

## Explaining the Effect of Social Networks on Sport Participation Approach of Female Students of Isfahan University of Medical Sciences, Iran

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### Original Article

#### Abstract

**Introduction:** The present study aimed to investigate the effect of social networks on sport participation approach among female students in Isfahan University of Medical Sciences, Isfahan, Iran.

**Materials and Methods:** This correlation-causal study was done through survey method. The statistical population consisted of female students of Isfahan University of Medical Sciences in 2018 (n = 5633). Based on Krejcie and Morgan table, 380 female students were selected randomly. A researcher-made questionnaire was used for data collection. Structural equation modeling (SEM) was used for data analysis.

**Results:** The reliability of the questionnaire was calculated 0.94 using Cronbach's alpha. Social networks had a significant effect on girls' sport participation ( $t = 28.19, P < 0.001$ ), which was influenced by obtaining financial support, increasing information, forming personal identity, and improving social interactions. It was also shown that social networks mainly affected the personal identity dimension of sport participation ( $R^2 = 0.891$ ) and then had the most prominent influence on the dimensions of social interaction, information, and financial support attraction, respectively. All of these factors were the constituents of sport participation approach for female students in Isfahan University of Medical Sciences.

**Conclusion:** The results of this study show that using social networks may increase female students' knowledge about sport, facilitate their communication and social interaction, improve their personal identity, and help them get financial support for sports activities; therefore, the female students' contribution in sports activities can be improved.

**Keywords:** Social networks; Sport participation; University of medical sciences; Youth; Personal identity

**Citation:** Iravani M, Nazari R. Explaining the Effect of Social Networks on Sport Participation Approach of Female Students of Isfahan University of Medical Sciences, Iran. *J Res Rehabil Sci* 2020; 16: 185-94.

Received: 05.02.2020

Accepted: 26.08.2020

Published: 05.09.2020

#### Introduction

In recent years, the presence of girls in the world of sports has enhanced compared to the past and many opportunities have been provided for them in this field (1). In this regard, social networks play a significant role in influencing public opinion about the success of female athletes and encouraging girls to engage in sports activities (2). Social networks are a set of Internet-based applications that enable users to create and exchange information (3) and are now an integral part of sports development activities, providing a recurring, multi-dimensional experience for fans of the sports programs (4). On the other hand, the capabilities of social networks have led students to learn more and share

information to make connections in this space. In other words, social networks have created a space for students and users who can use it to build social capital together and maintain it (5).

However, social media in Iran has paid less attention to Iranian female athletes and has focused more on men's sports activities. Of course, it is important to note that most female athletes are also reluctant for the social media to focus on their activities; Because it can ultimately affect their personal lives or lead to their unfavorable comparison with men (2). Additionally, the focus of social media on the activities of female athletes in Iran, due to restrictions on cover and religious beliefs, is not often welcomed much by the public mind and

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there is no favorable image of the display of girls' sports activities; While like for men, social networks can have many positive effects on girls' activities and community health (6). On the other hand, due to inactivity and decreased age of patients affected by the complications due to lifestyle (2), participation in sports activities, especially for girls, has become more important.

Today, with the change of lifestyle and the expansion of computer use in daily activities, many young people perform their activities in a sitting and inactive manner (7). Since youth is a very influential period in individuals' lives and habits in this period are transferred to other periods of life, inactivity and not doing sports activities in youth will be very harmful and dangerous (8). On the other hand, the industrialization of society has increased the leisure time of people, especially young people and students (9); While sport is accepted as a social phenomenon and a multidimensional tool, with a wide impact on the economy, health, safety and enjoyable leisure time, and prevention of social corruption and moral deviance worldwide (2). At present, the promotion of physical activity is one of the main goals of the government for the public health of the society and the prevention of non-communicable diseases (NCDs) (10); Because sports activities prevent the occurrence of diseases caused by the lack of activity and increase the quality of life (QOL) of people in society (11). In previous studies, the relationship between these two issues has been less evaluated in this way. Examining the studies conducted in the field of sports participation, it can be seen that few studies have paid attention to students' sports activities (12) and have dealt with the category of public sports in the city (13). The growth of social media has created a new dynamic in marketing; So that these networks allow consumers to pursue activities related to their favorite brand (14). In fact, online social networks such as Telegram, Instagram, and WhatsApp allow consumers to connect with their favorite organizations and learn about their activities, while also being able to share their activities in social groups (7). There are different motivations for using social media for different people. Sports federations are a group of organizations that today are very popular among sports enthusiasts in social networks whose activities are regularly shared among them (15). Therefore, social networks play a pivotal role in building the brand reputation of sports clubs and sports-related organizations (16).

Today, new social networks such as WhatsApp, Telegram, and Instagram, given the ability to share images and videos in addition to text, play an important

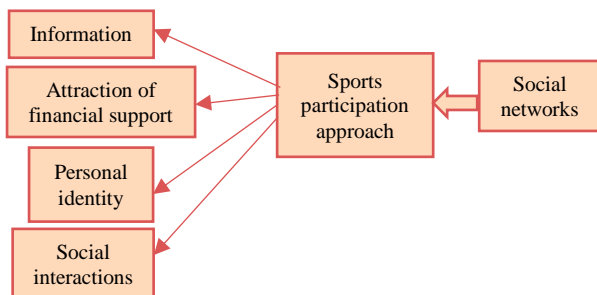
role in sharing information across borders and establishing international connections, especially in sports communities (17). Social networks allow consumers to have direct access to the information they need and to use the information of other consumers and users of social networks (9). This information can influence the motivation and decision regarding the use of goods or services (18). Today, many people use social networks to obtain and share sports information (19). One of the most popular social networks, especially among athletes (20), is Instagram, through which many people active in the field of sports publish short photos and videos of their sports activities and lifestyle, their personality traits, and their favorite activities to introduce them to others (21).

Social networks are one of the places where young people, especially students, spend a lot of their time in them and are most affected by them (22). However, sports in today's world, despite unhealthy diet and lack of mobility of young people, has become a vital and unavoidable issue (23). Although the role of social networks on sports participation has been emphasized (24), its impact on the dimensions of sports participation has received less attention. Therefore, by emphasizing the effects of social networks, the present study defines factors such as attracting financial support, information, personal identity, and social interactions as dimensions of sports participation and comprehensively examines the effects of factors affecting these dimensions among female athletes. Hence, this study is conducted with the objective to determine the effect of social networks on sports participation and its dimensions among female athletes. Therefore, in line with other studies in the field, the present study aims to investigate whether social networks are related with the participation of female students in sports activities and to what extent can social media explain girls' participation in sports?

## Materials and Methods

This was a cross-sectional, correlational-causal, survey study. In order to collect information about the subject literature and research background, the library method, and to collect sample information, a questionnaire were used. The statistical population of the study consisted of all female students of Isfahan University of Medical Sciences, Isfahan, Iran as 5633 people studying in 2019. According to the Krejcie and Morgan table, 361 samples were randomly selected. Considering issues such as the possibility of not returning some questionnaires or the unusability of some of them, 380 questionnaires were distributed among the students in the second semester of the 2019-2020 academic year at Isfahan University of

Medical Sciences. Finally, 360 questionnaires that were fully completed were returned and used in the final analysis. Data were collected using the researcher-made questionnaire on the effect of social networks on girls' sports participation approach consisting of 16 items and 4 social networks (Telegram, Instagram, WhatsApp, and Soroush). The questionnaires were organized in two parts. The first part included demographic information such as age, marital status, and educational level of students and the second part included the items regarding each of the variables, which were assessed with a five-point Likert scale. Items 1 to 3 examined the effects of social media, and items 4 to 16 examined the dimensions of participation, namely, financial support, information, personal identity, and social interaction. In fact, the researcher sought to answer the question of whether social media influences girls' sports participation? And do these networks also affect the dimensions of girls' sports participation (information, attraction of financial support, personal identity, and social interactions)? And which dimension is most influenced? The research model is presented in figure 1.



**Figure 1.** Conceptual model of study

To determine the validity, the questionnaire was approved by 15 professors of physical education (PE) and information technology (IT) (formal and content validity). Then, reliability was assessed using Cronbach's alpha coefficient and a pilot study on 30 people in the community. Combined reliability and Cronbach's alpha coefficient were considered more than 0.7 (25) and the average variance extracted (AVE) as more than 0.5 (26) (appropriate). All variables had the necessary reliability and validity. In inferential data analysis, the structural equation

modeling (SEM) method with partial least squares (PLS) approach was used in SmartPLS software. PLS is effective in estimating the model with a small sample size without checking the normality of the data distribution (27). The model was examined in three stages: measurement, structural, and general research models.

## Results

The face and content validity of the questionnaire was confirmed by the professors and the reliability of the questionnaire was obtained as 0.94 using Cronbach's alpha coefficient. In descriptive analysis, the data were analyzed for demographic characteristics (marital status, level of education, and age). 380 questionnaires were distributed and by removing the questionnaires in which only one option was selected and those that were not completely filled in, 360 correct and analyzable questionnaires were collected. The mean age of the subjects was 25.76 years. Moreover, the demographic information of the individuals in terms of marital status and education level is presented in table 1.

**Table 1.** Demographic information of the study samples

Demographic characteristics	n (%)	
Marital status	Single	250 (69)
	Married	110 (31)
	Associate	50 (18)
Level of education	Bachelor	210 (58)
	Masters and higher	100 (28)

Regarding the study of the measurement model, the values of the combined reliability, AVE, and Cronbach's alpha coefficient are presented in table 2. Cronbach's alpha is a measure of internal consistency (IC) and IC also shows the degree of correlation between a structure and its related indicators. A Cronbach's alpha coefficient value higher than 0.7 Combined reliability is a more modern criterion for measuring reliability than the Cronbach's alpha coefficient, and its advantage over the Cronbach's alpha coefficient is that the reliability of structures is calculated not in absolute terms, but according to the correlation of their structures with each other. indicates acceptable reliability (26).

**Table 2.** Dimensions of variables and fit indicators of the measurement model

Structures	Combined reliability ( $\geq 0.7$ )	AVE ( $\geq 0.5$ )	Cronbach's alpha ( $\geq 0.7$ )
Social networks	0.933	0.823	0.892
Sports participation approach	0.952	0.613	0.943
Attraction of financial support	0.904	0.758	0.840
Information	0.927	0.809	0.882
Personal identity	0.909	0.768	0.849
Social interactions	0.911	0.719	0.869

AVE: Average variance extracted

Combined reliability is a more modern criterion for measuring reliability than the Cronbach's alpha coefficient, and its advantage over the Cronbach's alpha coefficient is that the reliability of structures is calculated not in absolute terms, but according to the correlation of their structures with each other. As a result, in order to better measure the reliability in PLS, both of these criteria are used (25). Fornell and Larcker introduced the AVE as a measure of convergent validity, which indicates the degree of correlation of a structure with its indices, and stated that the AVE greater than 0.5 indicates an acceptable convergent validity (27). The Combined reliability and Cronbach's alpha coefficient of all variables and their AVE were reported above 0.7 and 0.5, respectively.

The findings presented in table 3 suggest that all study questions had a factor loading greater than 0.5, meaning that all the questions were selected correctly and there was no need to delete some of them (25).

Figure 2 shows the values of the factor loads in the software output, where all factor loads are 0.5.

Different criteria were applied to fit the structural model. The  $R^2$  index indicates the intensity of the effect that an exogenous variable has on an endogenous variable. In the present study, the

variables of sports participation approach, attraction of financial support, information, personal identity, and social interactions were endogenous variables and the social networks variable was the exogenous variable. The  $R^2$  index is calculated only for endogenous (dependent) structures of the model and in the case of exogenous structures, this index has a zero value (25).

The three values of 0.19, 0.33, and 0.67 of the  $R^2$  cut-off points indicated the weakness, medium state, and strength of the model, respectively (25). The values of  $R^2$  and  $Q^2$  for the model variables designed in the present study indicated that these indices were strong for all variables (Table 4). The  $Q^2$  index determines the predictive power of the model. This index is calculated for all endogenous (dependent) structures. Its values were determined to be 0.15, 0.20, and 0.35, which indicated the weak, medium, and strong predictive power of the model, respectively (32).

It is an index for measuring the relationship between structures in the structural part of the model; If this value is more than 1.96, it indicates the correctness of the relationship between the structures and, consequently, the confirmation of the study hypotheses at the 0.95 reliability level.

**Table 3.** Study questions and factor load values

Structures	Questions	Reference	Factor loads ( $\geq 0.5$ )
Social networks	Social networks encourage me to do sports.	Gilani et al. (12)	0.920
	Advertisements on social networks are effective in increasing the motivation to do sports activities.	Ebrahimipour et al. (1)	0.911
Attraction of financial support	Social media increases girls' participation in sports activities by publishing content related to girls' sports and championships.	Mohammadinia et al. (28)	0.890
	Social media encourages private sector investment in girls' sports.	Mohammadinia et al. (28)	0.873
Information	Social networks have the potential to attract public confidence in private sector investment in sports.	Zohrehvandian et al. (29)	0.858
	Sports information obtained from social networks is useful to me.	Gratton and Solberg (30)	0.917
Personal identity	Through social media, I can find out what other people think about sports clubs.	Hajipour et al. (31)	0.899
	Through social media, I can get information about team performance, player profiles, events, and various game schedules.	Hajipour et al. (31)	0.881
	Through social media, I want to express who I am and what my sports interests are.	Zaglia (10)	0.872
	By introducing my sports activities and interests on social networks, my self-confidence increases.	Zaglia (10)	0.875
Social interactions	I want to impress others with what I know about sports clubs and sharing it on social media.	Zaglia (10)	0.884
	I'm interested in chatting directly with people who share my views on my favorite sports club on social media.	Zaglia (10)	0.842
	Sharing ideas with others on social media helps me connect better with my favorite sports club.	Baldus et al. (15)	0.881
	Making sports connections on social media makes me feel less lonely.	Baldus et al. (15)	0.862
	Social media allows me to connect more closely with my favorite sports club.	Baldus et al. (15)	0.806

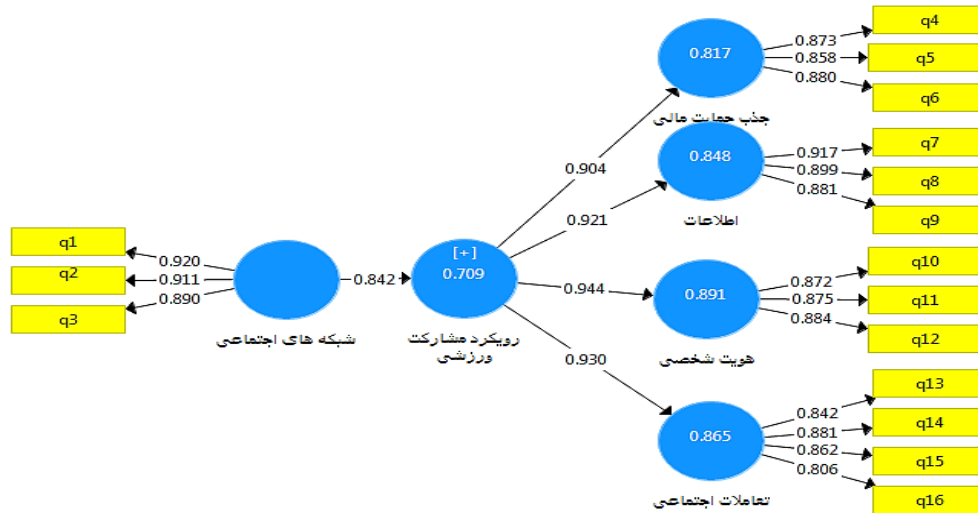


Figure 2. Factor loads and their values

Table 4. R<sup>2</sup> and Q<sup>2</sup> values

Variable	R <sup>2</sup>	Q <sup>2</sup>
Sports participation approach	0.709	0.387
Attraction of financial support	0.817	0.582
Information	0.848	0.647
Personal identity	0.891	0.645
Social interactions	0.865	0.582

This index shows only the correctness of the relations and the intensity of the relationship between the structures cannot be measured with it (25). The p value indicates the intensity of the effect of the variables on each other; i.e., it shows how much one variable has been affected and changed by another

(25). The values of t or p are used to test the hypotheses. If the t and p values are respectively greater than 1.96 and 0.05, the hypotheses are confirmed.

Figure 3 showed significant coefficients in the software output. Based on this, significant coefficients were obtained above 1.96 and all hypotheses were confirmed. Additionally, social networks had the greatest impact on personal identity (P = 0.944).

As the results of table 5 and figure 3, it was found that the t value for all hypotheses was more than 1.96 and the P value was more than 0.05. Therefore, all research hypotheses were confirmed.

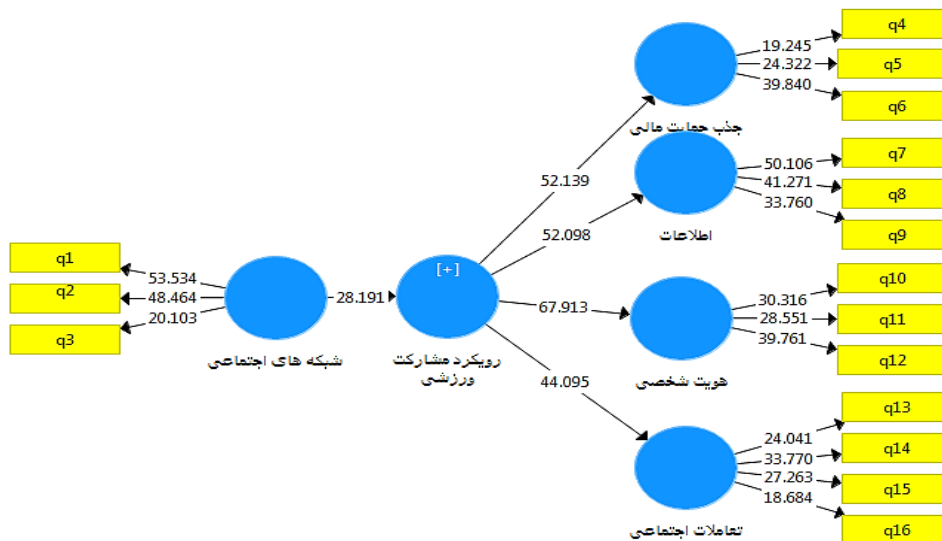


Figure 3. Significance coefficients of variables



**Table 5.** Test of research hypotheses

Independent variable	Effect	Dependent variable	P	t statistic	Result
Social networks	-	Sports participation approach	0.842	28.191	***
Social networks	-	Attracting financial support	0.904	52.139	***
Social networks	-	Information	0.921	52.098	***
Social networks	-	Personal identity	0.944	67.913	***
Social networks	-	Social interactions	0.865	44.095	***

### Discussion

Factors affecting girls' sports participation can be divided into two categories of internal factors (related to the issue of women's sports, including the construction of health stations, girls' access to sports facilities, public competitions for girls, girls' participation in public sports, private sector participation in girls' sports, and the activities of the provincial girls' public sports delegations) and external factors (which are related to views outside the category of sports on the women's sports and include emphasis of religious teachings on sports, reducing costs and increasing access, natural spaces for girls' sports, doctors' emphasis on sports, existence of public institutions and religious centers for girls' sports, and availability of media and social networks for information in the field of girls' sports). Various factors can positively or negatively affect girls' motivation to participate in sports activities. Motivating factors for participation include health and wellness factors (33), psychosocial factors (34), and prevention and treatment of various diseases and problems (34).

Barriers to participation include lack of social support (18,33), lack of media attention (33), responsibility factor (33), family and cultural issues (18,33), gender differences (33), individual and personal issues (18,33,34), and economic factor (18,33).

Among the individual and social factors, motivation, desire for success, readiness, energy release, situational factors, recreation and entertainment, tendency to group activities, friendships, and willingness to work in groups and teams were introduced as factors affecting girls' sports participation (19). In a more general classification, these factors include self-esteem, social trust, instrumental traits, and demographic characteristics (35). In different studies, the factors affecting girls' participation in sports have been categorized and studied in different ways, including information, entertainment, personal identity, social interactions, empowerment, rewarding and brand love (34), personal identity, attraction of financial support, and social networks (20), financial support, social relations, and social media (8), pleasure, attracting attention, fitness, competitiveness, and social interaction (15), feeling competent, understanding independence and

autonomy, and strengthening relationships with others (30), health and fitness, social and emotional benefits, weight control, stress and pleasure control (36), and pleasure, communication with friends, health, social cognition, and control (37). All these factors may be included in the general division of internal and external factors (11) introduced earlier.

Individual identity has a direct relationship with the level of participation and creation of individuals (37). All people, especially girls, need to form their personal identity by expressing their personality and appearance characteristics (10). To this end, in relation to others, especially through social networks, they regularly seek to express themselves by presenting a picture of their personality and thoughts (34). On the other hand, communicating with others to link their common passions and emotions with each other, creating a sense of belonging to the community, and meeting other people in the community, are among the needs of all people, including girls (35). Accordingly, social networks have created new opportunities and challenges for the sports industry. In order to attract the attention of young fans, many companies support young individuals' favorite sports activities on social media with the aim of establishing a more intimate relationship with young consumers (8).

Due to the dramatic advancement of IT, the Internet and social networks, the use of modern technologies has become very popular among young people. Social network users use these networks for various reasons such as gaining information, entertainment, communication with others, self-introduction, advertising, etc. (38). On the other hand, due to sedentary lifestyle and decreased age of patients affected by the problems due to lifestyle (2), participation in sports activities, especially for girls, has become more important.

The first hypothesis in the present study was the effect of social networks on attracting financial support for girls' sports participation, which was in line with previous studies (8,30,32). Today's companies have found that by sponsoring sports activities, they can both contribute to the development and prosperity of sports activities and use it as a promotional tool; However, in this regard, how to

introduce this support and the type of social network used is of particular importance (8,33). Accordingly, with the pervasiveness of social networks, the attraction of sponsors for lesser-known sports (such as women's sports) has become easier in recent years, which in turn allows girls to participate in sports activities with more facilities and equipment.

The model used in the present study confirmed the position of social networks on increasing information for girls' sports participation. This finding was also consistent with previous studies (5,12,19). Knowledge is one of the most important issues in today's world and social networks have a great role in increasing the information of people, especially young people (11). Most young people get the information they need on various topics such as sports competitions, sports benefits, etc. through social networks and the Internet (13). Therefore, it is obvious that social networks play a key role in increasing girls' sports knowledge and encouraging them to play sports by informing them about the benefits of sports and its role in present and future life.

In the present model, it was found that social networks affect the formation of personal identity in girls' for their participation in sports activities. The present finding confirmed the results of the studies by Vale and Fernandes (36) and Thorpe (22). Identity is an important issue in the personality of individuals (11). It has been found that individuals seek to introduce their personal identity and outstanding activities, and differentiate themselves through social networks through their thoughts, activities, or physical characteristics (34). Social networks are a good place to imitate, influence, and express the physical characteristics of people, which can be changed desirably through daily activities, especially sports activities. Many girls, by following the activities of friends, acquaintances, or important people whom they have chosen as role models, imitate or accompany them in doing those activities, especially sports activities.

Based on the results of the present study, the effect of social networks on social interactions was considered as a factor to promote girls' sports participation. Data analysis revealed that social networks have a significant effect on the participation of girls in sports by creating or strengthening social interactions, which was consistent with the findings of previous studies (6,10,14,18-20,34). Social interactions are a significant issue among female students. Women pay more attention to social interactions than men and look for activities or places where they can interact with more people and exchange information (21). Sports activities and gyms

are a good place to interact and find topics for group conversation. Nowadays, it is very common to introduce sports venues on social networks. Social media is a great place to find people with similar tastes and interests to sports activities. Thus, through social media, both people's interactions in the same sports activities and awareness of new sports and their benefits increase.

Finally, it should be added that social media, by facilitating new relationships between companies, organizations, and communities active in the field of sports (8), lead large companies to create tangible and vibrant relationships to remove barriers between the organizations and consumers (34). On the other hand, organizations associated with sports activities have always sought to attract new communication technologies, and journalists and public relations professionals often have to be familiar with the culture of sports in completely different and unique ways (23). In the second half of the twentieth century, the relationship between global sports organizations such as Fédération Internationale de Football Association (FIFA), the International Olympic Committee (IOC), and major North American brands such as the National Basketball Association (NBA) greatly influenced social media economics and the sports industry economics (25).

The biggest risk in the field of sports advertisements is the uncertainty about the rate of return in relation to costs and whether advertising activities will ultimately be effective in attracting the audience? (40). Meanwhile, visual media can play an important role in girls' sports participation due to their impact on attracting economic opportunities, increasing public confidence and encouraging sports, alignment with the goals of PE and cultural and social relations (19). The emergence of new technologies in the field of social networks has an important role in creating a sense of belonging to society and communication with others among participants in sports activities at the local, national, and international levels (41). Many young people, especially girls, share their interests and programs, especially in the field of sports, through social networks in the form of social interactions; this provides an opportunity for companies active in the field of sports to become aware of new sports interests and needs of young individuals and invest in them (39).

### Limitations

One of the limitations of the present study was the small cooperation of the Telecommunication and National

Internet departments (in terms of the Internet connection, etc.) to gather information and the unwillingness of individuals to participate in the study. The findings of the present study were obtained only on the basis of information of the female students in Isfahan University of Medical Sciences. Given the geographical position of Isfahan and the original city of residence of the students of this university, and taking into account the different fields of study in this university, the results could not be generalized to the entire Iranian women at different ages and at different levels of education or occupation. Other limitations of the study included the lack of access to information about the level of physical activity and discipline of the individuals in participating in sports programs, as well as the level of interest in watching sports programs and following the news and sports events of female students.

### Recommendations

Based on the findings of the present study and according to the model presented with the aim of promoting women's participation in sports, at least in the educated class, the following solutions can be suggested in active social networks in Iranian society.

- Investment and attention of sports officials and trustees on informing women's sports activities and honors in various fields
- Training women sports coaches in various fields and supporting their scientific education and their equitable geographical distribution to access the right path of sports education throughout the country
- Creating special facilities for the organizations that support women's sports, especially in the private sector
- Designing, development, and encouragement of individuals in charge of scientific educational environments under the supervision of experts with the advice of experts in psychology, social medicine, PE, rehabilitation, and media to enhance culture, awareness, and information and provide up-to-date and scientific training to girls in sports activities
- Encouraging journalists and literary-artistic writers to create fact-based (biography) or fictional stories centered on women athletes as successful, independent, and capable individuals.
- Designing programs, conferences, and celebrations by universities and institutions active in the field of youth and sports to think about the above strategies, talent identification, support to championship, setting up facilities and equipment for women's sports, and sports tourism with emphasis on women's sports

It is suggested that future studies be conducted on the approach of sports participation of male students and its comparison with female students, the study of students' desire for public and group sports, and strategies to promote it.

### Conclusion

The results of the present study suggested that using social networks can enhance the girls' sports information, ease of communication and social interactions, creating personal identity, and attracting financial support for sports activities, thus increasing the girls' sports participation level.

### Acknowledgments

The authors would like to appreciate the Vice Chancellor for Research of Isfahan University of Medical Sciences and the female students who participated in this study.

### Authors' Contribution

Melika Iravani: study design and ideation, attracting financial resources for the study, providing study equipment and samples, data collection, analysis and interpretation of results, manuscript preparation, specialized evaluation of the manuscript in terms of scientific concepts, approval of the final manuscript to be submitted to the journal office, responsibility for maintaining the integrity of the study process from the beginning to the publication, and responding to the referees' comments; Rasool Nazari: study support, executive, and scientific services, analysis and interpretation of results, specialized statistical services, manuscript preparation, specialized evaluation of manuscript in terms of scientific concepts, approval of the final manuscript to be submitted to the journal office, responsibility for maintaining the integrity of the study process from the beginning to the publication, and responding to the referees' comments.

### Funding

The present study was an independent study in the form of classwork performed by Melika Iravani and Dr. Rasool Nazari and was approved by the Ethics Committee, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran. Isfahan (Khorasgan) Branch, Islamic Azad University did not provide any financial support for data collection, analysis, and reporting, manuscript preparation, and final approval of the article for publication.



**Conflict of Interest**

The authors declare no conflict of interest.

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