



Modelling the Relationship between Environmental Graphics and Feeling of Security in Spectators of Iranian Soccer Stadiums

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ABSTRACT

Purpose: The feeling of security in public sports stadiums is one of the most critical indicators for the quality of the arena. The use of environmental graphics in stadiums can create a sense of security in the spectators. This study aimed to design a communication model of environmental graphics and a sense of security in Iranian soccer spectators.

Methodology: An applied method was adopted for this descriptive-explanatory research. The researcher-made questionnaire with five environmental graphics components and six feelings of security was used for data collection. Fifteen experts confirmed the validity of the questionnaire and its overall reliability for environmental graphics and security. The study's statistical population included the spectators of the Iranian Premier League, among whom 384 people were selected in proportion to the size of stadiums.

Findings: The results showed a significant relationship between environmental graphics and feeling of security in spectators and that the intensity of this relationship was 0.553 based on R2 criterion, indicating a strong correlation between these two variables. Therefore, in the design, construction and installation of soccer stadiums, it is necessary to instill a sense of security in the spectators present in the stadium and prevent social and cultural anomalies or non-return of spectators to the stadiums using the capacity of graphic, environmental experts.

Originality: This article is valuable and unique because it analyzes the relationship between new variables of Environmental Graphics and Feeling of Security in Spectators.

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1. Introduction

Since the worldwide expansion, sport is now widely recognized as a popular leisure activity (Larson et al., 2011). Football is one of the most popular sports and brings millions of fans to stadiums every year (Foroughi et al., 2018; Vallerand et al., 2008). Nevertheless, attendance at live sporting events continues to be a key goal of sports organizations business planning (Koenig-Lewis et al., 2018). With intense competition in the marketplace, football marketers are impelled to create more effective strategies and present a wide range of services to motivate spectators to come to stadiums to watch live games (Foroughi et al., 2019; Theodorakis et al., 2001). Two streams of research provide sport managers with guidance to improve the experience for sport spectators. The first stream is concerned with the market demand perspective. In this stream of research, consumers expectations towards the essential features of the game are investigated (Byon et al., 2010; Greenwell et al., 2002; Kim et al., 2009). These features reflect the quality of the core service. The second group of studies are related to the aspect of game support programs, investigating the characteristics of controllable service, which are concerned with the programs of game operation and reflect the quality of peripheral services (Byon et al., 2010; Murray & Howat, 2002; Zhang et al., 2005). Several studies have demonstrated that these two perspectives could be the primary drivers of the behavior of game consumption (Byon et al., 2010; Greenwell et al., 2002; Zhang et al., 2003).

Core service quality encompasses features related to the game itself: these attributes consist of players' performance, the quality of the game and the characteristics of the team (Brady et al., 2006; Yoshida & James, 2010). Core service quality takes place on the pitch (Masteralexis et al., 2009) and is difficult to control. On the other hand, peripheral service quality is under sports marketers' direct control. It deals with the features of the supporting services, the stadium/facility environment, and the interactions between employees and spectators (Theodorakis et al., 2001; Yoshida & James, 2010). Due to growing competition in sports marketing, it seems vital to develop innovative ideas to wisely manage the variables closely controlled by sports marketers (Kelley & Turley, 2001; Theodorakis et al., 2001). Such strategic management will help to ensure that fans enjoy their sporting experience even when their home team is losing, or the game is not exciting. As such, the focus of this study is on the peripheral service quality factors that are under the direct control of sports marketers.

2. Theoretical background

A Uhrich and Benkenstein (2012) define the concept of sports stadium atmosphere, which includes the venue of the event, attitudes and actions of spectators, and the emotions that people display at the event as behavioral sports responses. Balaji and Chakraborti (2015) also describe the atmosphere of a stadium as the functional, emotional and social aspects of the stadium that stimulate cognitive, emotional and behavioral responses among spectators during a live sporting event as well as a set of interactions between the spectator and any aspect originating from the stadium's environment. Since spectator satisfaction has a strong correlation with the atmosphere

and environment of a sports stadium and the behavioral attitudes of spectators, it appears to have a positive relationship with behavioral intent that leads to spectator satisfaction (Jensen et al., 2016).

On the other hand, the sense of security that a spectator perceives when attending a sports venue, including soccer stadiums, plays an irreplaceable role in repeating their presence at the venue. As one of the essential human needs, security is of secondary importance in Maslow's hierarchy of needs and the main requirement of quality of life after physiological conditions. Security is an essential requirement in human societies, a central component of sustainable human development and leading quality improvement factors in public spaces. If all the design principles but security are observed in an arena, there will be no guarantee for its success. Public spaces (including sports venues and spaces such as soccer stadiums) are places for external relationships, interactions, as well as social changes and encounters (Belali e oskui et al., 2020). Therefore, security has always been one of the essential human needs, which is of great importance from a psychological point of view, especially in mental health and psychopathology. Security is one of the most important quality indicators for measuring the desirability of life in all societies because peace of mind, human growth and prosperity, the emergence of talents and creativity, and human perfection are achieved in the shadow of security. Therefore, considering citizens' basic needs in public environments and paying attention to solving relevant problems and difficulties, including reducing anomalies and increasing security, is one of the essential issues continuously regarded by managers, planners, and urban designers (Vahdat & Sajadzadeh, 2016).

In general, security is derived from the Latin root "securus", which means they lack worry and concern and encompasses issues such as "relief from danger, threat, harm, anxiety, fear, and worry as well as calm, confidence, comfort, trust, supply, and guarantee". In Persian culture, security means "freedom and peace, lack of fear and not being invaded by others". In the dictionary of behavioral sciences, two meanings of this word are as follows: "a state in which personal needs and desires are satisfied" and "a condition with a sense of personal value, self-assurance, self-confidence and acceptance that is ultimately exercised by social classes towards the individual (Saheli, 2008). Glossary definitions of the concept of security emphasize the "sense of freedom from fear" or the "feeling of security" that governs material and psychological safety. There have been several definitions of security, namely various lexical purposes ranging from mental states and situations (sense of security) to objective and external conditions (safe position). Three sets of security concepts can be expressed (Grossi et al., 2007). The first group includes definitions that emphasize the threat to collective identity. Accordingly, security refers to preserving a series of characteristics based on which individuals consider themselves as members of a particular group. The second group sees security as the lack of fear of destruction and threat to society's values. Finally, the third group stresses the collective liberation from the risk posed by illegal action of the state, system, individual or group in all or part of the society.

On the other hand, like many other notions, two distinct dimensions must be considered in explaining the concept of security. The first concept is the "objective"

dimension in which tangible environmental and behavioral parameters are evaluated, and the other is the "mental" dimension that is perceived based on the sense of group security (Ostvar, 2013). The mental dimension of security is of high importance in terms of a direct effect on the level of security of citizens. The sense of security refers to a psychological feeling of citizens toward the existence or non-existence of crime. The higher the frequency of crime and its causes, the lower the sense of security among citizens. As a kind of "psychological perception", this feeling is a function of human exposure to environmental conditions distinguished from a specific urban and cultural structure to another socio-cultural system. Therefore, the development of security is psychologically dependent on environmental conditions and the type of perception and conceptual levels (Hosseini, 2008). On this basis, the feeling of security in society (including spectators in sports stadiums) is more critical than security because there may be good security conditions, but the citizens do not feel safe. In this regard, Zakeri (2011) believes that there are four states concerning the objective and mental dimensions of security as follows: a) There is security, there is also a sense of security; b) There is neither security nor sense of security; c) There is security in terms of security indicators, but people do not feel safe; d) There are no security meeting security standards, but people feel safe.

On the other hand, according to (Beeler, 2011), the sense of insecurity in a society leads to the compromised mental health of citizens and, of course, the loss of social trust. These conditions increase stress, tension and anxiety, restlessness, and many mental diseases in society. For this reason, recognizing various spaces and factors that reduce security and disrupt public order is one of the essential points that urban designers and planners consider in creating, developing, and managing public spaces and environments. In public spaces, "a sense of security" means that citizens can move freely, communicate with their fellow citizens, and engage in social activities without being threatened or subjected to physical or mental violence or inequality. The feeling of security indicates the safety of citizens in terms of property, life, which itself shows the organization, legitimacy and stability of society.

Due to the importance and role of environmental design in perceiving the sense of security in individuals, several urban studies have been conducted about the feeling of safety and environmental design. Cho et al. (2019) indicated that spaces susceptible to crime have irregular geometry and lack of enough light. Kondo et al. (2018) showed that the design mode of the environment and a set of interventions meant to re-form existing public spaces could significantly reduce the crime rate of neighbourhoods and increase residents' perception of the security at their place of residence (Kondo et al., 2018).

The results of a study by Foster et al. (2014) also indicate that the incidence of crime and the fear of crime is potentially affected by the environment and design of crime avoidance or criminalization of public spaces. The findings of Menaker et al. (2019) entitled "Changes in crime pattern in the vicinity of Cleveland sports venues on competition day" showed that holding sporting events in each of these venues affects the frequency, type and timing of crime perpetration in the vicinity of these areas having higher crime rates on competition days. In addition, races have had the most significant impact on the increasing frequency of violent crimes, resistance to detention, and

misconduct related reports. Whereas the research findings of [Phipps and Horrobin \(2014\)](#) showed that in general, the level of security reported in older neighbourhoods was much lower than that of newer ones, which is a function of environmental characteristics and the design technique of public spaces in these neighbourhoods.

In local studies, the findings of [Behzadfar et al. \(2013\)](#) indicate that territoriality and access control, environmental design and graphics, management and maintenance of public spaces have a potential effect in reducing the crime rate of public spaces. [Moayeddy et al. \(2013\)](#) introduced familiarity with the space and its reputation, social monitoring, population density, clarity or readability, sense of belonging, urban landscape and attractiveness of the environment as factors used to measure the importance of security. Also, [Akbari and Pak Bonyan \(2012\)](#), in a study entitled "The effect of physics of public spaces on women's sense of social security", introduced the size and shape of space and visual and environmental comfort as the physical components affecting the feeling of feeling social security in urban spaces. Therefore, space and environmental factors have an essential role in creating security. According to the mentioned components such as urban landscape, the attractiveness of the environment, clarity and readability, size and shape of space and the like in the environment, the role of arts, and among them environmental graphics is more prominent.

As indicated by the above research findings, having a sense of security in public spaces comes from several factors, one of which is environmental factors. Since the importance of security is a psychological and social phenomenon affected by several variables, such feeling results from direct and indirect experiences that people gain about the environment. In this regard, the art of environmental graphics is one of the most popular graphics components, which has a role beyond mere art in changing public spaces. In addition to being sufficiently literate in graphics, a graphic designer must be a sociologist and psychologist aware of the community and its surroundings for his works to be influential and solve social and cultural problems by providing appropriate visual elements in public spaces. Environmental graphics is a science in which the use of various forms, colours, maps and images has been addressed in a skilful, principled and planned way to improve and simplify relationships, communications, and traffic to complement the beauty of the public environment. This field of art includes many branches of graphics, the most important of which are navigation systems, building graphics, exhibition and stadium design, and thematic design of environmental maps. Environmental graphics are in direct contact with different strata of society to create a favourable and pleasant living space in harmony with the people's traditions, culture, and mood. If the environmental graphics are to grow, environmental graphics are the most effective tool for influencing the behavioral patterns of human life, including citizens.

Large-scale graphics with quasi-architectural facilities is the best way to identify the environment that can pave the way for psychological harmony, further clarity and readability of the environmental understanding by creating typical urban signs ([Azizi, 2009](#)). The graphic design facilitates routing, information update and beautifies the environment, building security and comfort for the audience ([Sharifi Noghabi & Rahnama, 2015](#)). According to the international classification by Walter Merdige Archigraphia book, environmental graphics are divided into six components:

pictogram; traffic signs in cities and shops; visual guidance systems; graphic design of letters on buildings and shops; graphic signs on motor vehicles (Satari & Eghbali, 2017). In this regard, the research findings of Atamaz (2019) showed that concomitant with fast changes in urban life and the urgent need to provide solutions, environmental graphic design is a new order to create a better atmosphere in public spaces that will soon spread around the world. This study showed that graphic design consists of elements from typography, photography, illustration, and pictogram, a universal language that can tell a story.

The global expansion of sports has made it an important leisure activity worldwide and professional exercise (Alonso & O'Shea, 2013). This popularity has led to new professional leagues and teams and attracted many sports consumers (McDonald et al., 2010). Sports managers and marketers are increasingly looking for strategies to increase spectators in stadiums because spectator arrivals make up a significant portion of sporting event revenue with such a highly competitive market. Sports event organizers around the world spend more than 2000,000 \$ per year on security activities. Security costs related to safety operations include staffing and physical support systems, environmental and access control, risk management, crisis, population, circulation, access, traffic, and parking. Research has shown that a majority of our sports venues and spaces are not adequately protected. Quantitative and qualitative status of security in sports venues and events can vary depending on the structure of venues, capacity, and type of event and the availability of resources.

Observing safety points in the design, construction, and operation of sports venues and spaces and ensuring athletes, spectators, and fans of sports teams during sporting events has long been a concern for sports venues and events managers. Soccer stadiums are among the most important sports places and spaces full of spectators. They account for a significant part of the world sports industry and spectators due to the unique attractiveness of soccer. The owners and investors in the soccer industry are trying to increase spectators by creating the best sports environments while retaining their existing spectators and fans. Therefore, in pursuit of academic research, one of the most important factors affecting the re-appearance of spectators is the feeling of security when attending sports venues and spaces, including the stadium where the match is held. In this respect, important studies have been conducted on characteristics of sports spaces in attracting, retaining and expanding the re-presence of spectators. For example, Dhurup et al. (2010) in a study examined the relationship between seven physical characteristics of the stadium, including the beauty of equipment, space allocation, access to the stadium, the comfort of seats, scoreboard quality, food service, and clean stadium with the willingness of spectators to stay in sports places, including sports venues. The results showed that improving the quality of environmental features in a stadium has a positive and significant relationship with the re-presence of spectators.

Pine (2010) also recognized the following factors that draw attention to the event: high quality of services, including resorts, stands and booths with licenses or exploitation rights, as well as aesthetic aspects of the stadium such as architectural style and those spectators who enjoy spending time in the stadium are more likely to attend other matches. Meanwhile, Razavi et al. (2012) also showed that the dimensions of color, space, form,

harmony, light, and environment effectively affect the tendency of customers and sports venues, respectively. [Rezaei et al. \(2011\)](#) argued that ease of access to sports space, separate sportive facilities for the championship, educational, public and recreational sports, age of sports facilities, and the existence of conveniences were among the factors that were respectively effective in creating a good sense in spectators to re-attend the stadium. [Karimollahi et al. \(2016\)](#) showed that easy access to sports venues, presentation of a variety of services to people and the attractiveness of the sports complex environment from the customers' viewpoint were factors that play a role in selecting a sports complex by customers. [Pourzarangar \(2018\)](#) considers the facilities and equipment of stadiums and factors related to the attractiveness of football matches as effective on maintenance and increase in the number of spectators. [Darvishi et al. \(2018\)](#) argued that social, infrastructural, economic, technical, cultural, and value factors are the most factors influencing the retention and increasing number of spectators.

Several studies have examined the issue of environmental graphics in sports. They have considered the role of aesthetics and attractiveness of the environment in the re-presentation of people in sports venues ([Cleland et al., 2010](#); [Cleland et al., 2008](#)). Mentioned findings indicated that the tendency toward physical activity and sports and a presence in sports venues and spaces are influenced by environmental characteristics. Those aesthetics and environmental graphics play an important role in physical activities and re-presentation in sports spaces. The dimensions of colour, light, harmony, form, space, and environment influence customers' tendency to sports places. The study of [Memari et al. \(2020\)](#) also showed that security and educational instructions, special attention to the management of hardware and software of places and spaces, planning and physical protection, and security services and facilities are essential to improve security conditions in soccer matches. In addition, the findings of [Harati et al. \(2019\)](#) consider physical security as one of the leading security issues affecting the security of volleyball stadiums in Iran. The results of [Mahmoodin et al. \(2019\)](#) showed that spectator satisfaction mediates the effect of sports stadium atmosphere on the behavior of spectators and fans in the future. The respective dimensions of the sports stadium atmosphere, team performance, facilities, electronic equipment, professional staff, team competition, entertainment, spectator enthusiasm and behavior, cheerleading groups and team traditions have the most significant impact on spectator satisfaction directly and also on their behavioral intentions indirectly.

Even though numerous studies have been conducted on safety and security in stadiums, few investigations have dealt with the role of environmental design and graphics in developing a sense of security among soccer spectators of Iranian stadiums. Most of the research findings have focused on protection from crime prevention, not in terms of creating peace but a sense of aesthetics and pleasure leading to the return of spectators to stadiums. Soccer stadiums in Iran attract many people. It seems that environmental graphics around the lawn, spectator benches and even giant stadium screens can significantly influence the sense of security in spectators.

The findings of this study can address several factors causing spectator anomalies in soccer stadiums over recent years, such as throwing flammable materials, beating and insulting in the stadium, breaking seats and destroying platforms, injuries and deaths.

These results may lessen some of the concerns of investors, clubs and sports managers regarding reduced re-attendance of spectators in soccer stadiums by recreating and redesigning the graphic, thereby contributing to the turnover of soccer matches. Therefore, the role of environmental graphics and their effects in creating peace, attractiveness, and a sense of security in public sports venues and spaces, this study seeks to answer whether environmental graphics are associated with creating a sense of security in spectators of soccer stadiums in Iran. If the answer to the question is yes, what is the appropriate communication model between these two categories?

3. Methodology

The research method was descriptive-explanatory, and the study was of applied type. According to Morgan's table, the study population included soccer stadiums from the Iranian Premier League, namely 384 subjects in an unknown community. The sample was randomly selected according to the capacity of Premier League stadiums during the soccer matches in 2017 and randomly distributed among the spectators. A researcher-made questionnaire taken from previous studies was used to collect the data, the validity of which was confirmed by 15 professors and experts in sports management and architecture and several operational staff. The reliability of the research instrument was 0.748 and 0.911 for environmental graphics and sense of security using Cronbach's alpha, respectively, and the combined reliability for environmental graphics and sense of security were 0.8 and 0.925, respectively. Because of the reliability of the questionnaire, three questions were removed. Finally, the environmental graphic questionnaire with 16 questions and the questionnaire of the feeling of security with 23 questions were designed for final implementation. The questionnaires were based on a five-point Likert scale (very high, high, to some extent, low and very low). In this research, the components of environmental graphics included signposts, pictograms, graphic designs (murals), advertisement posters and a visual guidance system. The parts of sense of security were a sense of place, the site's identity, memorability, readability, general perception, visual pleasure, form and morphology. The confirmatory factor analysis and structural equation modelling were used to determine the relationship between environmental graphics and the feeling of security in soccer stadium spectators. SPSS version 16 and PLS software were used to analyse descriptive data and confirmatory factor analysis and validation of the tool, respectively.

4. Results

Demographic [Table 1](#) shows the descriptive statistics of the research, including marital status, education level, attendance at stadiums and age of spectators.

Table 1. Distribution of spectators by marital status, education level, attendance at stadiums.

		Frequency	Percent	Total
Marital status	Single	203	52.9	384
	Married	181	47.1	

		Frequency	Percent	Total
Education level	Diploma	32	8.3	384
	Undergraduate	120	31.2	
	Bachelor	153	39.8	
	Master	56	14.6	
	PhD	23	6	
Attendance at stadiums	Rarely	99	25.78	384
	Usually	112	29.16	
	Mostly	67	17.44	
	Always	106	27.6	

As can be seen, most spectators were single; most held a bachelor's degree, and many of them were frequently present in the stadium.

Table 2. Reliability of research tool based on Cronbach's alpha and combined reliability.

Variables	Questions	Cronbach's alpha	Average variance extracted (AVE)	Combined reliability (CR)
Environmental graphic	16	.822	.51	.856
feeling of security in the spectators	23	.899	.58	.905

Table 3. Combined reliability of each component.

Components	Number of questions	Combined reliability (CR)
Feeling of place	4	.865
Place Identity	4	.842
Memorable	3	.850
Readability	4	.818
Visual perception	3	.796
Form and morphology	5	.785
pictogram	4	.812
Signs of guidance	3	.873
Graphic Design	3	.748
Visual guidance system	3	.723
Advertising posters	3	.802

*If the CR value for each construct is >0.7 (1978, Nunnally), it indicates suitable internal stability. Also, if the mean value of the extracted variance is >0.5 (Fornell & Larcker, 1981), the fit of the measurement model is indicated in PLS. Therefore, according to the above tables, based on Cronbach's alpha (>0.7), combined reliability (>0.7) and mean-variance (>0.5), the measurement model has good reliability and fit.

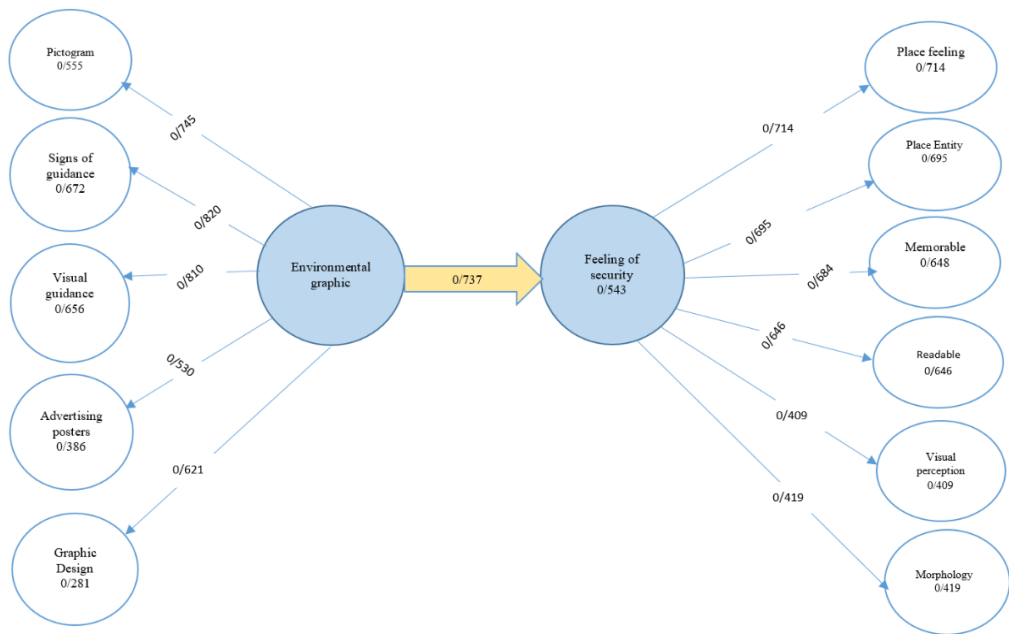


Figure 1. Measurement model for factor analysis of environmental graphic and feeling of security in the spectators.

Load factors are calculated by measuring the correlation value of the indices of a construct if ≥ 0.4 (Hulland, 1999). It confirmed that the variance between the construct and its indices is greater than the measurement error variance of that construct and that the reliability of the measurement model is acceptable. Therefore, the values of load factors from the above test show that all components have a good load factor and are thus significant.

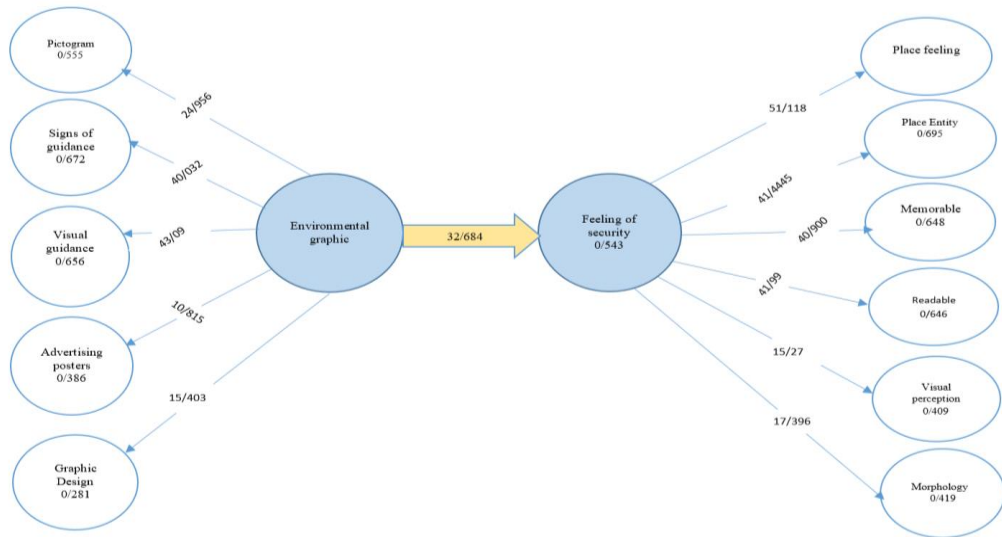


Figure 2. T-value statistic.

The most basic criterion for examining the significance of the relationship between variables is t-statistic or t-test. If the value of load factors observed with the t-value test is calculated >1.96 , the relationship is significant at 0.05 level, and if it is calculated >2.58 , it is significant at 0.01 level. It should be noted that this statistic only shows the accuracy of the relationship and that it cannot measure the intensity of the relationship (Davari & Rezazadeh, 2014). As shown in Figure 2, the t-statistic of all components and constructs is 2.58, which shows that the observed relationship between environmental graphics and the feeling of security is significant at 0.01 level and that the constructed model is suitable.

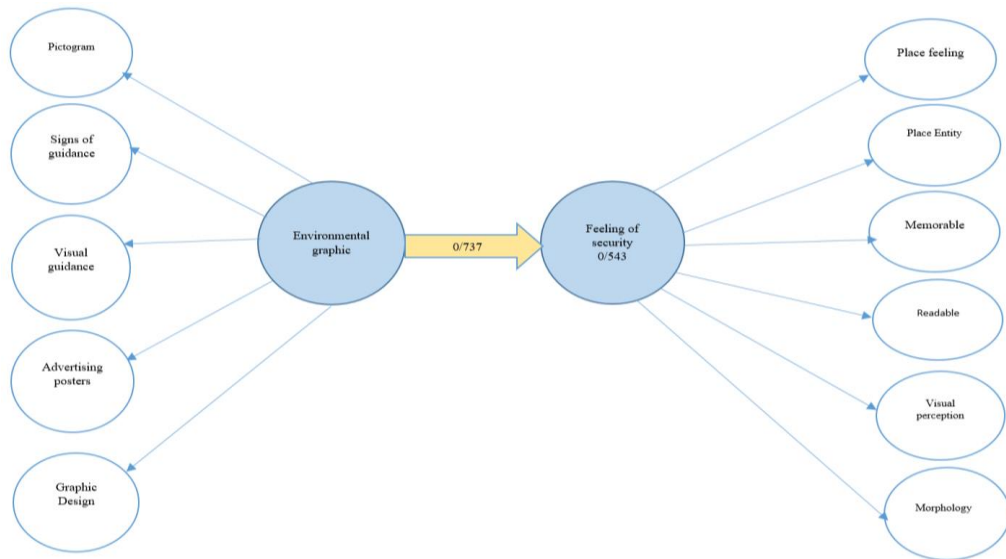


Figure 3. A model for measuring the analysis of graphic, environmental factors and the feeling of security in football spectators.

According to the Factor analysis model in Figure 3, the effect of environmental graphics on the feeling of security in spectators of Iranian football stadiums is equal to 0.737, which indicates the high impact of environmental graphics on the sense of security in spectators of Iranian soccer stadiums.

The model's overall fit is assessed through the goodness of fit criterion proposed by Tenenhaus et al. (2004) and calculated using the following formula. Communalities and R² represent the mean of shared values and R-squares of model constructs, respectively (Davari & Rezazadeh, 2014).

$$\sqrt{\text{communalities} * R^2} = \sqrt{0.545 * 0.543} = 0.538$$

Kline (2015) introduced three values of 0.01, 0.25 and 0.36 as weak, medium and robust values for GOF. As can be seen, the 0.538 value for the present model indicates a good fit of the model Davari and Rezazadeh (2014).

Table 4. Results of structural equations for research variables.

Path between structures	Standard Coefficient	T-Value	Result
Environmental Graphics ---> Feeling of Security	0.737	32.684	Confirm

5. Managerial implications

The results of the present study showed that there was a significant relationship between environmental graphics and the feeling of security in spectators. Therefore, in the design, construction and installation of soccer stadiums, it is necessary to instil a sense

of security in the spectators present in the stadium and prevent social and cultural anomalies or non-return of spectators to the stadiums using the capacity of graphic environmental experts.

6. Discussion and conclusion

The needs of people must consider to motivate and persuade them toward a type of behavior satisfying them. One of the most popular theories of human motivation was proposed by Abraham Maslow in 1943. Human needs are classified in a hierarchy of importance, beginning from physiological conditions in the lowest level, followed by higher requirements, and ending with dependence and attachment to social needs. After modification of the pyramid in two stages during 1970 and 1990 that made it compatible with new theories, the three categories of cognitive, aesthetic and transcendental needs were placed in the fifth, sixth and eighth classes, respectively. In this way, improving the appearance and redecorating the environment through various art forms can stimulate human behavior based on the genuine requirement (need for beauty).

This study aimed to present a communication model between environmental graphics and the sense of security among spectators of Iranian soccer stadiums. In general, the findings of this study showed a relationship between environmental graphics and the importance of the security of spectators in soccer stadiums. Using environmental graphic components such as pictograms, traffic signs, graphic design (murals), advertisements, posters, and visual guidance systems can provide an attractive environment with a sense of security for the spectators.

In this regard, pictogram as a component of environmental graphics affecting the feeling of security was observed, consistent with the results of [Eslami \(2016\)](#)'s research. Results showed that the function of visual signs and pictograms in guiding public sports spaces leads to visual attraction in these spaces. Also, it stimulates the aesthetics taste of spectators, which is followed by the reduction of psychological stress. It is caused by the crowded soccer stadiums, thereby creating a pleasant feeling of security and comfort in the stadium environment.

Another finding of this study was that visual guidance system as a component of environmental graphics, which includes various attractive colors and paintings, affects the feeling of security. This result is also consistent with the findings of [Salavati \(2011\)](#) research. Overall, the color element has innate and actual capabilities and talents that will have a desirable, positive and harmonious effect on stadiums and spectators if used appropriately and adequately.

According to the present study's findings, the graphic design (mural) was another component of environmental graphics affecting the sense of security, consistent with [Mozaffarikhah and Kafchian Moghaddam \(2012\)](#) results. This result showed that Iranian painters and architects could properly renew public spaces (environmental graphics) such as soccer stadiums through mural and sometimes combining it with architecture. In addition, they can present novel patterns for creating new murals and even sports space graphics leading to further peacefulness and enhanced practical aspects of their works on the life of the audience, especially in sports spaces and soccer stadiums.

Another result of this study was the relationship between ads and advertising posters (including stands and publicity posters) with the sense of security in soccer spectators in sports stadiums, consistent with Hatami (2017)'s research results. Environmental graphics can play an influential role in raising the level of cultural awareness among sports spectators (especially those of soccer stadiums) by focusing on proper placement of stands, posters, banners and billboards in these stadiums and thus inject a sense of security and calm into those present in the stadium.

The role of guiding and informing the spectators in a soccer stadium is another component of environmental graphics studied in this research. The findings showed that communicating to guide and educate the audience is one of the most important roles of environmental graphics in public spaces, especially dense soccer stadiums, evoking a sense of security in spectators' minds while beautifying the environment. Man subconsciously demands beauty, symmetry, balance, and splendor and avoids malice and anomalies. It is a pleasant experience for every human to be in an environment where all the elements are correct. Also, the colors are in harmony and contrast, each doing its job correctly, inviting the soul tired of struggles and problems of everyday life to calm down. This is important for sports spectators, including those of attractive soccer matches who spend part of their free time in stadiums. This finding was consistent with the results of (Davari & Rezazadeh, 2014).

In addition to affecting each of the conceptual components of public spaces, environmental graphic art increases citizens' attendance in sports venues. The results show that the most important and most operative effect of environmental graphic art on the desirability of public places from the viewpoint of citizens and users of space is related to the elements and characteristics of physical component followed by social, semantic, and environmental components (Vahdat & Sajadzadeh, 2016).

By rationally designing visual elements based on the proper use of environmental graphics and examining the psychological perception of human beings and collective memory in public spaces (small or large), profound effects can be exerted on citizens. They include sports spectators in the environment and space of soccer stadiums that will contribute to the dynamization of public sports spaces.

Generally, the present study's findings indicated the unique role of environmental graphics in developing a sense of security among soccer spectators in Iranian sports stadiums. Creating the perception of security from various angles leads to sports growth in general and soccer in particular in Iran and even globally. Firstly, studies similar to ours showed that dealing with environmental graphics in public places, including sports venues and spaces, is associated with the attention to aesthetic sense and art in a public place and respect for the art-loving nature of man. Secondly, the environmental graphics and its components play the role of calming the audience mentally at the end of a busy day or week, creating a high capacity and causing a good feeling of spectators' return to the sports venue as well as placing the return to such spaces in people's leisure basket. Thirdly, studies show that this reduces the crime rates, stress and anomalies due to the dullness and roughness of a public sports space and promotes revenue and reduces the concerns of managers, owners and investors of the private sector in sports.

In the present study, inconsistent research nor consistent or inconsistent structural models were not found due to the novelty of the research. Therefore, environmental graphics create a sense of safety and psychological security in spectators of soccer stadiums to hold the competitions as good as possible, especially in sensitive competitions.

All sports managers, investors and owners of sports venues and spaces, especially soccer stadiums, are recommended to recruit graphic experts, construction and equipment of public stadium venues. They can ensure the re-presence of spectators and fans of their sports teams by taking advantage of art, creativity and up-to-date innovations. Other suggestions include using the subtlety of change based on painting and staining, various murals on communication paths, corridors, stairways, and entrances to stadiums and sports venues, diversity of banners, electronic and non-electronic billboards. They could have a significant impact on the return of spectators to soccer stadiums. There are different attitudes towards specific sports and attendance in sports venues and spaces from several perspectives; therefore, we suggest that this issue be studied in other sports and from the viewpoint of other sports' spectators.

The most significant limitation was the absence of Iranian women in soccer stadiums. All data and information of the present research have been taken from the male community. Therefore, studying this subject in detail in women's societies and sports with female spectators is necessary.

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References

- Akbari, R., & Pak Bonyan, S. (2012). The effect of the body of public spaces on women's sense of social security Case study: Narmak neighborhood and Ekbatan town of Tehran. *Journal of Fine Arts*, 17(2), 53-64. <https://www.sid.ir/fa/journal/ViewPaper.aspx?id=263125>
- Alonso, A. D., & O'Shea, M. (2013). The links between reasons for game attendance of a new professional sports league and revenue management: an exploratory study. *International Journal of Revenue Management*, 7(1), 56-74. <https://doi.org/10.1504/IJRM.2013.053359>
- Atamaz, E. (2019). Environmental graphic design for building information systems. *EurAsian Journal of BioSciences*, 13(2), 2271-2278.
- Azizi, S. (2009). *Study of the effect of new phenomena in the world environmental graphics in the years 1379-1387 on the environmental graphics of Iran*. [MSc Thesis, Faculty of Arts, Ministry of Science, Research and Technology, Shahed University].

- Balaji, M. S., & Chakraborti, R. (2015). Stadium atmosphere: scale development and validation in Indian context. *Journal of Indian Business Research*, 7, 45-66. <https://doi.org/10.1108/JIBR-05-2014-0029>
- Beeler, J. N. (2011). *Security Planning for Public Spaces: testing a proposed CPTED rating instrument in Berlin, Germany*. [University of Florida Gainesville]. United States.
- Behzadfar, M., Abdi, F., & Mohammadi, M. (2013). Evaluation of the criteria in the first generation of cpted approach on security of public space at dehkade farahzad of tehran based on anp model. *ARMANSHAHR*, 5(10), 119-134. <https://www.sid.ir/en/journal/ViewPaper.aspx?id=440591>
- Belali e oskui, A .,sedaghati, a., & dartoomi, s. (2020). An Applied Approach to Women's Sense of security in Urban Parks Case study: Bojnord city. *Architectural and Environmental Reasearch*, 2(1), 65-81. <https://doi.org/10.30470/jaer.2020.125493.1079>
- Brady, M. K., Voorhees, C. M., Cronin, J. J., & Bourdeau, B. L. (2006). The good guys don't always win: the effect of valence on service perceptions and consequences. *Journal of Services Marketing*, 20(2), 83-91. <https://doi.org/10.1108/08876040610657011>
- Byon, K. K., Zhang, J. J., & Connaughton, D. P. (2010). Dimensions of general market demand associated with professional team sports: Development of a scale. *Sport Management Review*, 13(2), 142-157. <https://doi.org/10.1016/j.smr.2009.07.005>
- Cho, Y., Jeong, H., Choi, A., & Sung, M. (2019). Design of a connected security lighting system for pedestrian safety in smart cities. *Sustainability*, 11(5), 1308. <https://doi.org/10.3390/su11051308>
- Cleland, V., Ball, K., Hume, C., Timperio, A., King, A. C., & Crawford, D. (2010). Individual, social and environmental correlates of physical activity among women living in socioeconomically disadvantaged neighbourhoods. *Social Science & Medicine*, 70(12), 2011-2018. <https://doi.org/10.1016/j.socscimed.2010.02.028>
- Cleland, V. J., Timperio, A., & Crawford, D. (2008). Are perceptions of the physical and social environment associated with mothers' walking for leisure and for transport? A longitudinal study. *Preventive Medicine*, 47(2), 188-193. <https://doi.org/10.1016/j.ypmed.2008.05.010>
- Darvishi, A., Naseripour, M., & Dousti, M. (2018). Identifying Solutions to Retain and Increase Soccer Fans of Persepolis Cultural-Sport Club. *Journal of Sport Management*, 9(4), 679-695. <https://doi.org/10.22059/jsm.2018.65882>
- Davari, A., & Rezaadeh, A. (2014). *Modeling structural equations with PLS software*. Jahad Dangi Publications Organization.
- Dhurup, M., Mofoka, M. A., & Surujlal, J. (2010). The relationship between stadium sportscaapes dimensions, desire to stay and future attendance. *African Journal for Physical, Health Education, Recreation and Dance*, 16(3). <https://doi.org/10.4314/ajpherd.v16i3.60925>
- Eslami, M. (2016). *The role of graphic environment in urban design*. Third International Conference on Research in Science and Technology, Tehran, Iran.
- Foroughi, B., Gholipour, H. F., McDonald, H., & Jafarzadeh, B. (2018). Does national culture influence the turnover frequency of national football coaches? A macro-level analysis. *International Journal of Sports Science & Coaching*, 13(6), 902-911. <https://doi.org/10.1177/1747954118787492>
- Foroughi, B., Shah, K. A., Ramayah, T., & Iranmanesh, M. (2019). The effects of peripheral service quality on spectators' emotions and behavioural intentions. *International Journal of Sports Marketing and Sponsorship*. <https://doi.org/10.1108/IJSMS-08-2018-0082>
- Foster, S., Knuiman, M., Villanueva, K., Wood, L., Christian, H., & Giles-Corti, B. (2014). Does walkable neighbourhood design influence the association between objective crime and

- walking? *International Journal of Behavioral Nutrition and Physical Activity*, 11(1), 1-9. <https://doi.org/10.1186/s12966-014-0100-5>
- Greenwell, T. C., Fink, J. S., & Pastore, D. L. (2002). Perceptions of the service experience: Using demographic and psychographic variables to identify customer segments. *Sport Marketing Quarterly*, 11(4), 233-241. <https://www.cabdirect.org/cabdirect/abstract/20033025815>
- Grossi, S., Zarzai, J., & Shahrokhi, E. (2007). Investigating the Relationship between Social Trust and Social Security, Case Study: Female Students of Jiroft Azad University. *Quarterly Journal of Law Enforcement Science*, 9(2), 26-39. <https://www.sid.ir/fa/journal/ViewPaper.aspx?id=74957>
- Harati, S. H., Ashraf Ganjouei, F., Amirtash, A., & Nikaeen, Z. (2019). Investigating the Physical Security Dimensions Affecting Volleyball Stadiums Security. *Journal of System Management*, 5(1), 191-210. https://sjsm.shiraz.iau.ir/article_545538.html
- Hatami, S. (2017). Evaluating the effect of environmental graphic media on active learning: Evidence from increasing the general knowledge of the primary school students about the environment. *Educational Innovations*, 16(4), 127-140. http://noavaryedu.oerp.ir/article_79135.html?lang=en
- Hosseini, F. (2008). *Study and presentation of physical-functional indicators effective in promoting the security of urban public spaces; Case study: Student Park*. [Master of Thesis in Urban Planning, Tarbiat Modares Universit]. Tehran, Iran.
- Jensen, R. W., Limbu, Y., & Choi, J. J. (2016). How Does the Stadium Atmosphere at a College Football Game Affect Behavioral Intentions Across Gender Lines? The Mediating Role of Spectator Satisfaction. *International Journal of Management and Marketing Research*, 9(2), 41-58. <http://www.theibfr2.com/RePEc/ibf/ijmmre/ijmmr-v9n2-2016/IJMMR-V9N2-2016-4.pdf>
- Karimollahi, Z., Atghia, N., & Mokhtari Dinani, M. (2016). Image of environmental characteristics of sports spaces on customer attraction according to the concept of responsive environments (Case study of Tehran Revolution Sports Complex). *New Approaches in Sports Management*, 3(11), 33-46. <https://www.sid.ir/fa/journal/ViewPaper.aspx?id=357099>
- Kelley, S. W., & Turley, L. W. (2001). Consumer perceptions of service quality attributes at sporting events. *Journal of Business Research*, 54(2), 161-166. [https://doi.org/10.1016/S0148-2963\(99\)00084-3](https://doi.org/10.1016/S0148-2963(99)00084-3)
- Kim, M. K., Zhang, J. J., & Ko, Y. J. (2009). Dimensions of Market Demand Associated with Taekwondo Schools in North America: Development of a Scale. *Sport Management Review*, 12(3), 149-166. <https://doi.org/10.1016/j.smr.2009.01.003>
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications. <https://www.guilford.com/books/Principles-and-Practice-of-Structural-Equation-Modeling/Rex-Kline/9781462523344>
- Koenig-Lewis, N., Asaad, Y., & Palmer, A. (2018). Sports events and interaction among spectators: Examining antecedents of spectators' value creation. *European Sport Management Quarterly*, 18(2), 193-215. <https://doi.org/10.1080/16184742.2017.1361459>
- Kondo, M. C., Andreyeva, E., South, E. C., MacDonald, J. M., & Branas, C. C. (2018). Neighborhood interventions to reduce violence. *Annual review of public health*, 39, 253-271. <https://doi.org/10.1146/annurev-publhealth-040617-014600>
- Larson, B. V., Jensen, R., & Bowman, N. D. (2011). Developing international sports markets: professional sports selling to new segments with new promotions. *Journal of International Business Disciplines*, 6(2), 9-24.
- Mahmoodin, A., Sadeghi Boroujerdi, Saeed, daryanavard, A., & Delshab, V. (2019). Influence of the dimensions of sport stadium atmosphere on Behavioral intention of Football

- spectators with mediation role of Satisfaction. *Contemporary Studies On Sport Management*, 9(17), 53-68. <https://doi.org/10.22084/smms.2019.15909.2171>
- Masteralexis, L. P., Barr, C. A., & Hums, M. A. (2009). *Principles and Practice of Sport Management* (Third ed.). Jones and Bartlett Publishers. <https://books.google.com/books?id=tiheH6mu-DAC>
- McDonald, H., Karg, A. J., & Lock, D. (2010). Leveraging fans' global football allegiances to build domestic league support. *Asia Pacific journal of marketing and logistics*, 22(1), 67–89. <https://doi.org/10.1108/13555851011013164>
- Memari, Z., Lal Bidari, M., & Saadati, M. (2020). The Security Role of Football Stadiums on Marketing Mix Development. *New Approaches in Sport Sciences*, 2(3), 93-115. <https://doi.org/10.22054/nass.2020.52513.1059>
- Menaker, B. E., McGranahan, D. A., & Sheptak Jr, R. D. (2019). Game day alters crime pattern in the vicinity of sport venues in Cleveland, OH. *Journal of Sport Safety and Security*, 4(1), 1. <https://www.scinapse.io/papers/3033187504>
- Moayed, M., Alinejad, M., & Navaye, H. (2013). Investigating the role of urban landscape components in promoting a sense of security in public urban spaces; Case study: Evin neighborhood of Tehran. *Social Security Studies*(35), 159-191.
- Mozaffarikhah, Z., & Kafchian Moghaddam, A. (2012). Minimal Art Capabilities in Urban Environmental Graphics with Emphasis on Examples of urban murals in Iran. *Scientific and research journal of Negreh*. No. 22. *Negre*, 7(22), 84-102. <https://www.sid.ir/fa/journal/ViewPaper.aspx?ID=196133>
- Murray, D., & Howat, G. (2002). The Relationships among Service Quality, Value, Satisfaction, and Future Intentions of Customers at an Australian Sports and Leisure Centre. *Sport Management Review*, 5(1), 25-43. [https://doi.org/10.1016/S1441-3523\(02\)70060-0](https://doi.org/10.1016/S1441-3523(02)70060-0)
- Ostvar, M. (2013). *Environmental graphic art book*. Raznameh publications.
- Phipps, A. G., & Horrobin, B. A. (2014). Measuring Exterior Safety of Canadian Residential Neighbourhoods. *Journal of Building Construction and Planning Research*, 2(2) 132-149. <https://doi.org/10.4236/jbcpr.2014.22012>
- Pine, N. (2010). The Role of Athletics in the Academy: An Alternative Approach to Financial Investment. *Journal of Sport and Social Issues*, 34(4), 475-480. <https://doi.org/10.1177/0193723510383849>
- Pourzarangar, J. (2018). Investigating the factors affecting the presence of football spectators in Rasht in stadiums. *New research Approaches in Management and Accounting*, 7(1), 66-71. <https://majournal.ir/index.php/ma/article/view/102>
- Razavi, S. M. H., Hosseini, S. E., & Soleimani, M. (2012). A Study of Aesthetic Dimensions in Customers' Tendency to Sports Venues. *Journal of Sport Management and Motor Behavior*, 8(16), 15-34. <https://doi.org/10.22080/jsmb.2012.443>
- Rezaei, Z., Bahmani, F., Kargar, G., & Shahlaee, J. (2011). *Determining related factors (physical and customer orientation) with the productivity of sport facilities in Golestan province*. The First National Conference on New Scientific Achievements in Sports Development and Physical Education, Gorgan, Islamic Azad University. <https://civilica.com/doc/167689>
- Saheli, E. (2008). *Environmental features of safe urban spaces, urban planning and architecture study and research center*. Ministry of Housing and Urban Development, Center for Studies and Research on Architectural Urbanism.
- Salavati, M. (2011). The impact of environmental graphics on urban communication. *Naghsh Maye*, 4(7), 11-134. <https://www.sid.ir/fa/journal/ViewPaper.aspx?id=208972>
- Satari, S., & Eghbali, P. (2017). The role of environmental graphics in the educational-recreational space of children's park. *Art Month Magazine*, 189(8), 38-45.

- Sharifi Noghabi, A., & Rahnama, H. (2015). *Study of environmental graphics in general environment (Study Area: Tarbiat Modares University)*. 3rd International Conference on Applied Research in Civil Engineering, Architecture and Urban Management, Tehran, Iran. <https://civilica.com/doc/493240>
- Theodorakis, N., Kambitsis, C., & Laios, A. (2001). Relationship between measures of service quality and satisfaction of spectators in professional sports. *Managing Service Quality*, 11, 431-438. <https://doi.org/10.1108/09604520110410638>
- Uhrich, S., & Benkenstein, M. (2012). Physical and social atmospheric effects in hedonic service consumption: customers' roles at sporting events. *The Service Industries Journal*, 32(11), 1741-1757. <https://doi.org/10.1080/02642069.2011.556190>
- Vahdat, S., & Sajadzadeh, H. (2016). The Study and Evaluation of the Role of Urban Art in Increasing the Presence of Public Spaces with an Emphasis on Urban Graphics (Case Study: Hamadan Mardom Park) [Research]. *Scientific Journal of Pazhuhesh-e Honar*, 6(11), 25-38. <http://ph.aui.ac.ir/article-1-240-fa.html>
- Vallerand, R. J., Ntoumanis, N., Philippe, F. L., Lavigne, G. L., Carbonneau, N., Bonneville, A., . . . Maliha, G. (2008). On passion and sports fans: A look at football. *Journal of Sports Sciences*, 26(12), 1279-1293. <https://doi.org/10.1080/02640410802123185>
- Yoshida, M., & James, J. D. (2010). Customer satisfaction with game and service experiences: Antecedents and consequences. *Journal of Sport Management*, 24(3), 338-361. <https://doi.org/10.1123/jsm.24.3.338>
- Zakeri, R. (2011). *A Survey of Social Security and the Factors Affecting it, Case Study: Yazd City*. [Master Thesis in Sociology, Faculty of Social Sciences, Yazd University]. Yazd, Iran.
- Zhang, J., Piatt, D. M., Ostroff, D. H., & Wright, J. W. (2005). Importance of in-game entertainment amenities at professional sporting events: A case for NBA season ticket holders. *Journal of Contemporary Athletics*, 2, 1-24. <https://doi.org/10.1163/ej.9789004150416.i-372.6>
- Zhang, J. J., Lam, E. T. C., Bennett, G., & Connaughton, D. P. (2003). Confirmatory Factor Analysis of the Spectator Decision-Making Inventory (SDMI). *Measurement in Physical Education and Exercise Science*, 7(2), 57-70. https://doi.org/10.1207/S15327841MPEE0702_1



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طراحی مدل ارتباط بین گرافیک محیطی و احساس امنیت در تماشاگران استادیوم‌های فوتبال ایران

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کلیدواژه

اماکن ورزشی
استادیوم‌های ورزشی
تبلیغات
هواداران
فوتبال

نوع مقاله

پژوهشی اصیل

چکیده

هدف: احساس امنیت در فضاهای عمومی یکی از مهم‌ترین شاخصه‌های کیفیت فضا محسوب می‌شود و به نظر می‌رسد بهره‌مندی از گرافیک محیطی استادیوم‌ها بتواند موجب ایجاد حس امنیت در تماشاگران شود. لذا هدف پژوهش حاضر، طراحی مدل ارتباطی گرافیک محیطی و حس امنیت در تماشاگران فوتبال ایران بود.

روش: روش پژوهش توصیفی-تبیینی از نوع کاربردی و ابزار جمع‌آوری داده‌ها، پرسشنامه محقق ساخته‌ای با ۵ مؤلفه گرافیک محیطی و ۶ مؤلفه احساس امنیت بود که روایی آن توسط ۱۵ تن از متخصصین و پایایی کلی پرسشنامه با استفاده از آزمون آلفای کرونباخ (گرافیک محیطی ۰/۷۴۸، احساس امنیت ۰/۹۱۱) و پایایی ترکیبی (گرافیک محیطی ۰/۸۰۰، احساس امنیت ۰/۹۲۵) به‌دست آمد. مؤلفه‌های گرافیک محیطی شامل علائم راهنمایی، پیکتوگرام، طراحی گرافیکی (دیوارنوشته)، آگهی و پوسترتبلیغاتی و سیستم هدایت بصری و مؤلفه‌های احساس امنیت شامل حس مکان، هویت مکان، خاطره‌انگیزی، خوانایی، ادراک عمومی و لذت بصری و نهایتاً فرم و ریخت‌شناسی بود. جامعه آماری مورد مطالعه، تماشاگران استادیوم‌های فوتبال لیگ برتر ایران و نمونه آماری ۳۸۴ نفر بود که به‌صورت تصادفی ساده و متناسب با حجم استادیوم‌ها انتخاب شدند.

یافته‌ها: نتایج تحقیق نشان داد بین گرافیک محیطی و احساس امنیت در تماشاگران ارتباط معناداری وجود دارد و شدت این ارتباط بر اساس معیار R² در نرم‌افزار PLS برابر ۰/۵۵۳ بود که نشانگر ارتباط قوی بین این دو متغیر است. از این‌رو ضروری است در طراحی، ساخت و تجهیز استادیوم‌های فوتبال، با استفاده از ظرفیت متخصصان گرافیک محیطی، حس امنیت به تماشاگران حاضر در ورزشگاه القاء شود و تا از ناهنجاری‌های اجتماعی، فرهنگی یا عدم بازگشت مجدد به ورزشگاه‌ها، پیشگیری گردد.

اصالت و ابتکار مقاله: در این مقاله به طراحی یک مدل نوین با ارتباطدهی بین دو متغیر تحت عنوان گرافیک محیطی و احساس امنیت با جامعه تماشاگران فوتبال پرداخته شده است.

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