

Original Research

Study of formative and reflective indicators effective on the sports stadium atmosphere for an optimal use of the structures

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ABSTRACT:

This research investigated the effective component and reflexive indexes on the stadium atmosphere of Esfahan for efficient use of structure. This research is functional from view of goal and is descriptive- survey from view of methodology. Statistical population of the research was 3500 spectators of two football games in Esfahan stadiums of which 350 were selected by using Morgan test and simple random sampling. The data were collected through questionnaire and its validity and reliability were confirmed by Cronbach's coefficient alpha at 0.87 % and were analysed by SPSS software. In this software, Pearson tests and linear simple regression were used in order to test questions. Also to test data distribution, Kolmogorov- Smirnov test was used. The result of this research showed that the state of effective indexes of organization ( $t=10.98, p<0.5$ ), engineering ( $t=8/640, p<0.5$ ), indexes related to spectators ( $t=11.15, p<0.5$ ) and one related to game ( $t=14/15, p<0.5$ ) on Esfahan stadium atmosphere are desirable. In order to predict the scale of each of the component and reflexive indexes, linear regression analysis of the type of step to step 1 was used. For this reason, in the first step, index related to game at 54 % of variance of stadium atmosphere was explained and in second step, index related to spectators at 33 % and in the third step, index related to organization at 32 % of variance of stadium atmosphere were explained.

Keywords:

Component and reflexive indexes, stadium atmosphere Esfahan city

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## INTRODUCTION

Today, as sport has become a very important social, economic and cultural phenomenon; many people in different societies have understood the importance of sports in maintaining health, happiness and increasing the physical and mental abilities and do recreational or leisure sports and some of them perform competitive or championship sports. Both groups of sports are performed in sports facilities and complexes. Sport facilities and complexes were managed such that they could meet the needs, expectations and interests of all groups.

Obviously the environment and atmosphere are effective in improving satisfaction levels of the athletes and spectators. Therefore, the physical environment is an issue that demands a lot of attention. Sport complexes provide opportunities for emotional, cognitive, perceptual and social growth of different groups in the society. Creating a safe place for the clients is one of the most important duty of the managers of these places. Sport safety issues, that are typically less concerned, could be costly and unpleasant in case of the incidents related to competitions and training sessions of the athletes.

It seems that the issue has been less considered and is the formative and reflective indicator affecting the sports stadium, facilities and complexes. Environmental psychology is an interdisciplinary field of study that provides various theories to explain the association between environmental features and human perception, cognition, emotions and reactions of human behavior (Gifford, 1997; Holahan, 1986; Russell and Ward, 1982).

According to Mehrabian and Russell (1974) theory, there are four different dimensions for sports' stadium atmosphere: The stimuli from the audience and their behavior, stimuli related to stadium architecture (engineering), stimuli related to the organizers and the stimuli aroused by the game process. The first dimension is related to formative indicators including the stimuli related to the architecture of the stadium and the stimuli related to the organizers (direct adjacency of standing

positions and the position of the fans versus the field).

This not only ensured that spectators have a good view of the game, but also made them feel that they are an integral part of the game due to being stimulated by emotional reactions and enjoyment. Another important aspect of the design for the stadium is proper sound system which reflects the sound in the stadium such as an indoor stadium. This should be considered at the beginning of the construction of stadiums or during the next redesign. The second dimensions are related to reflective indicators that include the stimuli from the audiences and their behavior and stimuli from the game. The dimension associated with the audience and their behavior refers to various factors associated with sports fans including certain slogans, enthusiasm when obtaining scores by the home team, the usual movements, wearing club shirts and an exchange of slogans between the fans and the other side of the stadium. The review of past research showed that most studies examine one of the above variables. The specificity of the present study is that it explores many factors influencing the atmosphere so that in addition to the awareness of these factors it would measure their impact on youth and sport. Given the importance of the discussed issues, the present study aims to investigate the formative and reflective indicators affecting the stadium atmosphere for the optimal use of the structures.

Alidoust *et al.* (2010) in a study conducted on 475 customers, they identified factors related to customer satisfaction. The results indicated that the customers of private clubs are more satisfied than the customers of public clubs. The most important factor that has led to this difference between the public and private clubs was satisfaction with facilities and the physical environment of the club as well as the appropriate manner of management, teachers and employees of private clubs that may be due to increased customer satisfaction and higher revenues in private clubs. Today, attracting and retaining audiences in stadiums are one of the main concerns in the sports industry that could create the potential to gain

revenue for clubs. The purpose of the present study is to analyze the opinions of the spectators to improve the role of services in the clubs to attract and retain spectators. The research method used was descriptive and statistical and the population included all the spectators of Premier League in Isfahan. The results showed that if the provided services are in compliance with the needs and expectations of the spectators, it can significantly contribute to attract and retain the spectators in the stadiums.

**MATERIALS AND METHODS**

This applied study is descriptive-correlational in terms of nature that is carried out by the survey method. The studied population included the spectators and organizers of competitions at sports stadiums in Isfahan, Foolad Shahr and Takhti Stadiums with about 3,500 spectators considered as a population, among which 350 people were randomly selected in both the stadiums. Krejcie and Morgan table were used to determine the sample size. This means that 175 spectators were selected in Foolad Shahr and 175 spectators were selected in Takhti Stadiums.

The data collection tool used is a questionnaire containing 16 questions which is designed by Ulrich and Bekenstein and its reliability is obtained as 0.87 by Cronbach’s Alpha. The questionnaire contains four dimensions of organizing indicators, engineering indicators, indicators related to spectators and game.

The items have five options designed by five point Likert scale. To assess the validity of the content, face validity is applied through the views of ten sports management professors and the validity confirmed by them. Analysis of the statistical data collected are performed by descriptive and inferential methods. To analyze the personal characteristics of the subjects, the descriptive statistics (tables and charts) and to analyze the research hypotheses, inferential statistics such as Pearson correlation, regression, Student t-test and ANOVA were

used. Also, first the Smirnov-Kolmogorov test was used to determine the type of data distribution and after confirming normal distribution of data parametric tests were used. In this study, the level of significance is considered as 0.05<sup>abd</sup> analyzed using SPSS software.

**RESULTS**

Results showed that all the members in the sample group are male. The number of members present in the sample based on age and education is according to the following tables.

Results of Table 3 showed that due to the lower

**Table 1. The age distribution table**

Sl. No	Parameters	Percentage
1	Under 20	18.3%
2	21-25	33.1%
3	26-30	25.4%
4	31-35	14.6%
5	Above 35	8.6%

**Table 2. The education distribution table**

Sl. No	Parameters	Percentage
1	High school	17.7%
2	Diploma	50.6%
3	Associate’s degree	18%
4	Bachelor’s degree	12%
5	MA	1.7%

value of the level of significance than 0.05 (0.001), the null hypothesis is rejected and the research hypothesis is confirmed and in fact the effectiveness of the organizing indicators has been significant at 95% and since the mean is equal to 3.43, t-statistics is equal to 10.98 and the closest test value is 3 and hence, the status of effective organizational indicators on Esfahan Stadiums’ atmosphere is acceptable.

Results of Table 4 showed that due to the lower value of the level of significance than 0.05 (0.001) the null hypothesis is rejected and the research hypothesis is confirmed and in fact the effectiveness of the engineering indicators has been significant at 95% and since, the mean is equal to 3.310, t-statistics is equal to 8.640 and the closest test value is 3. Hence, the status of effective

**Table 3. Results of testing the status of organizing indicators**

Average criterion (3)							
Status of organizing indicators	Standard deviation	T	Degrees of freedom	Significance level	Mean	Confidence level 95%	
						Minimum	Maximum
	0.039	10.98	349	0.001	0.431	0.354	0.508

**Table 4. Results of testing the status of engineering indicators**

Average criterion (3)							
Status of engineering indicators	Standard deviation	T	Degrees of freedom	Significance level	Mean	Confidence level 95%	
						Minimum	Maximum
	0.670	8.640	349	0.001	0.310	0.230	0.380

**Table 5. Results of testing the status of spectators' indicators**

Average criterion (3)							
Status of spectators' indicators	Standard deviation	T	Degrees of freedom	Significance level	Mean	Confidence level 95%	
						Minimum	Maximum
	3.44	11.15	349	0.001	0.444	0.365	0.522

engineering indicators on Esfahan Stadiums' atmosphere is acceptable.

Results of Table 5 showed that due to the lower value of the level of significance than 0.05 (0.001) the null hypothesis is rejected and the research hypothesis is confirmed and in fact the effectiveness of the spectators' indicators has been significant at 95% and since the mean is equal to 3.44, t-statistics is equal to 11.15 and the closest test value is 3. Hence, the status of effective spectators' indicators on Esfahan Stadiums' atmosphere is acceptable.

Results of Table 6 show that due to the lower value of the level of significance than 0.05 (0.001) the null hypothesis is rejected and the research hypothesis is confirmed and in fact the effectiveness of the game indicators has been significant at 95% and since the mean is equal to 3.59, t-statistics is equal to 14.15 and the closest test value is 3. Hence, the status of effective game indicators on Esfahan Stadiums' atmosphere is acceptable.

**DISCUSSION**

The purpose of the present study is to investigate the formative and reflective indicators effective in Isfahan stadiums' atmosphere for the optimal use of structures. The hypothesis of this study showed that the organized status of organizational indicators' affecting the Isfahan stadiums' atmosphere is optimal.

**Architecture (engineering) of the stadium**

The results on the extent that the improved stadium and its organization lead to attract and retained customers indicated that the existence of a beautiful stadium with advanced equipment and facilities is followed by attracting the spectators and higher revenues for the stadium. Thus, the clubs in order to attract more viewers and their economic prosperity must have stadiums equipped with advanced facilities.

**Spectator behavior**

Drivers caused by audience and their behavior

**Table 6. Results of testing the status of game indicators**

Average criterion (3)							
Status of game indicators	Standard deviation	T	Degrees of freedom	Significance level	Mean	Confidence level 95%	
						Minimum	Maximum
	3.59	14.95	349	0.001	0.594	0.516	0.672

depend on various factors associated with sports fans such as specific slogans, enthusiasm when obtaining scores by the home team, the usual movements, wearing club shirts and an exchange of slogans between the fans and the other side of the stadium. So, it is important to create “fan culture” because the behaviour of the fans significantly contributes to the attractiveness of sports events. Hence, the spectators that guarantee fan culture during an event are an important part of the stimuli to create an atmosphere in the stadium.

### The game

The game process causes uncertainty in determining the winning team; thus, it triggers a reaction and anxiety in the crowd. The excitement in the spectators is caused by presenting team spirit and a strong desire to win on the part of the players. Thus, creating a good stadium atmosphere is subjected to the players and this is what the club management should make the players aware of. According to Mehrabian and Russell (1974), this atmosphere is directly reflected in emotional reactions. The emotional dimensions of excitement and pleasure represent spectators’ reaction to the physical and social conditions. An effective combination of great excitement and pleasure that can be implicitly described as enthusiasm is affected by the stadium environment.

### Organizers

Unfortunately, sports clubs in the country lack long-term specific program and certain budget for the future related matters and perform cross-sectional and short-term activities; or if they have long-term programs in this field, they do not inform the fans continually and appropriately the fans do not feel the club's success in the field of social affairs.

The clubs can institutionalize caring about attracting new fans to their clubs by providing programs such as establishing a specific assistance department in club structure and allocating budget and regular systematic program for social affairs, and create ideal and long-term excitement in the game.

### CONCLUSION

If the tournament officials and sports managements provide more facilities for spectators at the stadium, such that they have a pleasant and comfortable feeling in the stadium, and could watch their teams’ playing for hours, it would be possible to see the stadium attended by more spectators and greater prosperity that consequently the sports teams would be able to develop appropriate strategies to gain more revenues.

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