

## The Effect of Perceived Social Support on the Quality of Life of Physical Education Students with the Mediating Role of Self-Esteem

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### ABSTRACT

**Background:** Improving the quality of life of students has become one of the main educational concerns. Therefore, the present study investigated the mediating role of self-esteem in the relationship between perceived social support and the quality of life of physical education students. **Methods:** This research is part of an intra-university research project at the Shahrood University of Technology and has an ethical code number IR.SHAHROODUT.REC.1401.022. In terms of practical purpose, in terms of data collection method, it was descriptive-correlation and structural equation modeling. The statistical population was all physical education students of Urmia University in the academic year 2022-2023, and 157 people were selected as a sample. To measure the research variables, Zimet et al.'s perceived social support questionnaires (1988), the World Health Organization's quality of life (1996), and Rosenberg's self-esteem (1965) were used. The validity and reliability of the questionnaires were confirmed. Data analysis was done with the structural equation modeling method and Smart PLS 2 software. **Results:** The results showed that perceived social support directly and positively affects the quality of life. Perceived social support directly and positively affects self-esteem. Self-esteem directly and positively affects the quality of life. Also, self-esteem has been able to play a mediating role between perceived social support and quality of life. **Conclusion:** Therefore, it is suggested that the families of the students as well as the relevant officials should provide the necessary support to the students in this challenging period so that students have a good quality of life in this critical period of their lives. In previous researches, the two-by-two relationship of the variables was examined, but no research has been done that examines the relationship between perceived social support and quality of life with the mediating role of self-esteem. In addition, no research has been done on students in this regard. The results of the present study showed that with more social support and increased self-esteem of students, a better quality of life can be predicted for them.

### 1. Introduction

In the process of pursuing well-being, people have paid much attention to the quality of life (Li et al., 2018: 62). Investigating the quality of life has become a broad discussion in sociology. In the last decades of the 20th century, with the social aspects of development becoming prominent, the quality of life was taken into consideration as an indicator for evaluating and directing development plans and policies (Niazi and Dalali Khorasani, 2011: 198). Quality of life is considered as an indicator of public health and mental health of people and one of the components of the development of societies (Mirenayat et al., 2017: 23). According to the definition of the World Health Organization, quality of life is a person's perception of himself and his position in life within the framework of the existing culture and value system, his attitude to the content of life, expectations and problems. Therefore, quality of life is a subjective feeling that is similar to personal happiness and well-being (Anna et al., 2020: 80; Shahrestanaki et al., 2020: 61). Quality of life is a term used to

express the development of welfare in a society, and in simpler terms, it can be stated that welfare facilities reflect the living conditions and quality of life of people (Haghighatian, 2014: 83) and includes mental factors (or internal well-being) that are focused on life satisfaction and objective factors (or physical, psychological and social functions) that are focused on material needs, participation in activities and interpersonal relationships (Saedi and Farahbakhsh, 2016: 177). Quality of life is (the overall evaluation of a person's life) and it is an interesting topic among different researchers (Bobes et al., 2022: 215; Frisch, 2005: 50).

Although the existing research has focused on different socio-economic groups (Li et al., 2018: 62), limited research has been done regarding the quality of life of students. This is an important research gap; because, students experience important changes in adulthood; they face changes, confusion, and various explorations, and the choices they make during this period may have lasting consequences for them (Lenderking, 2005: 1439). The results of various researches have shown that the quality of life of students is a predictor of academic progress (Saedi and Farahbakhsh, 2016; Rezaei Lori,

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2014) and their physical and mental health (Alsubaie et al., 2019). Therefore, the quality of life of students is very important. And in the meantime, it seems necessary to examine the variables that have more effect on this important element.

Among the key and important factors in shaping the quality of life, which has a significant effect on people's basically social feelings, is the social dimension (Nasiri Walik Bani and Abdul Maliki, 2015: 106). Humans live socially; correct and accurate understanding of other people's behavior plays an important role in our lives (Babakhani and Memipour, 2013: 62). Social life is the scene of all kinds of communication and interactions between people (Sliwa, J., & Freiwald, 2017; 745; Rohi et al., 2016: 148). Among the most important aspects of every person's life is his social perception (Babakhani and Memipour, 2013: 62). Social support was first presented by Cobb (1976); in the sense that a person believes that he is cared for and loved, has value, credibility and respect, and belongs to a network of communication and mutual obligations, and it refers to a system with a small to large range of people who can be reached when they need help (Tamnai Far et al., 2012: 32). Perceived social support focuses on a person's cognitive assessment of the environment and the level of confidence that help and support will be available if necessary (Latifi et al., 2019: 199; Li et al., 2018: 125). In other words, experts acknowledge that a person's assessment of the availability and appropriateness of support to meet needs, the need for help in case of necessity, is called perceived social support (Taziki et al., 2021; 1346).

Social support can be provided as emotional, instrumental, informational and evaluation support. Emotional support emphasizes empathic relationships with members of the social class. Instrumental support facilitates carrying out daily activities, transferring tasks related to the disease. Informational support includes information that a person can use to deal with problems. Evaluation support includes feedback or information that allows a person to compare himself with others (Alizadeh et al., 2014: 28). Sources of social support are very diverse. The family environment is the first place to acquire social support experiences. Among other sources of social support, peers, friends, relatives, neighbors, and colleagues can be mentioned (Baradaran and Ranjba Noushari, 2021: 110). Therefore, social support as one of the psychosocial factors can affect people's quality of life (Cheraghi et al., 2012: 22); So, social support as one of the emotional coping mechanisms has the potential power to influence the quality of life (Ersoy-Kart and Güldü, 2005: 663). Studies have shown that perceived social support has a significant relationship with quality of life (Nasiri Walik Bani and Abdul Maliki, 2015; Shabanzadeh et al., 2012). Also, Langeland and Wahl (2009) proved that social support improves people's mental and physical health and quality of life by acting as a mediator between stressful life factors and the occurrence of physical and mental problems.

Considering the importance of the quality of life of physical education students as educated people of society, it becomes more important to pay attention to the most important aspect of the quality of life, i.e. self-esteem, which plays a decisive role in the improvement of the individual and the society (Mirenayat et al., 2017: 23). Self-esteem means a person's evaluation of his personal worth (Xin et al., 2019: 428). Self-esteem is generally a component of evaluation of self-concept and a representative of one's range, which also includes cognitive, emotional and behavioral aspects (Mann et al., 2004: 358). Self-esteem is a general evaluation of people's competence, which is expressed in a positive or negative direction towards them (Minev et al., 2018: 114). Barbot et al (2019) stated two one-dimensional and multidimensional approaches in relation to self-esteem: one-dimensional models consider self-esteem as a global entity that includes its entire concept. Harter (1985) considers the multidimensional model to be more appropriate, taking into account the fact that people make different

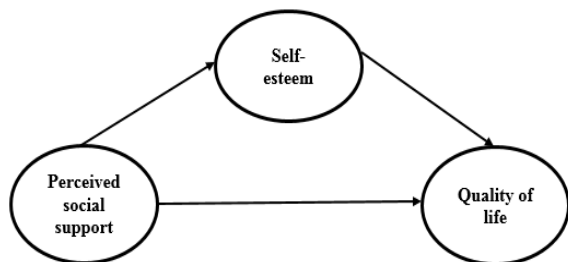
assessments in different areas of their lives and actually make separate assessments of different areas of their personality.

The results of research conducted in this field have shown that there is a significant relationship between the quality of life and the self-esteem of students (Ghasemizad et al., 2009; McAteer and Gillanders, 2019). Also, other researchers have confirmed the relationship between perceived social support and self-esteem of individuals (Alavi and Jannatifard, 2012; Behzadfar et al., 2016). Also, Anna et al (2020) in the study of biometric characteristics and quality of life of students showed that physical activity significantly helps to improve the quality of life of students.

Students are very important as human capital for the future of the country (Saedi and Farahbakhsh, 2016: 177). More and more students around the world are facing mental health problems, which many researchers attribute to academic, financial and social stresses (Alsubaie et al., 2019: 485). In addition, the acquisition of knowledge can also be influenced by many aspects of the learner's psychological characteristics such as self-esteem (Tus, 2020: 48). Increasing the perception of social support and self-esteem leads to improvement of the health dimension and performance of the quality of life. Health and performance is one of the important dimensions of quality of life that is influenced by psychological factors. The increase of these two psychological variables causes an increase in a person's performance level, better performance of daily activities and a better feeling of life (Behzadfar et al., 2016: 52). The consequences of low self-esteem are often multifaceted, which can lead to personal devaluation, destructive attitudes, psychiatric vulnerability, social problems, and risky behaviors (Tyler et al., 2010: 270). In general, for a more detailed examination of people's quality of life, it is necessary to be aware of both the environmental conditions and their internal characteristics in order to reach a more complete understanding of it and ultimately help to improve the quality of life of students. It should be noted that the amount of value that people of each culture attach to each of these factors will have a significant effect on the relationship between the variables and the quality of life and the predictive power of each one (Behzadfar et al., 2016: 53).

Most of Iran's population is made up of young people, especially students, so knowing the reasons for the increase and decrease in the quality of life is a valuable step towards increasing the quality of life of these people. Because if the quality of life of the students is not at the desired level, it will lead to psychological problems such as depression, pessimism towards life, hopelessness towards the future, lack of purpose, meaninglessness in life, indifference, family problems, career problems and academic failure. In addition, physical education students are under stress due to the nature of their field of study, involvement in team sports and being in different situations (participating in different competitions at different levels) as well as working professionally is under more pressure. Therefore, the current research seeks to answer the question of whether perceived social support affects the quality of life of physical education students through the mediation of self-esteem.

Based on the above information regarding the discussed variables, the theoretical model that shows the relationships between these three variables is described in **Figure 1**.



**Figure 1.** Research model

Based on the above model, the research hypotheses are as follows:

- 1- Perceived social support affects students' quality of life.
- 2- Perceived social support affects students' self-esteem.
- 3- Students' self-esteem affects their quality of life.
- 4- Perceived social support affects students' quality of life with the mediating role of self-esteem.

It is hoped that the results of this research can help in facilitating and improving the quality of life and well-being of these students.

## 2. Materials and Methods

The current research is a cross-sectional study, which in terms of the method is one of the descriptive researches that was conducted as a survey and is also practical based on the purpose and is a correlation project of structural equation modeling type. This research has a moral code numbered as follows: IR.SHAHROODUT.REC.1401.022 from Shahrood university of Technology.

The statistical population of this research is all physical education students (in three levels, bachelor's, master's, and doctorate) of Urmia University in the academic year 2022-2023, according to the statistics of the faculty of physical education, their number there are (210 bachelor's degrees, 198 master's degree and 80 doctoral degrees). Kline's theory (2014) was used to estimate the sample size, which was estimated to be between 96 and 480 according to the number of questions in the questionnaires (48 questions) with a minimum of 2 times and a maximum of 10 times the number of questions.

The data collection required for this research was done in two library and field sections. Various books and articles were used in the library section and a questionnaire was used in the field section. The questionnaires used include 4 sections.

The first part includes demographic information such as age, gender and marital status.

The second part includes the standard questionnaire of perceived social support by Zimet et al. (1988) which has three components: family, friends, and significant others. Questions 3, 4, 8, and 11 are related to the family component, questions 6, 7, 9, and 12 are related to the friends component, and questions 1, 2, 5, and

10 are related to the others component. It is important that the range of 5 Likert options (1 to 5 the order has completely disagreed, disagree, neither disagree nor agree, agree, completely agree).

The third part includes the World Health Organization Quality of life standard questionnaire (1996) with 5 subscales of quality of life and overall general health (questions 1 and 2), physical health (questions 3-4-10-15-16-17-18), mental health (questions 5) - 6-7-11-19-26), social relationship (questions 20-21-22) and environmental health (questions 8-9-12-13-14-23-24-25). Questions 1 and 2 in the range of 5 Likert options 1 to 5 are very bad to very good and completely dissatisfied to completely satisfied respectively. The rest of the questions are on a 5-point Likert scale from 1 to 5, from very little to very much.

The fourth part also includes Rosenberg's standard self-esteem questionnaire (1965) containing 10 questions on a 5-point Likert scale (1 to 5, from completely disagree to completely agree).

In this research, using an online questionnaire that was designed using Google forms, the answers of physical education students regarding the discussed variables at the level of Urmia University were evaluated. Data during 60 days (September to November 2022) was collected. The created link was made available to physical education students of Urmia University through various social networks. Overall 157 Respondents participated fully and perfectly in this online questionnaire. Data analysis was done with the structural equation modeling method and Smart PLS 2 software.

## 3. Results

The demographic characteristics of the subjects are presented in **Table 1**.

The statistical description of research variables in **Table 2** also shows that the average of all dimensions of research variables is above the average level and according to the subjects, the significant other variables (4.176) has the highest average score and the mental health component (3.475) has the lowest average score.

Before implementing structural equation modeling with the partial least squares approach, the assumption of non-collinearity of independent variables should be checked first. The absence of multiple collinearities of independent research variables is one of the assumptions of structural equation modeling (component-based). There are several methods to check the collinearity of exogenous variables, the most common method is to check the correlation of independent research variables; so correlations higher than 0.80 are considered as the existence of multiple collinearities. In the present study, according to **Table 3**, the correlation between the research variables was calculated, which is significant at the 0.01 level; But this value indicates non-collinearity between independent variables.

**Table 1.**  
*Description of the demographic characteristics of the subjects*

	Gender		Age			Marital status		Total	
	Men	Women	20 - 25	26 - 30	31 - 35	Over 35	Married		Single
<b>Frequency</b>	111	46	46	93	17	1	94	63	157
<b>Percent</b>	70.7	29.3	29.3	59.2	10.8	0.6	59.9	40.1	100

**Table 2.**  
*Descriptive indices of central tendency and dispersion of research variables*

Research model dimensions	Symbol	Mean	Std. Deviation
Family	KH	4.1210	.50447
Friends	DO	3.8869	.54849
Significant Other	DI	4.1768	.72350
Quality of life and general health	KZ	4.1115	.75447
Physical health	SJ	4.0255	.47752
Psychological health	SR	3.4756	.64792
Social relationships	RJ	3.6561	.45826
Environmental health	SM	4.0717	.54508
Self-esteem	EN	3.8382	.67649

To ensure the existence or non-existence of a causal relationship between the research variables and to check the fit of the observed data with the conceptual model of the research, to evaluate the measurement and structural model and the overall desirability of the model, partial least squares approach was used.

**Table 3.**  
*Matrix of correlation between research variables*

	1	2	3	4	5	6	7	8	9
1 Family	1								
2 Friends	0.709	1							
3 Significant Other	0.788	0.125	1						
4 Quality of life and general health	0.391	0.202	0.374	1					
5 Physical health	0.398	0.390	0.219	0.820	1				
6 Psychological health	0.289	0.006	0.402	0.895	0.479	1			
7 Social relationships	0.362	0.328	0.225	0.541	0.503	0.437	1		
8 Environmental health	0.4112	0.319	0.301	0.553	0.470	0.481	0.912	1	
9 Self-esteem	0.240	0.272	0.100	0.421	0.437	0.305	0.901	0.644	1

**Table 4.**  
*Cronbach's alpha coefficients criteria, Convergent reliability coefficients and Average extracted variance of research variables*

Variables	Cronbach's Alpha coefficients (Alpha $\geq$ 0/7)	Convergent reliability coefficients (CR $\geq$ 0/7)	Average extracted variance (AVE $\geq$ 0/5)
Significant Other	0.710	0.779	0.647
Friends	0.772	0.893	0.807
Self-esteem	0.759	0.833	0.718
Family	0.713	0.735	0.587
Quality of life and general health	0.915	0.963	0.966
Social relationships	0.746	0.768	0.594
Physical health	0.758	0.779	0.647
Environmental health	0.798	0.802	0.670
Psychological health	0.856	0.872	0.773

To check the divergent validity of the measurement model, Fornell and Larcker's (1981) criteria and reciprocal factor loadings (Table 6) were used. Based on these criteria, the acceptable divergent validity of a model indicates that a construct in the model has more interaction with its indicators than other constructs.

Fornell and Larcker (1981) state that divergent validity is at an acceptable level when the AVE for each construct is greater than the shared variance between that construct and other constructs in the model. Investigating this in PLS is achieved using a matrix where the houses of this matrix contain the values of the correlation

To assess the fit of the measurement model, convergent validity, Discriminant Validity, and reliability of the instruments were used, which include three criteria: factor loading coefficients, Cronbach's alpha coefficients, and composite reliability. Convergent validity (AVE) is another measure that is used to fit the measurement model in the structural equation modeling method. Convergent validity shows the degree of correlation of a structure with its indicators, the higher the correlation, the better the fit. Fornell and Larcker (1981) introduced the AVE criterion (average variance extracted) to measure convergent validity and stated that an AVE value above 0.5 indicates acceptable convergent validity. As shown in Table 4, all nine hidden variables of the research have Cronbach's alpha value and composite reliability above 0.7, and the appropriateness of the reliability situation can be considered acceptable; the convergent validity above 0.5 also shows the confirmation of the convergent validity of the variables of the present study.

Factor loadings are calculated by calculating the correlation value of the indicators of a structure with that structure, and the criterion value for the appropriateness of factor loading coefficients is 0.4 and its significant coefficients should be higher than 1.96. The factor loadings resulting from the implementation of the model in this research were higher than 0.4, which indicates the appropriateness of this criterion (Table 5)

coefficients between the constructs and the square root of the AVE values of each construct. As can be seen in Table 7, it can be stated that in the current research, the latent variables in the model interact more with their indicators than with other structures; In other words, the divergent validity of the model was at a reasonable level.

According to the significant coefficients in Figure 2, it can be stated that the variable of perceived social support has a direct and significant effect on the variables of quality of life and self-esteem; also, self-esteem has a positive and significant effect on the quality of life at a confidence level of 0.99.

Table 8 shows the results of the R2 and Q2 index for the research variables. According to the table below, the value of R2, according to the three criterion values (0.19, 0.33, and 0.67 as the criterion value for weak, medium, and strong values), is evaluated at a strong level for all research variables and Q2 has been calculated according to the three criterion values (0.02, 0.15, and 0.35, indicating weak, medium, and strong predictive power, respectively) for the research variables, which shows the strong predictive power of the exogenous variable.

Finally, to check the fit of the overall research model, the goodness of fit criterion was used, which is calculated through the following formula. According to the three values of 0.01, 0.25, and 0.36 which are introduced as weak, medium, and strong values for the goodness of fit, obtaining a value of 0.719 for the GOF criterion confirms the very good fit of the overall research model.

$$(1) \text{ GOF} = \sqrt[2]{R_{\text{Average}}^2 \times \text{AVE}_{\text{Average}}} \approx 0.719$$

The path coefficient between the components of the first hypothesis is 0.529. The value of the t statistic is also 11.274, which is greater than 1.96 and shows that the observed path is significant.

**Table 5.**  
*Measurement of factor loadings*

Latent Variables		Q	Load Factor	t-value
Perceived social support	Family	Q1	0.657	18.858
		Q2	0.962	97.956
		Q3	0.629	16.771
		Q4	0.961	4.631
	Friends	Q5	0.959	23.289
		Q6	0.967	29.319
		Q7	0.959	62.430
		Q8	0.828	8.427
	Significant Other	Q9	0.841	49.342
		Q10	0.818	38.070
		Q11	0.765	33.501
		Q12	0.785	37.345
Quality of Life	Quality of life and general health	Q13	0.779	28.861
		Q14	0.888	89.013
	Physical health	Q15	0.853	9.613
		Q16	0.889	16.410
		Q17	0.853	93.204
		Q18	0.829	13.639
		Q19	0.853	36.779
		Q20	0.817	9.915
		Q21	0.617	33.204
		Q22	0.754	19.202
	Psychological health	Q23	0.865	16.751
		Q24	0.762	45.204
		Q25	0.635	7.680
		Q26	0.862	27.916
		Q27	0.815	20.893
		Q28	0.807	40.776
Social relationships	Q29	0.980	10.000	
	Q30	0.805	7.984	
	Environmental health	Q31	0.980	87.875
		Q32	0.805	2.430
Q33		0.877	4.769	
Q34		0.802	3.949	
Self-esteem	Self-esteem	Q35	0.974	80.896
		Q36	0.954	78.228
		Q37	0.983	88.406
		Q38	0.968	82.609
		Q39	0.681	17.487
		Q40	0.608	15.375
		Q41	0.619	19.234
		Q42	0.686	16.718
		Q43	0.623	25.623
		Q44	0.770	38.056
		Q45	0.770	30.058
		Q46	0.820	2.695
		Q47	0.812	4.277
		Q48	0.830	4.838

Therefore, perceived social support directly and positively affects the quality of life and explains 52.9% of the changes in the quality of life. The path coefficient between the components of the second hypothesis is 0.589. The value of the t statistic is also 21.818, which is greater than 1.96 and shows that the observed correlation is significant. Therefore, perceived social support directly and positively affects self-esteem and explains 58.9% of changes in self-esteem. The path coefficient between the components of the third hypothesis is 0.617. The value of the t statistic is also 24.760, which is greater than 1.96 and shows that the observed path is significant. Therefore, self-esteem directly and positively affects the quality of life and explains 61.7% of the changes in the quality of life. The path coefficient between the components of the fourth hypothesis is 0.363. The value of the t statistic was also 9.552, which is greater

than 1.96 and shows that the observed path is significant. Therefore, self-esteem has been able to play a mediating role between perceived social support and quality of life.

In this research, the Sobel test was used to measure the significance of the mediating effect of one variable in the relationship between two other variables. According to the results of the Sobel test, it can be said that at the 95% confidence level, the effect of the mediating variable of self-esteem in the relationship between perceived social support and quality of life is significant.

$$(2) \quad Z = \frac{a*b}{\sqrt{(b^2*S^2a)+(a^2*S^2b)}} = 3.309$$

In the structural modeling with partial variable, to determine the intensity of indirect effect of independent variable, the total of this

variable's total effect is used on the dependent variable of the site called the variance accounted for (VAF) index.

$$(3): \quad \text{VAF} = (a*b) / (a*b) + c = 0.406$$

a= path coefficient between the independent variable and mediator; more than 40.6% of the perceived social support effect on the quality of life is explained through the indirect and self-esteem variable.

b= path coefficient between the dependent variable and mediator; and

c= path coefficient between the dependent and independent variable.

By placing the numbers related to each in equation 3, the number 0.406 is obtained. The value of 0.406 for VAF means that

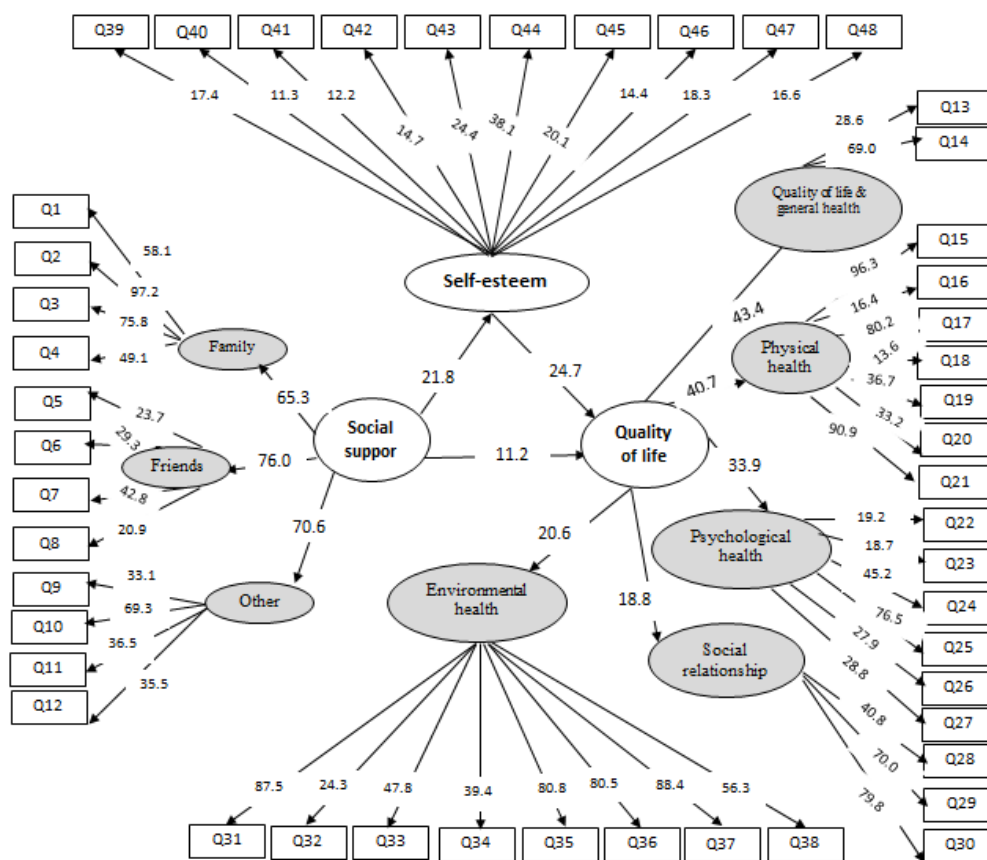
**Table 6.**

*Reciprocal factor loadings matrix*

Variable	KH	DO	DI	KZ	SJ	SR	RJ	SM	EN
<b>Family</b>	0.657	0.457	0.452	0.589	0.421	0.558	0.555	0.489	0.532
	0.962	0.479	0.528	0.589	0.321	0.418	0.429	0.239	0.477
	0.629	0.388	0.444	0.441	0.303	0.303	0.341	0.259	0.303
	0.961	0.478	0.337	0.381	0.402	0.558	0.128	0.489	0.402
<b>Friends</b>	0.853	0.959	0.647	0.245	0.399	0.429	0.523	0.499	0.630
	0.819	0.967	0.489	0.555	0.488	0.328	0.429	0.297	0.852
	0.882	0.959	0.239	0.124	0.407	0.418	0.471	0.354	0.626
	0.862	0.828	0.259	0.882	0.301	0.427	0.498	0.554	0.752
<b>Significant Other</b>	0.780	0.535	0.841	0.862	0.337	0.234	0.349	0.423	0.529
	0.650	0.342	0.818	0.780	0.249	0.418	0.478	0.523	0.539
	0.680	0.532	0.765	0.650	0.459	0.478	0.337	0.599	0.381
	0.696	0.477	0.785	0.680	0.478	0.439	0.249	0.417	0.229
<b>Quality of life and general health</b>	0.664	0.303	0.408	0.779	0.398	0.222	0.459	0.589	0.498
	0.696	0.402	0.308	0.888	0.258	0.427	0.478	0.149	0.349
	0.664	0.428	0.428	0.458	0.853	0.418	0.398	0.622	0.447
	0.730	0.457	0.418	0.622	0.889	0.427	0.128	0.665	0.189
<b>Physical health</b>	0.715	0.319	0.293	0.665	0.853	0.234	0.523	0.647	0.489
	0.861	0.238	0.128	0.647	0.829	0.882	0.429	0.689	0.499
	0.766	0.559	0.523	0.689	0.853	0.862	0.539	0.239	0.228
	0.783	0.294	0.429	0.239	0.817	0.882	0.381	0.259	0.528
	0.478	0.523	0.539	0.259	0.617	0.862	0.229	0.478	0.147
	0.337	0.559	0.381	0.478	0.489	0.754	0.498	0.558	0.231
	0.440	0.766	0.559	0.558	0.239	0.865	0.349	0.429	0.223
	0.254	0.783	0.294	0.429	0.259	0.672	0.259	0.328	0.489
	0.180	0.478	0.523	0.539	0.478	0.635	0.489	0.418	0.318
	0.358	0.337	0.599	0.381	0.558	0.862	0.498	0.303	0.488
<b>Social relationships</b>	0.452	0.249	0.417	0.229	0.429	0.815	0.349	0.402	0.548
	0.581	0.459	0.589	0.498	0.328	0.249	0.807	0.630	0.418
	0.535	0.478	0.149	0.349	0.418	0.259	0.980	0.297	0.478
	0.599	0.381	0.558	0.684	0.358	0.337	0.805	0.354	0.337
<b>Environmental health</b>	0.417	0.229	0.429	0.847	0.452	0.249	0.337	0.980	0.249
	0.589	0.498	0.328	0.677	0.581	0.459	0.249	0.805	0.259
	0.149	0.349	0.418	0.622	0.535	0.478	0.259	0.877	0.489
	0.341	0.259	0.303	0.665	0.303	0.303	0.489	0.802	0.398
<b>Self-esteem</b>	0.128	0.489	0.402	0.647	0.402	0.558	0.398	0.974	0.447
	0.523	0.499	0.630	0.489	0.399	0.429	0.258	0.954	0.819
	0.429	0.297	0.852	0.239	0.488	0.328	0.447	0.983	0.882
	0.417	0.354	0.626	0.259	0.407	0.418	0.819	0.968	0.862
	0.498	0.554	0.752	0.489	0.301	0.427	0.882	0.552	0.681
	0.259	0.882	0.342	0.489	0.109	0.297	0.229	0.311	0.608
	0.489	0.862	0.532	0.499	0.202	0.354	0.489	0.319	0.619
	0.259	0.882	0.342	0.489	0.377	0.554	0.228	0.238	0.686
	0.489	0.862	0.532	0.499	0.458	0.529	0.449	0.559	0.623
	0.552	0.128	0.389	0.402	0.458	0.238	0.228	0.294	0.770
0.311	0.523	0.499	0.630	0.521	0.338	0.528	0.448	0.770	
0.319	0.429	0.297	0.852	0.328	0.439	0.147	0.127	0.820	
0.238	0.471	0.354	0.626	0.214	0.778	0.231	0.529	0.812	
0.559	0.498	0.554	0.752	0.359	0.478	0.223	0.539	0.830	

**Table 7.**  
Correlation between the current variables and AVE

Variable	DI	DO	EN	KH	KZ	RJ	SJ	SM	SR
Significant Other	<b>0.804</b>								
Friends	0.177	<b>0.898</b>							
Self-esteem	0.420	0.120	<b>0.847</b>						
Family	0.328	0.459	0.306	<b>0.766</b>					
Quality of life & general health	0.467	0.178	0.557	0.310	<b>0.982</b>				
Social relationships	0.385	0.241	0.360	0.541	0.574	<b>0.770</b>			
Physical health	0.282	0.338	0.245	0.448	0.264	0.342	<b>0.804</b>		
Environmental health	0.178	0.373	0.163	0.319	0.195	0.286	0.518	<b>0.818</b>	
Psychological health	0.215	0.629	0.153	0.397	0.204	0.279	0.641	0.474	<b>0.879</b>



**Figure 2.** Fitness of the structural model using the T significance coefficients

**Table 8.**  
The results of R2 index

Variable	Symbol	Q2	R2
Significant Other	DI	0.669	0.647
Friends	DO	0.915	0.807
Self-esteem	EN	0.790	0.718
Family	KH	0.831	0.587
Quality of life & general health	KZ	0.617	0.766
Social relationships	RJ	0.410	0.594
Physical health	SJ	0.874	0.647
Environmental health	SM	0.525	0.670
Psychological health	SR	0.923	0.773

#### 4. Discussion and conclusion

The purpose of this study was to investigate the effect of perceived social support on the quality of life of physical education students with the mediating role of self-esteem. In general, the results of the present study showed that perceived social support and self-esteem have a positive and significant effect on the quality of life of students. The results of the first part of the research showed that perceived social support has a positive and significant effect on the quality of life of students, which is consistent with the results of some studies (Alsubaie et al., 2019; Nasiri Walik Bani & Abdul Maliki, 2015). The results of the study by Aghayari hir et al., (2017) showed that with the increase in social support, the quality of life of people also increased significantly. They stated that social support, in addition to improving mood, also encourages people to engage in social activities. Most sociologists agree on the importance of social relations in increasing the quality of life (Rabbani Khorasani and Kianpour, 2006). Social support is studied in two forms: received and perceived social support (Zamani et al., 2019). Perceived social support means a person's cognitive evaluation of the environment and his relationships with others. Perceived social support is a person's level of access and perception of the availability of support from others, in case of need for help, which has a great impact on the physical and psychological condition, satisfaction with life and various aspects of the quality of life of people (Rapier et al., 2019). Social support includes the attention, love, and assistance that a person receives from family, friends, and other people, and as a shield against stressful events, it can have a positive effect on people's quality of life (Shabanzadeh et al., 2012). Researchers believe that social support plays a positive role in people's quality of life through the feeling of gratitude and connection with social networks and low levels of feeling supported will cause problems in people's psychological health (Camara, M., & Padilla, 2017; Dafaalla et al., 2016). Quality of life has 4 main dimensions: Physical dimension, psychological dimension, spiritual dimension and social dimension. The social dimension is related to a person's ability to communicate with family members, neighbors, colleagues and other social groups (Nasiri Walik Bani & Abdul Maliki, 2015). In the current study, students' perception of social support provided by family and friends led to a significant improvement in their quality of life.

The results of the second part of the research indicated that social support had a positive and significant effect on students' self-esteem. The results of this part of the research were in line with the results of some research (Heidari, M., Ghorbani Dolatabadi, 2021; Behzadfar et al., 2018; Tian et al., 2013; Alavi Jannatifard, 2012). The results of the study by Goodwin & Plaza (2000) on English and Spanish samples confirmed that social support has a positive and significant relationship with self-esteem (Goodwin & Plaza, 2000).

Self-esteem means the attitude and evaluation of oneself in the light of other people's opinions. According to Ragers (1961), the main reason for low self-esteem in people is that they are not given enough opportunities for emotional support and social approval and during the growth period, they receive a negative evaluation from others continuously (Hosseinzadeh and Sepahmansour, 2011). Perceived social support acts as a shield against internal pressure factors and increases the ability to deal with problems and increases people's psychological well-being (Mehdi et al., 2021). Maslow believes that providing social support increases people's self-esteem and more effectively confronts their personal and social problems and conflicts. Naturally, the greater the number of these supports sources and the amount of assistance provided to a person, and the clearer and more confident a person's mind is about potential assistance, the greater his ability to adapt to his problems. In general, it can be said that people are different not only in terms of the events they experience in life, but also in terms of their vulnerability to events. Everyone's vulnerability to psychological stress is affected by their coping skills and social support (Behzadfar et al., 2018). It can be said that social support increases people's understanding of

their values. People with high levels of social support tend to have high self-esteem. On the other hand, the lack of social support causes a person to feel worthless and have a negative self-evaluation and suffer from low self-esteem (Heidari, M., Ghorbani Dolatabadi, 2021). Since the most important personal experiences of a person are obtained from family and parents, friends, and teachers, personal experiences and values can influence people's behavior. Social support plays an important role in managing psychological problems and the lack of social support is one of the factors that lead to many psychological problems in students. In other words, the more social support is given to students, the more their self-esteem will increase and their sense of self-worth will increase.

The results of the third part of the research showed that students' self-esteem had a positive and significant effect on their quality of life. The results of this part of the research were consistent with the results of Ghasemizad et al., (2009) and Mohamadi et al., (2014). It was inconsistent with the results of Zar et al.'s study (2017). Zar et al., (2017) by examining physically-motor disabled cyclists who participated in national championships, concluded that there was no significant relationship between self-esteem and their quality of life. One of the reasons for the inconsistency of the results of these two studies can be considered the difference in the type of participating subjects. Marriage and Cummins (2004) stated that self-esteem can be considered as a suitable predictive factor for students' quality of life. MacLean & Kermod (2001) also acknowledged in this regard, students who had higher self-esteem had a better quality of life. It can be said that the quality of life is affected by various factors such as individual and environmental factors. Among the individual factors, we can refer to people's beliefs about themselves, or in other words, their self-esteem (Falahati, 2013). Researchers believe that self-esteem is the central core of a person's psychological structures that can provide people with comfort and protect them against the negative psychological pressures of life (Mirzaei Alavijeh et al., 2012). In explaining this relationship, it can be said that high self-esteem increases personal abilities and sufficiency and improves the quality of life. Having self-esteem reduces a person's passivity and adaptability to problems, and motivates a person to challenge issues, and leads to the best possible management of interpersonal relationships, and in this way predicts the quality of people's lives. Therefore, it seems that in the current study, students with high self-esteem had a favorable quality of life.

The results of the final part of the research showed that social support had a positive and significant effect on the quality of life of students through the mediating role of self-esteem. No studies were found that investigated the relationship between these variables. In general, we can say, the limited budget and facilities, the dependence of universities on government budgets, the growth of expenses in various sectors of education, food, and housing during the last decade, and also the disproportion of university faculty members with the number of students, have caused the universities to have problems in providing the necessary facilities for students. This issue undoubtedly has a direct impact on the quality of life of students (Falahati, 2013). There have been studies that have involved factors such as family and personality in predicting people's quality of life (Sirgy et al., 2007). Therefore, we can point to the important role of family and friends as well as the level of self-esteem of students in increasing their quality of life. What was obtained from the results of the present study was that the students' high perception of the support of family, friends, and important people as well as their high self-esteem made them experience a high quality of life. In general, according to the results obtained from the present research, it is suggested that the families of the students and the relevant officials should provide the necessary support to the students in this challenging time; So that students have a good quality of life in this critical period of their lives.

The Limitation of research samples to students of Urmia University and limitation to the field of physical education is one of the limitations of the present research, which makes it difficult to



generalize the results to other students. In future studies, it is suggested that researchers look at the role of other mediating variables in the relationship between social support and quality of life. It is also suggested to investigate the role of factors such as gender, educational level, type of university (government and non-government), etc.

virtual environments, patients without the need for a therapist at home or work can do rehabilitation training. The visual feedback provided to the patient increases the motivation to perform the exercises. VR is a motivational and effective alternative for the motor and cognitive rehabilitation of MS patients. Depending on the degree of illness and disability, even if it is not possible to do real physical training, each patient can use VR to improve balance and walking speed, reduce fatigue, reduce stress, anxiety, and depression, and increase the ability to solve problems and improve mental status. VR training will improve motor and cognitive performance in MS patients and help to deal with the mental and physical effects of the disease by engaging in VR-based sports.

#### Authors' contributions

Conception and design of the study: H.D.; Data collection: R.S, M.M; Data analysis and/or interpretation: M.M; Drafting of

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#### Conflict of interests

The authors of this article state that there is no conflict in the present study.

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