



# Comparing Safety Conditions at Gymnasia: A Case Study on Qazvin Province in Comparison with Iranian National Standard

Kourosh Kimasi<sup>\*1</sup>, Vahid Shojaei<sup>1</sup>, Mohammad Reza Boroumand<sup>2</sup>

<sup>1</sup>Department of Sport Management, Islamic Azad University, Sari Branch, Sari, Iran

<sup>2</sup>Department of Physical Education and Sport Sciences, Shahid beheshti University, Tehran, Iran

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## Abstract

This paper is conducted to compare safety conditions at Gymnasia of Qazvin Province compared to national standards of Iran. For this aim a checklist based on the State Gymnasia Technical Standards (SGTS) is provided, which is in two valued frame and its contents are approved by 20 physical education professors. Data analyses are done using descriptive statistics and Chi squared test. Research findings showed that general safety conditions meet about 45 percent of national standard, 50 percent for sports equipment safety, 50 percent for gymnasium hygiene and general safety situation of constructions at gymnasia meets about 51 percent of standards.

**Keywords:** Safety; Gymnasia; National Standards; Technical Standards.

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## 1. Introduction

Sports and physical education have specific characteristics and dimensions because of their inter-disciplinary nature. They are not only effective in promoting physical and psychological health, wellbeing, happiness, improvement of ethics, sports values and spirit, but also their positive effects are seen in various cultural and social dimensions (Moharram Zadeh, 2005). With enhancement of technology and general tendency of people towards urbanization and less mobility, sport centers including public and individual sports related gyms have sought to fill this gap by providing exercise and sport activities. Thus we observe increasing development of gyms which is also requires huge financial resources. But do the all sport places and gymnasia are built based on correct scientific bases and they have no problems or not?. Obviously the answer is not yes and we are always witness of weaknesses and injuries in sports buildings and facilities even at public centers. This

fact has broadly been ignored. In order to avoid such weaknesses in the future, it is required to have a strict planning unit including a group of experienced engineers and physical education experts who are familiar with requirements of field houses. One relevant issue is gymnasia safety because it has a direct relationship with sport injuries, risks and damages related to sport places and satisfaction of parents with participation of their children in sports at these places (Moharram Zadeh, 2005). Securing safety of sport places is the first step regarding preventing injuries.

Gyms with poor design, construction and planning may cause many problems for their managers. Poor design of equipment and facilities may restrict suggested programs, reduce the rate of equipment, creates obstacles to maintenance, inspecting processes and increase high risk situations while engaging in sport activities. These factors increase general probability of injuries and lead to ignorance of the sport organization to secure safety of participants in sport and entertainment activities.

\*Corresponding Author E-mail: kourosh.kimasi@yahoo.com

Some sports and entertaining activities requires certain spaces where there is a more distance between activity area and walls and other obstacles including equipment and columns so that safety of those engaging in these activities is enhanced. These spaces are often called Security zones. The word "Safety" in Hayyim Persian-English Comprehensive Dictionary, "safety" is defined as health, riskless status and confidence and "security" is defined as confidence, health, surety and assurance. National standards in present research refer to those approved by SGTS so that construction of sport places are done based on them and present research assess the gap between those standards and existing situation (using weak, medium, good scale). Safety management is explained by Sha'ban Zadeh as follows: since spectators attend gymnasium for various purposes such as enjoyment of watching sports, motivating their favorable teams, spending their leisure time, etc., thus executive managers and authorities of sport places should provide maximum comfort to them. He defined sport management as effective planning to achieve organizational goals with minimum damage and disorder. Sport places and responsibility for them are not legally limited to spaces where sports activities are conducted but all places and spaces which are related to sport activities including spectator areas or gym locker rooms, fall in this category despite their usage.

As seen in the following Figure, in order to realize safety plans, the gymnasium is divided to four safety zones. Thus the essential items in safety plan can be addressed based on these four zones (Figure): Researchers addressed ways to increase productivity of sports facilities and equipment in a case study in Karaj city (Alizadeh & Tejari, 2006). Their research results showed that with respect to physical issues, according to experts' views easy access to sport place (71.3 percent), observing safety instructions in construction of sport facilities (64.2 percent) and adaptability (71.4 percent) are prominently effective in enhancement of productivity.

## 2. Methodology

Purpose of this study is to examine standards adopted by Ministry of Sport and Youth for construction of covered sport places and with respect to the fact that gymnasium safety is in a direct relationship with those standards, conditions of the studied sport gymnasium with respect to those standards are also focused in present research. In order to collect required information and statistics, a checklist is developed. Statistical population of present research consisted of all gymnasium under supervision of General Administration of Physical Education of Qazvin Province including cities Qazvin, Buin Zahra, Abiek, Alborz and Takestan,

West and East Alamout regions and towns Shal, Tarom Sofla, Avaj, Zia' Abad, Esfarvarin and Khorram Dasht which all of them are studied after obtaining required permits. Research instrument for collection of required data and statistics consisted of Safety Checklist of Gymnasium.

This checklist is extracted by author from SGTS adopted by Ministry of Sport and Youth of Islamic Republic of Iran. It is prepared in the form of two-valued questions and its face and content validities are approved by 20 physical education professors. Methods for data collection in present research can be divided into two groups of library and field ones. In order to determine percentages for safety factors, descriptive statistics and Chi Squared test are used.

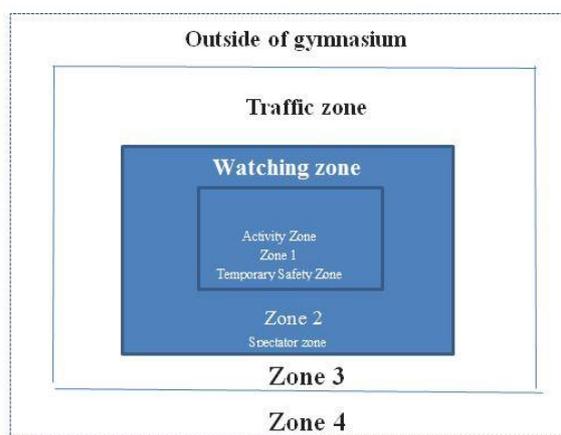


Figure 1. Gymnasium Zones.

## 3. Results

Qazvin province currently has 57 gymnasium being separated based on its cities in the following table (Table 1). Information gathered from all 57 gymnasium and no one is excluded. According to research data, Qazvin city had the most gymnasium and the least ones belonged to Abiek and Alborz cities.

Table 1. Frequency of multi-purpose gymnasium of Qazvin province segregated by cities.

City	Number	Percentage
Alborz	8	14
Abiek	8	14
Buin Zahra	13	23
Takestan	12	21
Qazvin	16	28
Total	57	100

Frequency of multi-purpose gymnasium of Qazvin province segregated by cities present conditions of gymnasium safety in Qazvin Province are presented in Table 2-4 based on four dimensions. The closer percentage to 100 shows the closer gymnasium to standards. It means that all items extracted from

SGTS should be observed in gymnasium so that it obtained 100 (Table 2).

Based on Error! Reference source not found., in multi-purpose gymnasia of Qazvin province, safety related to health resources and facilities is 50.82 compared to the standard and safety of structures is 50.75 being a little more than medium level. Also safety of sport equipment is 49.90 which are rather

at medium level. But safety of spectator seating areas is less than 42 percent.

Information on safety conditions of gymnasia of Qazvin Province segregated by four dimensions are provided in Table 2. Among them Qazvin Province gymnasia had more appropriate conditions with respect to health resources and services and safety of structures. Safety conditions of health resources and services are more appropriate in Abiek and also gymnasia of Alborz city are more appropriate with respect to spectator areas.

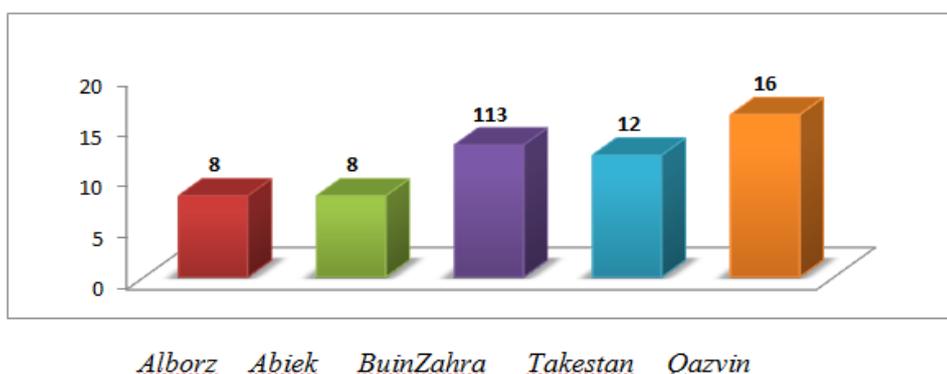


Figure 2. Frequency of multi-purpose gymnasia of Qazvin province segregated by cities.

Table 2. Safety percentages of four dimensions segregated by Qazvin province.

	Construction in sport facilities	Spectator areas	Sport equipment	Health resources and services
Safety conditions	50.75%	41.54%	49.90%	50.82 %

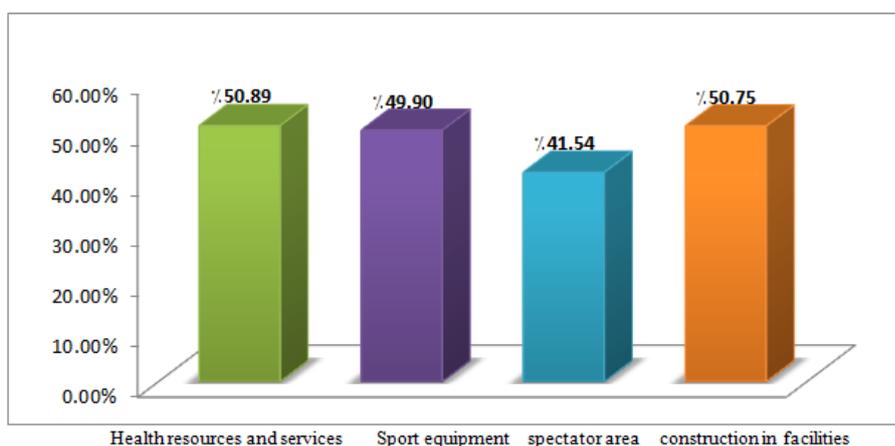


Figure 3. Safety percentages of multi-purpose gymnasia of Qazvin province.

Table 2. Safety percentages of four dimensions segregated by Qazvin province cities.

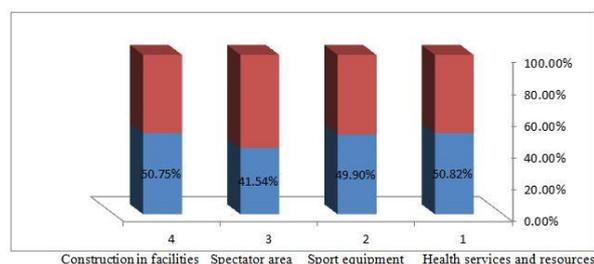
	Health resources and services	Sport equipment	Spectator areas	Constructions in sport facilities
Alborz	47.50%	50.63%	44.38%	47.19%
Abiek	48.13%	51.25%	35.63%	51.88%
Buin Zahra	52.31%	48.46%	41.15%	48.85%
Takestan	49.58%	49.17%	42.50%	50.83%
Qazvin	56.56%	50.00%	44.06%	55.00%

Results showed that general safety conditions are at medium level in gymnasia of Qazvin Province for dimensions “health resources and services”, “sport equipment”, “spectator areas”, “sport equipment” and “construction in sport facilities” but they are not appropriate related to “spectator areas”. In Table 3, significance of Chi Square statistics for Yes-No answers are clearly seen. In descriptive terms,

equipment” and “construction in sport facilities” but they are not appropriate related to “spectator areas”. In also the gap between safety dimensions and national standards are seen in Figure 1.

**Table 3.** Chi Squared test for comparison of safety conditions in gymnasia.

	Health resources and services		Sport equipment		Spectator areas		Constructions in sport facilities	
	mean	Sig.	mean	Sig.	mean	Sig.	mean	Sig.
<b>Alborz</b>	47.50	0.072	50.63	0.054	44.38	0.094	47.19	0.074
<b>Abiek</b>	48.13	0.068	51.25	0.050	35.63	0.169	51.88	0.047
<b>Buin Zahra</b>	52.31	0.045	48.46	0.066	41.15	0.119	48.85	0.064
<b>Takestan</b>	49.58	0.060	49.17	0.062	42.50	0.108	50.83	0.052
<b>Qazvin</b>	56.56	0.026	50.00	0.057	44.06	0.096	55.00	0.032
<b>Total</b>	50.82	0.053	49.90	0.058	41.54	0.116	50.75	0.053



**Figure 1.** Observance of Safety Standards in Gymnasia of Qazvin Province.

Thus it is seen that for dimension “health resources and services”, only Buin Zahra and Qazvin are at acceptable level compared to standards. For other cities, significance values are higher than error level and there is a significant difference between current situation and standards. With respect to sport equipment, significance values for all cities and also the whole Province are more than error level and there is a significant difference between current situation and standards. Also with respect to dimension “spectator areas” similar to “sport equipment” poor conditions are observed and there is a significant difference with standard and favorable conditions. Finally, with respect to dimension “constructions in sport facilities”, technical standards and regulations have been observed in Abiek and Qazvin but in other cities and the whole province, standards adopted by Ministry of Sport and Youth have not been observed.

#### 4. Discussion and Conclusion

In order to study safety conditions of Qazvin Province gymnasia, standard checklist based on State Technical Standards for Gymnasia is used. According to the fact that this checklist is based on technical standards, its validity is confirmed by relevant experts. Required information on sport gymnasia are collected by author based on checklist extracted from standards of Qazvin Province General Administration of Sport and Youth. In order to present information, descriptive statistics in the form of tables and figures are used and in order to

compare it to national standard Chi squared test is used. With respect to safety of spectator areas in Qazvin Province gymnasia, about 40 percent of technical standards related to spectator areas are observed and this difference is significant with confidence interval of 95 % based on Chi squared test. According to spectator rights, spectator areas should be safe and without technical faults and if safety standards are not observed and spectators are injured because of this ignorance, gymnasium manager would be responsible for the incidence.

Results of research on safety of sport equipment being used in gymnasia of Qazvin Province showed that this equipment is not in good conditions with respect to safety considerations and only about 50 percent is consistent with standards. These results are consistent with those of Petridou et al (2005) and are not consistent with those of Marshall et al (2005). In Qazvin Province gymnasia about 51 percent of hygienic practices with respect to safety are observed and the difference with standard is significant using Chi Squared test. These findings are qualitatively consistent with Rahimi (2002) but cannot be compared quantitatively because instruments used in those studies are different with that used in present research because instrument used in present research is based on SGTS and is the first research which conducted in Iran based on these standards.

Results of present research showed that sport constructions in Qazvin Province are about 51 percent consistent with State Technical Standards and the difference is significant. Thus it observed that safety with respect to sport constructions is in poor conditions and these findings are consistent with some studies(Petridou et al., 2005; Elahi, 2004; Finch & Hennessy, 2000). But they are not consistent with findings of US National. According to results of previous and present studies it can be concluded that safety issues should be paid more attention in construction of gymnasia. One important task of managers and directors of gymnasia is to provide a safe place for users of them. Observing safety standards in construction of gymnasia, appropriate maintenance of

them, having a schedule for repairing and servicing gymnasia and employing professional and skillful managers for them can prevent incidence of unfavorable events in these places.

In this paper a research on comparing safety conditions at Gymnasia of Qazvin Province with national standards is done. At the end the following recommendations are made:

- It is recommended to replicate present research in other provinces and the results are compared.
- It is recommended to study factors effective in development of safety standards in a more accurate way.
- It is recommended to study methods for safety enhancement in Qazvin Province open air sport facilities too.
- It is recommended to do scientific research on reasons for ignorance of safety standards in Qazvin Province.

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