Factors Affecting the Talent Identification in Iranian Futsal Players
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Abstract
Objectives: To identify possible key factors that help in predicting success over time in futsal, the purpose of this study was to study the factors affecting the talent identification (TI) in Iranian futsal players.
Methods: 74 subjects including 6 national team coaches, 54 junior coaches of Tehran premier league, 14 university professors participated the study. Data was collected in a standardized form as self-administered questionnaire. Friedman’s Test was used to analyze the data.
Results: It was found that there was a significant difference between effective factors of talent identification in Iranian futsal players. Psychological factors, physical fitness and skill levels were of utmost importance in identifying the talents in Iranian futsal. In addition, it was shown that, anthropometric traits, skill levels, physical and motor fitness, social-psychological factors had a significantly different priorities in the process of talent identification. The most important factors were respectively: fat percent (of 5 selected anthropometric indices), dribbling skills (of 7 selected skill-based indices), muscular endurance (of 8 selected physical fitness indices), fair play (of 5 selected sociological indices), and anxiety control (of 10 selected psychological indices).
Conclusions: Given the nature and requirements of games, futsal players need the specific characteristics of psychological, physical fitness and skill levels which predominantly improve their performance to achieve peak performance leading to success in various competitions.

Keywords: Talent Identification, Anthropometry, Anxiety

1. Background
The great advancement in all aspects of sport sciences is not only specific to improving the health in all age groups (1-6), but also increase the chance of championship among athletes (7). In this regard, Coaches, athletes and sports policy makers argue that achieving the peak athletic performance is possible by collaboration of researchers by using the latest scientific achievements with respect to measurement of anthropometric, physiological, psychological factors (5, 8, 9). Detection of innate talents among athletes is of utmost importance in talent identification (10). Given the high potential of futsal sport in Iran, It can be stated that this sport has the potential to achieve a better ranking worldwide. Applying the more appropriate scientific programs can be effective in order to identify and discover the talented persons. Talent identification (TI) process comprises detection, development and selection which is conducted regularly by experienced experts (11). Peltola along with Thomson define talent identification as "that process by which children are encouraged to participate in the sports at which they are most likely to succeed, based on Comprehensive and screening tests (12). Talent is an innate ability and a capacity for achievement or success (13). Practically, a talent person is an individual, having the specific levels of anthropometric traits such as body type; physiological parameters (cardiovascular endurance, neuromuscular properties like neuromuscular coordination); and psychological characteristics (8, 14).

Today’s, futsal has attracted many interests due to the high skill level and the speed of players (15). In addition, this is a game of high intensity requiring high physical, physiological, tactical, and technical efforts from the players. Given the nature of the sport (such as court size, game systems, competition duration, and the skills involved), a great deal of variables play vital roles for success in this sport. The futsal players are expected to decide promptly and perform well in both attacking and defensive tasks constantly at a high tempo (16) Cruz, et al. stated that futsal is a high intensity sport requiring the anaerobic and aerobic power, strength, flexibility, speed and agility. On the other hand, passing, dribbling, and shooting skills have also been concerned with success in futsal (17). So, taking the factors into consideration is necessary in selection criteria of success in players. Rammos, et al.
ggested that skill, anthropometric, psychological and sociological indices are respectively important in talent identification of football players (18). Another study also indicated that top ten factors including ball control, passing, proper positioning, height, passing and attacking, speed, deciding, off-the-ball movement, and responsibility are respectively among effective factors in talent identification of football (16) However, no significant was found in psychological factors in terms of predicting the success over time. Yeemin, et al. found that mental imagery and self-esteem in athletes predict the athletic success in competitions effectively (19). There are several studies reporting that physical fitness and anthropometric traits could be different depending on different indoor sports. In this case, younger futsal players, not only were lighter compared to other sports, but also had more optimal score in flexibility, Sit-ups, speed and physical fitness (17,20). Some evidences demonstrated that self-control plays a key role in improving the athletic performance especially in elite athletes. Anxiety and psychological stress as the other determinant factors are the consequences of negative person’s thoughts which affect the athletic performance. Some experts argue that if an individual lacks the control of mental stress, the athlete won’t achieve the success. The futsal in Iran was initiated with a traditional game called “Gol Kochack” in the years before the Islamic revolution. It was held in the form of local competitions or in the sports gym in some cities that was called “Ramadan Cup”. First participation of the national football team in the World Cup as a turning point, refers to Hong Kong World Cup in 1992. Now, the futsal premier league is held with the participation of 14 teams each year. Among the honors of the Iran national futsal team, some were as follow: having a background of Asian Championship for 11 times, achieving the fourth place in the World Cup (1992) and the third place in the world championships (2016). Considering few research regarding the characteristics of Iranian talented futsal players, it’s highly recommended to study the talent identification process in this popular and Olympic sport. This is not only an influential guide to reaching the elite level, but also is effective in designing the training programs for elite athletes and fixing their weaknesses. Therefore, we were to identify the effective indices for success in futsal to help the smart detection of talented futsal players in Iran.

### 2. Methods

In this study, 74 subjects including 6 national futsal team coaches, 54 junior coaches of Tehran futsal premier league, 14 university professors were investigated. Data were collected in a standardized form as a self-administered questionnaire consisting of 6 components in 37 questions regarding anthropometric (five questions), physiological (two questions), physical fitness (eight questions), skills (seven questions), sociological (five questions) and psychological factors (ten questions). Validity of a questionnaire was established by a panel of sport management experts and its reliability was confirmed by Cranach’s alpha coefficient (0.76). Friedman’s Tests was used to analyze the data.

### 3. Results

As shown in Table 1, there was a significant difference among effective factors of talent identification in Iran futsal players (P = 0.001) and psychological factors, Physical fitness and Skill-based factors were among top-three factors for success in futsal.

| Talent Identification Indices | Coaches Mean | Rank |
|------------------------------|--------------|------|
| Psychological factors        | 5.53         | 1    |
| Physical fitness             | 4.65         | 2    |
| Skills based factors         | 3.81         | 3    |
| Anthropometric               | 3.27         | 4    |
| Sociological factors         | 2.97         | 5    |
| Physiological factors        | 1.16         | 6    |

Table 1. Ranking the Significance of Effective Factors for Success in Futsal

For all talent identification indices \(X^2 = 266.808\) and \(P = 0.001\).

| Talent Identification Indices | Coaches Mean | Rank |
|------------------------------|--------------|------|
| PBF                          | 3.24         | 1    |
| Body type                    | 3.18         | 2    |
| Muscle mass                  | 3.17         | 3    |
| Height                       | 2.72         | 4    |
| Weight                       | 2.69         | 5    |

Table 2. Ranking the Significance of Anthropometric Factors for Success in Futsal

Abbreviation: PBF, Percent Body Fat.

\(For\ all\ talent\ identification\ indices\ \(X^2 = 13.205\) and \(P = 0.01\).
Table 3. Ranking the Significance of Skill-Based Factors for Success in Futsal

| Talent Identification Indices | Coaches | Mean | Rank |
|------------------------------|---------|------|------|
| Dribbling                    |         | 4.49 | 1    |
| Prediction ability           |         | 4.38 | 2    |
| Ball possession              |         | 4.28 | 3    |
| Shooting                     |         | 4.09 | 4    |
| Control                      |         | 3.81 | 5    |
| Tactical skills              |         | 3.61 | 6    |
| Passing                      |         | 3.34 | 7    |

*For all talent identification indices $X^2 = 30.853$ and $P = 0.001$.

Table 4. Ranking the Significance of Physiological Factors for Success in Futsal

| Talent Identification Indices | Coaches | Mean | Rank |
|------------------------------|---------|------|------|
| Anaerobic power              |         | 1.54 | -    |
| Aerobic power                |         | 1.46 | -    |

*For all talent identification indices $X^2 = 0.705$ and $P = 0.386$.

Table 5. Ranking the Significance of Physical and Motor Fitness for Success in Futsal

| Talent Identification Indices | Coaches | Mean | Rank |
|------------------------------|---------|------|------|
| Muscular endurance           |         | 4.40 | 1    |
| flexibility                  |         | 4.33 | 2    |
| Neuromuscular coordination   |         | 4.28 | 3    |
| Strength                     |         | 4.09 | 4    |
| Balance                      |         | 3.81 | 5    |
| Power                        |         | 3.61 | 6    |
| Agility                      |         | 3.34 | 7    |
| speed                        |         | 3.34 | 8    |

*For all talent identification indices $X^2 = 80.846$ and $P = 0.001$.

As indicated in Table 4, no significant differences were found in physiological factors among the Iranian futsal players ($P = 0.386$).

Based on Table 5, physical and motor fitness had a significant role in talent identification ($P = 0.001$). Furthermore, Muscular endurance was the most effective factor in talent identification in futsal.

As seen in Table 6, sociological factors had a significant role in talent identification ($P = 0.001$). Furthermore, Fair Play was the most effective factor in talent identification of futsal.

As shown in Table 7, psychological factors had a significant role in talent identification ($P = 0.001$). As well, Anxiety Control was the most effective factor in talent identification of futsal.

4. Discussion

The primary aim of the study was to study the effective factors of talent identification in Iranian futsal players based on ranking the anthropometric, physiological, physical fitness, skills, sociological and psychological factors which could be used to assist in the talent identification of futsal players.

The main finding of this research was that psychological, physical fitness and skills variables were of utmost importance in talent identification of futsal. The results aren’t consistent with Ramos, et al. who performed a study...
in futsal. One possible reason for the contradictory results could be attributed to different nature of these two sports (futsal versus football). Percent body fat was also likely to be good performance predictors which had the highest rank in terms of effectiveness in anthropometry traits. Among the skill variables, dribble had the highest rank in predicting the success in futsal. The results of this research are in agreement with the findings of Ramos’s and Galy research, which showed that the skill has a significant effect on the talent identification process (18, 20). As a result, the skills are potential indicators of futsal performance, because players who are prone to futsal should have a high ability to play and move with the ball and be able to maintain and control it. On the other hand, no significant differences were found between the physiological indices in identifying the talented players and the physiological were approximately at the same level. In contrary to Castagna et al. (21), we found that muscular endurance (as a variable of physical and motor fitness) had the highest rank in terms of effectiveness in futsal talent identification. It seems that population discrepancy may be a possible reason for the different obtained results. The futsal player must have constant stamina at high speed, without rest, and be capable of changing speed and direction during a competition. Of sociological factors, fair play was the best indicator for success in futsal. In one side, the proximity of spectators to the playing field, On the other hand, lactic acid secretion in such a high intensity game, cause the athlete nervous and increase the possibility of physical involvement in the players. Therefore, those who follow the fair play during the competition are more vulnerable to achieve the success and this is a very important aspect of scientific and applied research in the field of talent identification. As noted, psychological factors had a significant role in talent identification, furthermore; anxiety control was the most effective factor in talent identification of futsal which is line with Morris study (22). The ability to overcome stress and anxiety among elite athletes and also improving mental skills such as anxiety control play the key roles in the success of futsal players. Futsal players are required to react, decide and pass promptly in both attacking and defensive tasks, so, their psychological characteristics, physical fitness and skills, are important factors that play a decisive role in reaching the peak sport performance and success in different competitions. So they should be taken into consideration in general and specific discriminative tests. Finally, it must be noted that longitudinal study is essential to determine whether the same determinant variables are important for outstanding performance throughout the process of talent identification.

Footnote
Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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