

Original Article

## The Effect of Participation in Physical Activities on the Quality of Life

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### Abstract

The aim of this study was to evaluate the effect of physical activities on the quality of life (QOL) in female students. The participants included all female academic students of Shiraz University. The research sample was randomly determined through Morgan table. The data were collected using two questionnaires of Sharkey physical activity with 4 questions and QOL containing 24 questions on a five-point scale with four parts of physical health, mental life, social communication life as well as environmental life and budget. Formal and artificial narrative questions were approved by experts. Confirmatory factor analysis was used to evaluate the validity of the structure. The data were analyzed using LISREL and SPSS. The results showed that the physical activity affected mental health, physical health, environmental domain and social communication. Awareness of the students' physical activity and recognition of the factors affecting it can be helpful in educational and executive planning to encourage their physical activity and timely intervention to improve it.

**Keywords:** Physical Activity, Quality of Life, Female Students

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## Introduction

Today, science and technology are at the service of human beings to improve the quality of life (QOL). The more their QOL, the better human beings can service the science, technology and their fellow human beings as well as achieve sustainable development (1). Paying attention to the young population, especially students, as a group of thinkers is one of the main factors in achieving sustainable development. Nurturing the talents and abilities of students based on the needs and development of the society can provide the basis for achieving the defined goals of the ideals of a nation. The university should train the students and prepare them for accepting professional responsibilities, and cultivate their emotional and social health in harmony with the cultural, social, familial, religious and historical beliefs as well as values in order to realize their identity through the realization of the concept of individual independence and complete the periods formed previously. Unfortunately, in recent years, the emotional, psychological and social problems among students have had a worrying upward trend to the extent that abnormal phenomena such as suicide, drug abuse, academic failure and so on as a serious obstacle affect the progress of the university. Changes related to adaptation to new methods of study and lifestyle, separation from familial and supportive environments, group behavior and its pressures, style of documenting different events in the country, and the culture in the university all go hand in hand to expose students to severe physical, psychological and social exhaustion as well as to endanger all aspects of their lives including their health (2).

Accordingly, the physical activity is one of the most important factors in maintaining personal and social health, and those who easily ignore this issue, in fact, have not learned the art of living. These activities as an important health-promoting behavior prevent or delay a variety of chronic diseases and premature death (3). There is evidence that regular physical activity leads to improved mental health, reduced symptoms of depression and anxiety, life satisfaction and improved QOL (4). Exercise and physical activity can help sick people feel refreshed and better as well as even reduce symptoms. Moreover, research results show that patients can enjoy the work they do by maintaining physical activity (5). According to Fang et al. (2003), the exercise significantly improves cardiovascular function and QOL in patients with heart failure (6). In general, it can be acknowledged that regular physical activity in order to achieve mental health is a part of the national health goals of the countries, and it is recommended and encouraged the public to do such activities. These programs have the benefits of increasing life expectancy and improving the QOL (3). In modern civilization and developed society of the New Age, the thinkers recommend reducing working time and exploiting leisure time as much as possible. Therefore, having a healthy life requires mobility and physical activity, repeating many times in various studies. On the other hand, informing people about the effects of sports activities on

various organs of the body has led to an increase in the tendency towards sport activities in leisure time.

Although the available evidence has suggested the effect of physical activity in preventing disease and promoting physical health, it is safely stated that it can also improve the QOL (7). The QOL encompasses four main dimensions of physical, mental, social and environmental health. These dimensions interact with each other so that proper physical condition is essential to establish social relationships. In addition, social relationships affect physical condition as people receive feedback from those around them and may engage in physical activity in the direction of the statements. Besides, mental and psychological factors affect physical condition and physical activity. The results of some researches also confirm this statement. For example, Ortega et al. in 2021 reported that the physical activity influenced on the QOL of women with breast cancer and improved their score of QOL (8). Khazen et al. declared that there was a significant difference between the average QOL of active and inactive individuals in favor of the active group (9). Ebrahimi et al. indicated that the sport interventions had an effect on the QOL and its four dimensions (5). Farahani et al. concluded that the QOL of women participating in public sports and related areas, namely physical health, mental health, social relations and environmental health was better than that of non-participating women (10). Sanaei et al. revealed that the physical activity and sports had an impact on the people's QOL (11). Soleimani et al. (2012) demonstrated that both water sports and aerobic exercise were effective in increasing the QOL and happiness of non-athlete women (12). Kolt et al. believed that the physical activity reduced the limitations of activity, increased the independence as well as enhanced the role-playing, happy and successful life, which ultimately elevated the QOL (13). The rhythmic movements and physical activity have a significant relationship with the QOL as Mavrovouniotis et al. have declared in 2010 (14). Ross et al. illustrated that weight loss through physical activity and sports had a significant relationship with the QOL. They also reported that all aspects of the QOL were significantly associated with physical activity (15). McAuley et al. concluded that through physical activity, people feel better and more satisfied with their lives (16). Rejeski et al. in a review study examined the physical activity and QOL and expressed that paying attention to physical activity affected various aspects of the QOL such as health, social and mental conditions, ultimately leading to improved QOL (17).

One of the ways to prevent the decline of the students' health and improve their QOL is to identify the factors impacting on this important aspect. In order to carry out the comprehensive and correct planning, it is necessary to conduct different studies in the field of recognizing the QOL of students as well as identifying the factors affecting it. It has been proven that the QOL of individuals is influenced by a range of demographic, sociological and psychological factors, some of which include socioeconomic status, physical activity, marital status, gender, communication skills, religion and so on.

Hence, considering the QOL importance of students and the role of physical activity improving the QOL of students as well as due to the little research on the impact of physical activity on the students' QOL in the country, the aim of this study was to investigate the relationship between physical activity and QOL of female students to fill this research gap and display the importance of physical activity in improving the students' QOL.

### **Research Methodology**

This is an applied research in terms of purpose and correlational research in terms of nature using confirmatory factor analysis (CFA). The statistical population of the ongoing study consisted of all female academic students in Shiraz University (N = 9518). The sample size of the study was determined according to the number of the statistical population through Krejcie and Morgan 370 table, and they were selected using simple sampling method. The data were collected using two standardized questionnaires of Sharkey physical activity and QOL (WHOQOL-BREF) (18). The questionnaire was developed in two parts. The first part was the Sharkey's physical activity questionnaire including four five-point questions on the duration, intensity, number of sessions and sport history. The second part was the QOL questionnaire based on the criteria set by the World Health Organization (WHO). This questionnaire was a summary of the questionnaire (WHOQOL-100) as well as due to the large number of questions and the fact that it was impossible for students to answer a lot of questions, the BRIEF type was chosen. This type included 24 questions on a five-point scale consisting four health areas (18) including physical, mental, psychological and social communication in addition to environmental aspects and two general questions on the QOL and health assessment. The face and content validity of the Sharkey's Physical Activity Questionnaire were confirmed by the professors of physical education at Shiraz University. The CFA technique was used to evaluate the construct validity. Besides, the reliability of the questionnaire was reported to be 0.85 using Cronbach's alpha. Structural equation modeling (SEM) and regression were applied for analysis. The data were analyzed using LISREL 8.8 and SPSS 21.

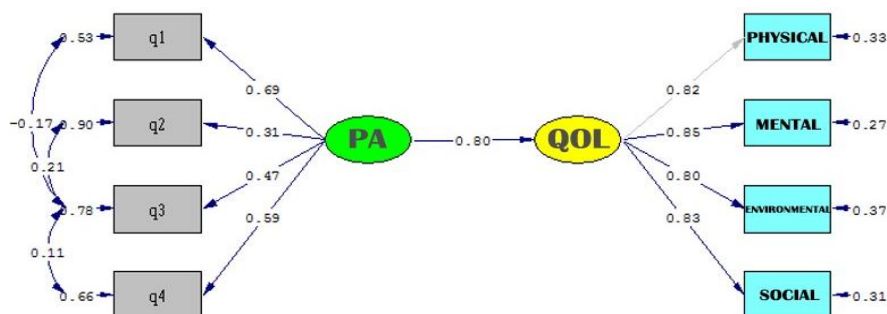
### **Results**

As can be seen in table 1, most students (235 persons) have sport experience more than one year. Most of them (134 persons) participated in sport activities once or twice a week. Additionally, most female students (143 persons) did 30-60-minute exercise in each session. In terms of activity intensity, most students (98 persons) did moderate activity.

**Table 1- Description of female students' sports activities**

>1 year	10-12 months	7-9 months	4-6 months	< 3 months	Records
235	14	21	55	9	Abundance
Everyday	3-5 times a week	1-2 times a week	Several times a month	Less than once a month	Number of sport activity sessions
31	57	134	49	63	Abundance
>1 hour	30- 60 minutes	20- 30 minutes	10- 20 minutes	< 10 minutes	Duration of sport activities
112	143	42	23	14	Abundance
Rapid breathing and excessive and persistent sweating	Breathing almost fast and sometimes sweating	Almost heavy	Medium	Light	Intensity of sport activities
43	91	31	98	71	Abundance

According to the results shown in figure 1, the research model in the standard state of physical activity with an intensity of 0.80 has a positive and significant effect on the students' QOL. Furthermore, the impact factor of the components of the QOL demonstrated that the mental and psychological dimension with an impact factor of 0.85 and the environmental dimension with 0.83 had the highest impact factor among the dimensions of the QOL as well as physical components and social communication were placed in the next category.



Chi-Square=30.05, df=16, P-value=0.01772, RMSEA=0.049

PA: Physical activities

QOL: Quality of life

**Figure 1. Effect of physical activity on QOL in standard mode**

As seen in table 2, the Chi-ratio indices are twice equal to 1.87, the absolute RMR fit index is 0.02, the adaptive fit indices, NNFI NFI, IFI and CFI are  $\geq 0.90$  as well as the RMSEA index is lower. They were in the optimal range of 0.1, indicating that the model of the present research had a good fit and its factor structure was acceptable; in other words, the data obtained from the research supported and confirmed the theoretical model of the research. Since the significant amount of the effect of physical activity on the QOL was not

in the range of -1.96 and 1.96, it could be concluded that the physical activity had a positive and significant effect on the QOL.

**Table 2- Fit of research model**

CFI	IFI	NNFI	NFI	RMR	X2/DF	DF	X2	RMSEA
0/93	0/91	0/93	0/95	0/02	1/87	16	30/05	0/049

## Discussion and Conclusion

The results of the SEM illustrated that participation in sport activities explained 0.80% of the QOL orientations of female students, which are in line with those of Farahani et al., Sanaei et al., Soleimani et al., Kolt et al., Mavrovouniotis et al., Ross et al. and McAuley et al. (2006). Sanaei et al. reported that the physical activity and sports had an effect on the QOL of individuals (11). Kolt et al. declared that the physical activity reduced the limitations of activity, increased the independence and enhanced the role-playing, happy and successful life, ultimately boosting the QOL (11). In general, it can be said that people tend to improve the QOL; therefore, all the governments around the world are increasingly paying attention to improving the QOL of people in the society and trying to increase the physical, mental and social well-being of people. It means that more emphasis is on the QOL to create a better life and more sustainable health. Hence, considering that participation in sports and regular physical activities is effective and useful for the people's QOL, it is recommended that the women, especially female students who do not participate in sport activities, should be given the necessary information about the benefits of participating in sports. They should more participate in sport activities and make the most of its benefits because those who take part in sport activities not only enjoy the physical, psychological and social benefits of sports, but also benefit from its beneficial and constructive effects as the results of various studies reveal in the fields of health, physiology as well as health and weight control.

Based on the findings of the ongoing study, participating in sport activities had an effect on the participants' physical health, which is consistent with the results of Farahani et al. in 2014 and Ross et al. in 2009. For example, Farahani et al. expressed that physical activity affected the physical health (10). As to this finding, it can be said that exercise plays an important role in establishing and maintaining people's health. In this regard, some researchers believe that poor health and fitness are the most important sign of poor QOL and the main cause of premature death. Generally, the positive role of exercise in reducing coronary artery disease and hypertension prevalence, controlling hypertension, controlling hyperlipidemia and diabetes as well as decreasing joint bone, glandular and other organs' disorders has been proven in various studies. Thus, it should be said that sport activities play an important role in people's physical health. Diseases and disabilities caused by inactivity increase the human suffering and damage the human's QOL. Accordingly, it is recommended that in all universities of the country, where female students

participate less in sport activities for cultural and social reasons, the sport ground should be provided for their presence as much as possible by establishing appropriate facilities in the dormitory environment.

Another finding of the present study revealed that participating in sport activities with a mental and psychological domain was effective, which is similar to those of Farahani et al. (2014), Ross et al. (2009), McAuley et al. (2006) and Rejeski et al. (2001). Exercising improves the mood in two ways: the first is the release of endorphins, and the second is the reduction of cortisol (a hormone released by the blood pressure). According to the physiologists, endorphins are natural painkillers causing pleasant feelings. One of the ways to increase endorphin secretion is to do physical exercises (19). Hereupon, it can be concluded that regular exercise increases the secretion of this hormone, consequently elevating the threshold of tolerance to stress. In general, it is important and necessary to pay attention to the psychological dimension of different sections of society, especially female students who are mothers and educators of the next generation. Mental health is one of the factors that can have a significant impact on the growth and development of society. In this regard, regular physical activity is a safe and secure way to increase mental health and reduce common mental disorders in society such as anxiety and depression, which can help the society to flourish as much as possible.

In addition, the result represented that the effect of participation in sport activities was effective in the field of social communication, which is in the same line with the results of Farahani et al., Ross et al. and Rejeski et al. in their study. Rejeski et al. concluded that the physical activity affected the QOL in various health, social and psychological aspects. As to this finding, it can be said that one of the most important benefits of exercise that is often gained, especially in young athletes, is personality development. In addition to forming personality, sport is expected to contribute more effectively to the development of the social aspect of one's personality. Common sense also dictates that dealing with sports increases or at least helps the participant's motivation to progress, compete and transfer these characteristics and tendencies from sports to non-sports. As a result, the desire for athletic development of athletes should be at a higher level than that of non-athletes. Commonly, the physical education and sports can be considered as a special social phenomenon, promoting the development of friendly and humane relations between different social strata. In addition to its important role in health, sport as a social phenomenon is closely related to social and moral values. Accordingly, it is recommended the sport officials in the country, especially university sport officials to use sports and physical activities as a means in order to strengthen social relations in the families and community.

The other result of the current study demonstrated that the effect of participation in sport activities with environmental scope was effective which is with the same as those of Farahani et al. (2014) and Ross et al. (2009). Totally, it is necessary to maintain health, promote health and QOL, use environmental knowledge, improve environmental factors and optimal use of

material resources as well as learn new skills and information. If the living environment of people is not healthy, it will have adverse effects on life and its quality because it causes illness and disability and deprives people of their comfort in life. An environment that is fraught with tension, strife, aggression, mistrust, and the like is definitely unhealthy and causes social disorder. Therefore, the emphasis and development of sport activities among female students can play a positive role in creating a healthy environment in human societies.

Typically, knowing the students' level of physical activity and recognizing the factors affecting it can be helpful in educational and executive planning to encourage physical activity and timely intervention to improve it. The results of the ongoing study suggested that the physical activity improved the QOL of female students so it seems that a good prediction about the provision of appropriate sport facilities for students who are the future of the country can enhance their participation in increased physical activity and consequently, improve their QOL.

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