on their satisfaction

**The longer one stays in the facility, the greater the chance that the servicescape will play a vital role in determining satisfaction with the service.**

with the servicescape. Management, therefore, should continually evaluate the quality of the physical evidence through visual inspections, customer comments, and by comparison with competitors. The authors point out that managers may over time become too acquainted with the servicescape and do not recognize deficiencies, and therefore may be losing customers because of the physical environment when the primary service offering is satisfactory (Wakefield & Blodgett, 1996).

Casino atmospherics, therefore, refers to all of the physical and non-physical elements of a casino that can be controlled to change the attitudes and behaviors of both employees and customers. These elements include a variety of intangible ambient cues such as temperature or sounds as well as architectural elements such as floor layout (Lucas, 2003). Two crucial concerns for casino operators are first, how long customers will desire to stay in the property once they enter, and second, will they want to repatronize the property in the future. Customers may initially enter the property because of their interest in the primary service offered, but may not return if they are not satisfied with the physical environment of the leisure setting (Wakefield & Blodgett, 1996). Casino management, therefore, should make every effort to create an atmospheric experience within the service setting that is pleasant and positive (Milliman, 1988) and to evaluate its effect on customer satisfaction with the service encounter (Bitner, 1992).

It is evident, then that the physical surroundings of the service facility contribute to customer satisfaction. The current study seeks to extend the prior research discussed above by examining which aspects of casino atmosphere contribute to guest satisfaction, using the survey previously developed by the authors with minor modifications. The methodology involved in the current study is discussed next.

## Methodology

Data for this study were collected at a casino in Blackhawk, Colorado that has slot machines and a limited number of table games, but no hotel rooms. The study used a convenience sampling procedure, since it involved the least amount of disruption for regular casino operations. Gaming slot customers were intercepted at random on the casino premises. Casino personnel surveyed slot customers over a one-month period. The modal age range of slot players who were included in the sample was 40-49 years old, and their average gambling budget was just under \$200 per visit. The majority of the respondents in this study had visited the property more than 10 times in the previous twelve-month period. Thus, it was felt that the sample was reasonably representative of slot players that patronized this casino as a whole, according to casino management.

As mentioned above, a survey designed to measure slot player perceptions of casino atmospherics that had been employed in a previous study (Mayer & Johnson, 2003) was also used in this research. Customers were asked to complete a 37-question, self-administered survey that covered ten different aspects of atmospherics relating to the casino where they were playing (Table 1). The previous survey was modified for this study to remove the two questions that related to smoke levels in the casino, since management believed that the vast majority of their customers were non-smokers. In fact, the sample collected in this study contained approximately 75 percent non-smokers; thus, it was consistent with management's beliefs about their customer base.

**Management, therefore, should continually evaluate the quality of the physical evidence through visual inspections, customer comments, and by comparison with competitors.**

**Table 1. Ten Proposed Elements of Casino Atmosphere**

	Atmospheric Element	Description
1	Theme	A unifying concept that conveys a sense of space, place, or time in the mind of a casino guest
2	Décor	The furnishings and fixtures that are part of the built environment in the casino
3	Noise Level	The amount and type of sound that is audible to a guest on the casino floor
4	Color	The colors that are part of the built environment in the casino, which are visible to a casino guest
5	Ceiling Height	The height of the casino from floor to ceiling
6	Light	The lighting effects that are part of the built environment in the casino, which are visible to a casino guest
7	Temperature	The ambient temperature level in a casino, as perceived by a casino guest
8	Floor Layout	The design of the casino floor space, including aisles and walkways, pit areas and locations, and slot machine areas
9	Employee Uniforms	The costumes that are worn by employees in the casino
10	Smell	The ambient odors and aromas that are present in the casino, which can be detected by a casino guest's olfactory senses

Note: An atmospheric element relating to 'smoke' was not included in this study, since management of the casino involved in the survey believed that their customers were principally non-smokers.

The survey used a 5-point Likert scale for all questions, except those that involved players' demographic information. The use of five-level Likert scales with a neutral midpoint is recommended so that respondents are not forced to give an opinion if they do not have one (Steiber and Krowinski, 1990). Customers were asked to rate their response to each question from [1] Strongly Agree to [5] Strongly Disagree. Three questions were used to measure the first nine constructs shown in Table 1, and two questions were used to measure the tenth (smell) construct. A two-item scale was used to elicit responses for the variable 'satisfaction,' which was the dependent variable in this study.

The scale items for the satisfaction variable were adapted from several of the satisfaction measurement scales that are in common use in marketing literature (Bruner and Hensel, 1992). The remainder of the survey collected demographic information about the customers.

Over the course of the month during which data were collected, 308 customers completed the questionnaire. Nine surveys were discarded because they had missing information on various parts, which resulted in 299 useable surveys. This final dataset contained no data outliers, and was deemed to be of sufficient size to proceed with multivariate analytic techniques. All analysis of the data contained in this study was conducted by using SPSS 11.0 software.

Exploratory factor analysis was used to reduce the dataset. A five-factor solution appeared to be the best fit for the dataset (Table 2). Eigenvalues for all five factors were greater than 1.0. In arriving at a five-factor solution, a total of thirteen variables from the original dataset of 29 variables were eliminated from further consideration because they cross-loaded on several factors, which left a total of sixteen variables that were used to measure casino atmospherics.

**Table 2. Factor Analytic Results - Rotated Component Matrix**

	Component				
	1	2	3	4	5
Theme1	0.853				
Theme2	0.837				
Theme3	0.787				
Decor1	0.715				
Decor2	0.583				
Noise2					0.865
Noise3					0.829
Height1			0.842		
Height2			0.782		
Height3			0.789		
Floor1		0.796			
Floor2		0.857			
Floor3		0.777			
Uniform1				0.752	
Uniform2				0.838	
Uniform3				0.854	

Note: Extraction Method: Principal Components Analysis; Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 6 iterations; factor loadings of less than 0.5 omitted for ease of interpretation.

The five resulting factors represented the following aspects of casino atmospherics:

- Factor 1 = “Theme and Décor” (referred to as ‘Theme’);
- Factor 2 = “Noise Level”;
- Factor 3 = “Ceiling Height”;
- Factor 4 = “Floor Layout”; and,
- Factor 5 = “Employee Uniforms”.

Each of these five factors represents a distinctive aspect of casino design.

However, factor 1 (theme) represents a combination of both theme and décor elements. The guests who participated in this study evidently combined these two elements of atmosphere in the casino setting. Thus, the theme construct herein encompasses both thematic and décor-related aspects of the built environment in the casino involved in this study, as viewed from the perspective of a slot machine player.

Each of the five resulting factors was transformed into an independent variable comprised of the variables contained in each factor by using a summated scale. Scale reliabilities for the resulting five independent variables are presented in Table 3. In addition, the scale reliability for the satisfaction (dependent) variable was 0.86. The scale reliabilities for all variables are greater than 0.70, which is an acceptable standard for exploratory research (Nunally, 1978). Hence, the reliability of the derived factors that resulted from the analysis appeared to be adequate.

**Table 3. Scale Reliabilities Measured by Cronbach’s Alpha Coefficient**

Factor Name	Number of Scale Items Included	Alpha Value
Theme & Décor	5	0.875
Floor Layout	3	0.892
Ceiling Height	3	0.852
Employee Uniforms	3	0.854
Noise Level	2	0.883

Next, linear regression was performed with the five independent variables and satisfaction as the dependent variable. The resulting regression equation is as follows:

$$\text{Satisfaction} = 0.755 + 0.303 * \text{Theme} + 0.231 * \text{Employee Uniforms} + 0.257 * \text{Noise Level} + \epsilon$$

The F statistic for the regression was 45.213 ( $p < 0.000$ ), which demonstrates that the regression result is meaningful. In addition, the  $R^2$  for the regression was 0.438, which indicates that it explained almost 44 percent of the total variance in the dataset.

Only three of the five independent (atmospheric) variables were significant in the regression equation: theme, employee uniforms, and noise level ( $p < 0.000$  for all three variables; standard error of the estimated beta coefficients for the three variables was 0.064, 0.062 and 0.055, respectively). The remaining two variables, floor layout and ceiling height were not significantly related to guest satisfaction in this study. Although caution must be used in interpreting the beta coefficients in a linear regression (Neter, Kutner, Nachtsheim, & Wasserman, 1990), it appears that theme contributed the most to player satisfaction, followed by noise levels in the casino, and employee uniforms. It is also important that all three aspects of atmosphere were positively related to the player satisfaction in the regression, which indicates that casino atmosphere enhances a player's gaming experience. The implications of the findings involved in this study for researchers and casino managers are discussed next.

## **Results & Discussion**

This study contained two key findings, which extended the authors' previous research in another casino setting (Mayer & Johnson, 2003). The first finding involved determining which elements of the setting constitute atmosphere from a gaming customer's perspective. The second finding relates the elements of atmosphere to slot player satisfaction with their overall gaming experience. Taken together, these two findings provide clear support for the notion that players are not only aware of casino atmosphere, but also care about it relative to their gaming experience.

In the current study, the results of the factor analysis on the data set show a five-factor solution, including the elements of theme, floor layout, ceiling height, employee uniforms, and noise level (Table 2). This result is narrower in scope than the previous study (Mayer & Johnson, 2003) noted above which yielded a seven-factor solution for the elements of atmosphere in a casino. However, four of the factors in the current study, including floor layout, uniforms, ceiling height, and noise level, were identical between the two studies. The major difference in the factor analysis between these two studies was that theme was a stand-alone factor in the prior study, whereas it included décor in the current study.

Several methodological issues may help explain the differing results between the factor solutions in the current and prior studies. In the current study, the eigenvalues for all five factors were greater than 1.0. Typically, the eigenvalue criterion is a recommended approach to determine the appropriate number of factors that result from factor-analyzing a set of data (Malhotra, 1996), but other criteria might also be used, which could lead to differing results. In addition, factor analysis is a technique that is subject to substantive interpretation by the researcher (Churchill, 1995), and a certain degree of ambiguity is to be expected when interpreting the results of factor analysis (Tabachnick and Fidell, 1996). Thus, in the context of this exploratory research, some differences in the factor analytic results might well be expected. In addition, the casinos that were involved in the current and prior studies were quite different, both in terms of their geographic proximity and in their market positions and brand images. Nevertheless, there appears to be a reasonable consistency between the results of these

two studies as to the key elements that comprise atmosphere to a slot machine player.

Further, this study went beyond the scope of the previous study to link customer satisfaction with the elements of casino atmosphere. It found that three of the five elements of atmosphere were significantly and positively related to gaming customer satisfaction. This result is consistent with the prior work mentioned earlier of other researchers (Wakefield and Blodgett, 1996; Lucas, 2003) who also reported satisfaction as having a significant relationship with atmospheric elements in a casino setting.

The results of the factor and regression analyses herein also offer several additional insights. They suggest that gaming customers think of casino atmospherics in a multidimensional way, rather than as a uni-dimensional construct. Further, not all ten potential aspects of atmosphere that were examined in this study were relevant to the guests when they envisioned casino atmosphere.

Lastly, three of those five aspects of atmospherics that were relevant to them in this study also influenced their satisfaction with their overall gaming experience.

With respect to atmosphere, this study provides further support for the casino industry's emphasis on certain aspects of casino design, which include theme/decor, floor layout, noise level, employee uniforms and ceiling height. Slot players' awareness of these dimensions of atmosphere reinforces the need for casino operators to be vigilant about such aspects of casino design. Thus, consistent with previous research on the effects of the servicescape on customers, the current study demonstrated that customers are aware of their surroundings while they are gambling, and that from the customers' perspective, certain aspects of the servicescape appear to be more meaningful than other elements.

Turning to customer satisfaction, it is significant that three of the five aspects of casino atmosphere contributed positively to a player's satisfaction with the gaming experience, as shown by the regression analysis. This finding suggests that the gaming industry's attention on creating a suitable atmosphere that is conducive to player satisfaction is well founded. Certainly, other aspects of a player's gaming experience, such as employee behavior, whether the player wins or loses, or the property's type, may also influence player satisfaction. However, the importance of this study is that it provides further evidence of a direct linkage between atmospheric elements and customer satisfaction, consistent with the previous research of Lucas (2003) and Wakefield and Blodgett (1996) in casino gaming. Thus, it is apparent that casino industry managers must not overlook the importance of creating the "right" kind of atmosphere in the casino to enhance player satisfaction.

## **Limitations and Future Research**

As is the case for any exploratory research study, this one also contains a number of key limitations. First, it used a convenience sampling of slot players to gather information to minimize any potential disruptions to normal casino operations. Therefore, the study cannot be generalized to the population of slot machine players, or casino gamblers as a whole. Further, it only sampled players at a single casino in a relatively small gaming market—Blackhawk, Colorado. Thus, its results must be viewed with caution when considering the atmosphere at other types of gaming facilities. These would include both ends of the gaming spectrum, from the mega resorts in Las Vegas or Atlantic City, to a typical locals' casino in either large or small gaming markets. Also, the study did not attempt to examine casino atmosphere from the perspective of table games players, or high roller gamblers. The sample of gamblers involved in this study is principally from a 'low end' type of slot player. It may be the case that the perceptions of casino atmospherics of other types of customers might differ markedly from those who were involved in this study.

Thus, future research initiatives that examine the topic of casino atmospherics could

extend the present study by examining the atmospheric perceptions of other types of gamblers in other gaming jurisdictions, including gaming markets outside of the United States. It would be extremely valuable to build on the work involved in this and other prior studies that link gaming customer satisfaction to atmosphere in the casino. Studies to date have only scratched the surface of this important topic in the gaming industry. Much work remains to be done to more fully extend the existing research on atmospheric elements and their effects in casino gaming.

### Summary

This study served a twofold purpose. First, it re-employed a survey that had previously been used to determine the elements of casino atmosphere. Its other purpose was to investigate whether or not a direct linkage exists between casino atmospheric and player satisfaction with the gaming experience. It was successful in both areas, in that it confirmed that the survey appears to be a useful tool for identifying the elements of casino atmosphere from the customers' perspective. It also demonstrated, consistent with previous research in gaming and other environments, that guest satisfaction appears to be influenced by the servicescape. Although the results of this study are not generalizable to the gaming industry as a whole, it nevertheless adds further support to the industry's emphasis on the physical environment in the casino and its role as a contributor to gaming customer satisfaction.

### References

- Baker, J. (1987). The role of the environment in marketing services: The consumer perspective. In Cepeil, J., Congram, C. & Shanahan, J. (Eds.), *The services challenge: Integrating for competitive advantage* (pp. 79-84). Chicago: American Marketing Association.
- Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. *Journal of Marketing*, 54, 57-71.
- Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing*, 56, 57-71.
- Bruner, G., & Hensel, P. (1992). *Marketing scales handbook: A compilation of multi-item measures*. Chicago: American Marketing Association.
- Churchill, G. (1995). *Marketing research: Methodological foundations* (6<sup>th</sup> ed.). Orlando, FL: Harcourt Brace Publishers.
- Cronin, J. J., & Taylor, S. A. (1992). Measuring service quality: A reexamination and extension. *Journal of Marketing*, 56, 55-68.
- Kotler, P. (1974) Atmospheric as a marketing tool. *Journal of Retailing*, 49(4), 48-64.
- Lucas, A. F. (2003). The determinants and effects of slot servicescape satisfaction in a Las Vegas hotel casino. *UNLV Gaming Research & Review Journal*, 7(1), 1-19.
- Malhotra, N. (1996). *Marketing research: An applied orientation* (2<sup>nd</sup> ed.). Upper Saddle River, NJ: Prentice Hall.
- Mayer, K., & Johnson, L. (2003). A customer- based assessment of casino atmospheric. *UNLV Gaming Research & Review Journal*, 7(1), 21-31.
- Mayer, K., Johnson, L., Hu, C, & Chen, S. (1998). Gaming customer satisfaction: An exploratory study. *Journal of Travel Research*, 37(Fall), 178-183.
- Milliman, R. (1988). Restaurant atmospheric. *Restaurants USA*, 8(1), 22-23.
- Nunnally, J. (1978). *Psychometric theory* (2<sup>nd</sup> ed.). New York: McGraw-Hill.
- Simon, L. (2003, September). Branding through design. *Las Vegas Food Service Magazine*, 12-13.
- Steiber, S., & Krowinski, W. (1990). *Measuring and managing patient satisfaction*.

- Chicago: American Hospital Publishing.
- Tabachnick, B., & Fidell, L. (1996). Using multivariate statistics (3<sup>rd</sup> ed.). New York: Harper Collins.
- Turley, L. W., & Fugate, D. L. (1992). The multidimensional nature of service facilities: Viewpoints and recommendations. *Journal of Services Marketing*, 6(3), 37-45.
- Turley, L. W., Fugate, D. L., & Milliman, R. (1990). Atmospheric influences on service marketing. *Journal of Midwest Marketing*, 5(Spring), 278-286.
- Wakefield, K. L., & Blodgett, J. G. (1994). The importance of servicescapes in leisure service settings. *Journal of Services Marketing*, 8(3), 66-76.
- Wakefield, K. L., & Blodgett, J. G. (1996). The effect of the servicescape on customers' behavioral intentions in leisure service settings. *Journal of Services Marketing*, 10(6), 45-61.
- Wakefield, K. L., & Blodgett, J. G. (1999). Customer response to intangible and tangible service factors. *Psychology & Marketing*, 16(1), 51-68.

**Article submitted:** 10/6/03

**Sent to peer review:** 10/17/03

**Reviewer comments sent to author:** 11/3/03; 11/20/03

**Author's revised version received:** 7/14/04

**Article accepted for publication:** 7/14/04