

**How to Cite:**

Kashani, S., Mirzazadeh, Z., & Hassan, J. B. (2022). The effect of physical activity on the quality of life and mental health of Ferdowsi university students whose field of study was not physical education during the Covid-19 pandemic . *International Journal of Health Sciences*, 6(S7), 48756–48766. <https://doi.org/10.53730/ijhs.v6nS7.13657>

# **The effect of physical activity on the quality of life and mental health of Ferdowsi university students whose field of study was not physical education during the Covid-19 pandemic**

**Saeedeh Kashani**

Master of Sport Management, Sport Management Department, Ferdowsi University of Mashhad, Mashhad, Iran

**Zahrasadat Mirzazadeh\***

Faculty member of Sport Sciences, Sport Management Department, Ferdowsi University of Mashhad, Mashhad, Iran

**Javad Bani Hassan**

PhD in Sport Management, Sport Management Department, Ferdowsi University of Mashhad, Mashhad, Iran

**Abstract**---Purpose: The present study aimed to examine the effect of physical activity on the quality of life and mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 Pandemic. Method: The method of study was descriptive and correlational. The statistical population of this present study consisted of all male and female students of Ferdowsi University whose field of study was not physical education and they had chosen physical education 1 and Sports 1. Data were collected from 375 Ferdowsi University students whose field of study was not physical education and they were selected randomly. Data collection was done through Physical Activity Questionnaire by Wickramarachchi et al. (2021), Mental Health Questionnaire by Proto. & Quintana-Domeque (2021), and Quality of Life Questionnaire by Epifanio et al. (2021). The validity and reliability of the questionnaires were also confirmed and Structural Equation Modeling (SEM) was used to analyze the data. Findings: The results showed a direct and statistically significant effect of physical activities on the quality of life, which was obtained at 0.958. The quality of life variable increased to 0.958 when physical activities increased by one unit. Also, physical activities have a direct

---

\*. Corresponding Author:

**Zahrasadat Mirzazadeh**

E-mail: [z.mirzazadeh@um.ac.ir](mailto:z.mirzazadeh@um.ac.ir)

---

International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.

Manuscript submitted: 9 May 2022, Manuscript revised: 18 July 2022, Accepted for publication: 27 August 2022  
48756

and statistically significant effect on mental health and it was reported at 0.971. If physical activities increase by one unit, the mental health variable is raised by about 0.971. Also, the coefficient of determination for mental health was obtained at 0.943 which shows that the variable of physical activities expresses 94.3% of mental health changes. Finally, the effect of physical activities simultaneously on the quality of life and mental health were obtained at 0.958 and 0.971, respectively and it indicates a direct and strong effect that is statistically significant. Therefore, physical activities affect the quality of life and mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 Pandemic. Conclusion: Since physical activity during the COVID-19 pandemic showed a significant effect on the studied students' mental health and quality of life, controlling or improving their quality of life and mental health during the COVID-19 pandemic may be an appropriate strategy among Ferdowsi University students whose field of study was not physical education.

**Keywords**---*Physical Activity, Quality of Life, Mental Health, COVID-19 Pandemic.*

## **Introduction**

A new variety of coronavirus was discovered in December 2019 in Wuhan, China, and it soon spread to other countries (World Health Organization, February 2020). Acute respiratory syndrome and Middle East respiratory syndrome are two conditions that can be brought on by the coronavirus family of viruses. In 2019, it was determined that the coronavirus was what caused the sickness outbreak in China and its global dissemination (Shi et al., 2020). A serious coronavirus pandemic has led to an unparalleled global health care crisis. Due to the coronavirus's rapid spread and widespread occurrence of severe acute respiratory syndrome infections, essential steps must be made in resource management, infection control, and strategic areas. To stop the severe acute respiratory syndrome coronavirus (SARS), also known as COVID-19, from spreading, infection control is currently the main public health care strategy (Nakajima et al., 2020). The SARS-related disease, COVID-19, is the second acute respiratory virus since 2002 and it has been classified as a pandemic. Several people in society have experienced anxiety and mental stress resulting from the coronavirus's rapid spread and the unpredictability of the disease it causes. These behaviors have harmed people's mental health and quality of life (Parasikos et al., 2020). Therefore, at this time, people of all ages and abilities need to be as active as possible. To prevent and reduce inactivity, the World Health Organization (WHO) designed a global plan called Global Action Plan on Physical Activity (GAPPA) in 2017 aimed at motivating and informing people to exercise (World Health Organization, 2021). It should be emphasized that even only 10 to 15 minutes of gentle exercise, such as walking or stretching, can assist relax muscles and increase blood circulation (Ko et al., 2020). Regular exercise can also improve people's daily lives and serve as a channel for communication with our families. The mental health benefits from physical activity which lowers the risk of

depression, delays cognitive aging, prevents the onset of dementia and enhances mood in general (Chosenak et al., 2019). As a result, various studies have demonstrated that physical activity has special benefits, such as improved physical and physiological health indices and favorable effects on mental health and well-being (Jeong et al., 2020).

The COVID-19 pandemic's consequences and the ensuing social isolation policies implemented during the lockdown have put the community's daily life at risk and changed its quality of life, decreased its level of total physical activity, and increased the prevalence of mental health disorders (Balchi et al., 2021). Anxiety and depression are frequent non-motor symptoms that affect 30-40% of the population. As a result, the decrease in physical activity in the general population demonstrated that physical activity is connected with depression, anxiety, and quality of life during the Covid-19 pandemic. However, it should be mentioned that few studies have been undertaken on the association between the level of mental health, quality of life, and physical activity in low- and middle-income countries during the COVID-19 pandemic (Chokilin-Arista et al., 2020). Nowadays, one of the most essential and fundamental challenges in human societies is the quality of life which encompasses all elements of life, including health. The four major components of quality of life are physical, mental, psychological, social, and environmental health. These dimensions interact with one another, making good physical health vital for establishing social relationships (Song and Doris, 2019). As a result, despite the favorable outcomes, the implementation of health programs has resulted in detrimental psychological effects on society. Fears of illness and death, rumors, curfews, reduced social interactions, and a slew of other implications of these conditions all endanger people's mental health in society (Denerl and Lima, 2021). Physical distancing methods, in addition to fear of illness, may inadvertently exacerbate social isolation and loneliness, restricting social involvement for many people and lowering the quality of life (Brooks et al., 2020). This, in turn, can have serious short- and long-term consequences for the general population's physical, mental, and emotional health (Holmes et al., 2020). In two recent systematic reviews and meta-analyses on the psychosocial impact of Covid-19 in the general population, Salari et al. (2020) observed a prevalence of 29.6% for stress, 31.9% for anxiety, and 33.7% for depression (Salari et al., 2020). Therefore, it can be quite difficult to stay active when spending a lot of time at home as a result of the spread of COVID-19. The quality of life, mental health, and general well-being of individuals can all suffer from inactive behavior and low levels of physical activity. Exercise and physical activity can therefore be helpful tools to help you unwind and safeguard your health during this period (World Health Organization, 2021). Physical activity has a good impact on health, motor coordination, and cardiovascular fitness in general. These activities help people become more socially adept, improve their communication skills, and generally lead better lives. Additionally, engaging in physical activity helps to lower stress levels, aggressive conduct, and behavioral issues (Yarimkaya et al., 2017). In this context, a Portuguese study that looked at protective lifestyle characteristics found that those who could be actively exercised frequently and have had no mental or physical disorders had relatively better indicators of well-being and quality of life (Silva Moreira et al., 2021). Furthermore, a cross-sectional survey done in the United Kingdom during the initial phase of lockdown revealed that lockdown

measures were related to mental health, well-being, and quality of life, notably in adolescents, those with children at home, and those with health problems (White & Van Der Boor, 2020). Growing empirical evidence suggests that everyone in society is experiencing psychological suffering as a result of the coronavirus pandemic (Racine et al., 2021). In this regard, Ma et al (2021) found that poorer levels of quality of life are associated with stress symptoms (48%) and clinical anxiety symptoms (21%), depression (25%), high prevalence of depression (29%), anxiety (26%) and sleep disorders (44%) (Ma et al., 2021). Adolescents' mental health, physical activity, and quality of life have also been impacted by the shutdown of colleges due to the COVID-19 pandemic, as well as the cancellation of sports based on gender, elementary level, type of sports involvement, and economic situation (Villafaina et al, 2021). Since the beginning of the COVID-19 pandemic, students and other members of society's quality of life has become significantly disrupted in terms of mood, sleep disorder, worsening food and inactivity, and, eventually, mental health. As a result, it is critical to analyze this sector of society in terms of physical activity, quality of life, and mental health (Grubik et al., 2021).

Therefore, the present study aimed to answer the following question:

What is the effect of passing two courses of Physical Education 1 and Sport 1 as well as physical activity which have been presented virtually on the quality of life and mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 pandemic?

## **Methods**

Based on purpose or utility, the approach of this study was applied and data collection was done descriptively and in the field. Besides, the relationship between the variables of the study was correlational. To measure the variables of the study, the demographic information form, the physical activity questionnaires of Wickramarachchi et al. (2021) (10 questions), the mental health of Proto and Quintana-Domeque (2021) (13 questions), and the quality of life of Epifanio et al. (2021) (12 questions) were used. To evaluate the form and content validities of the questionnaire, experts in sports management were consulted. Additionally, a preliminary study (30 participants) was conducted to determine the reliability of the questionnaire using Cronbach's alpha correlation coefficient. The reliability of the study was also confirmed because the alpha coefficient of the variables was higher than 0.7. The statistical population of this study consisted of all male and female Ferdosi University students whose field of study was not physical education. Since the statistical population of the study was unlimited, 375 participants were chosen as simple random sampling to determine the sample size by using Morgan's table. To collect data, the researcher distributed questionnaires and collected data through an online link. Finally, after removing the questionnaires that were not completed correctly and also had unclear data, 216 questionnaires were analyzed. To analyze the data, extract the demographic status, and test the hypotheses of the study, SPSS 26 was used.

## Findings

The findings of the descriptive data analysis and the demographic features of the sample revealed that when the gender of the participants was considered, the largest sample size belonged to males, 178 (82.4%), and 38 were female (17.6%). The majority of the study sample, 168 (77.7%) were single and 48 (22.3%) were married. When the age of the participants was considered, the largest samples, 215 (99.53%), were between the ages of 20 and 25, while just one student was in the age range of 40-36 years (0.47) which showed the lowest frequency.

The hypotheses were tested using the measurement and structural model fitting approach. The results of the models used to test the hypothesis that physical activity affects the students' quality of life during the COVID-19 pandemic are displayed in figures (1) and (2). As shown in figure 1, the t statistic value for the relationship between physical activity and quality of life is equivalent to 158.901, which is greater than 1.96 and signifies confirmation of the relationship. The effect of physical activity on quality of life was shown in Figure 2 and it was obtained at 0.958 which denotes a direct and significant effect. Assuming all other factors remain constant, increasing physical activity by one unit increases the quality of life variable by 0.958. Furthermore, the coefficient of determination for quality of life is 0.918, indicating that the variable of physical activities may reflect 91.8% of changes in quality of life.

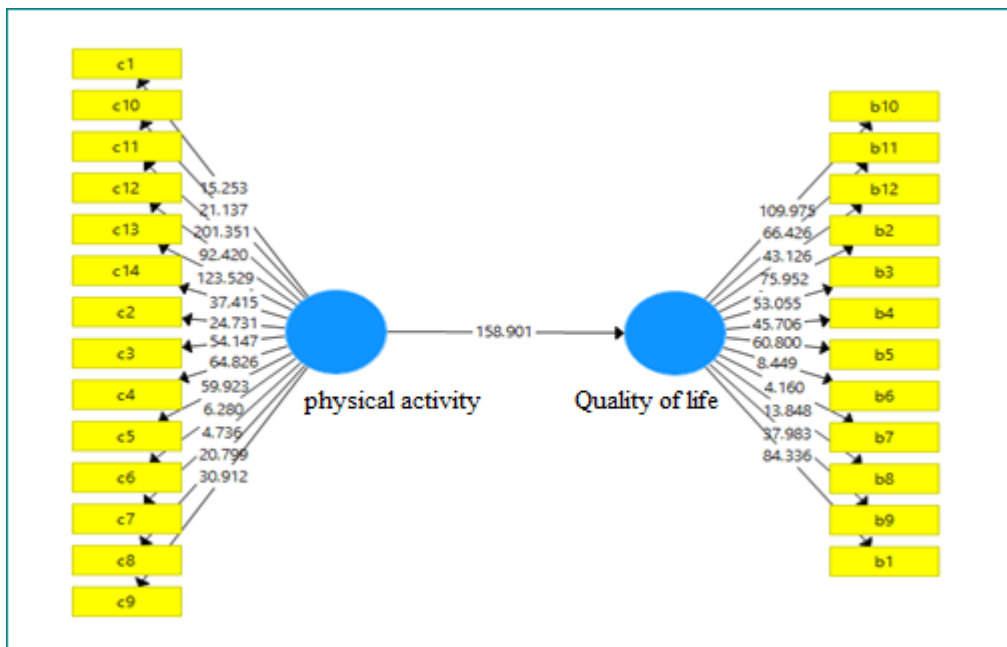


Figure 1. Significant Model of the Effect of Physical Activities on Quality of life of the Samples

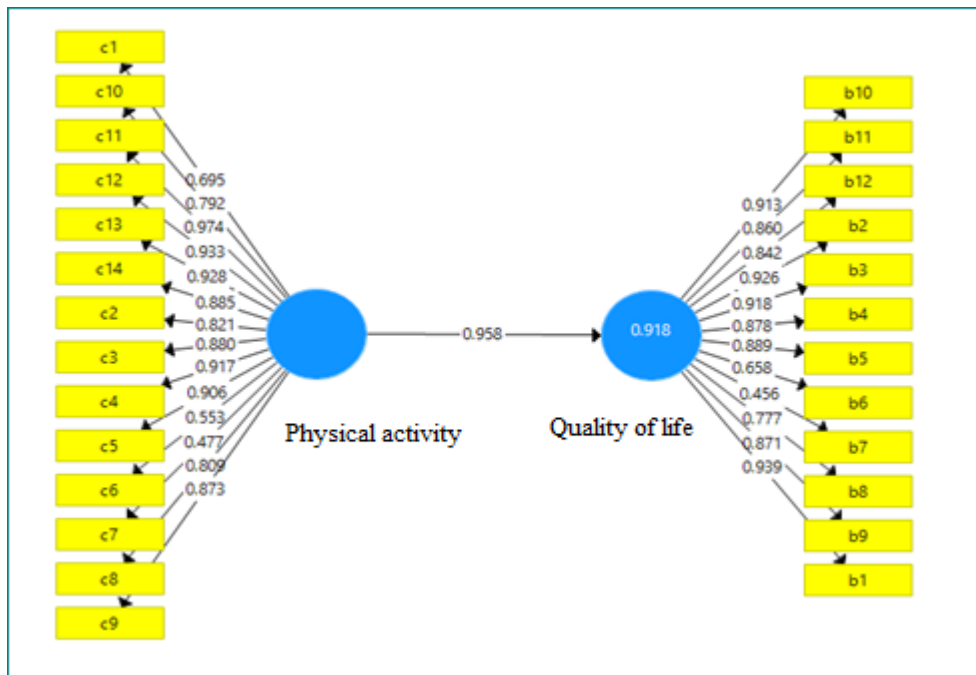


Figure 2. Factor Loading Model of the Effect of Physical Activities on Quality of Life the Samples

Also, in the hypothesis that physical activities affect the mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 pandemic, the output of the models related to the test of this hypothesis is shown in figure (3) and (4). As it is clear in Figure (3), the value of the t statistic related to the effect of physical activities on mental health is equal to 193.930 which is higher than 1.96 and it confirmed the relationship. Therefore, physical activities affect the mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 pandemic. In Figure (4), the effect of physical activities on mental health was reported at 0.971 which indicates a direct and significant effect. Assuming all other factors remain constant, increasing physical activity by one unit increases the mental health variable by 0.971. Furthermore, the coefficient of determination for mental health is 0.943, indicating that the variable of physical activities may reflect 94.3% of changes in mental health.

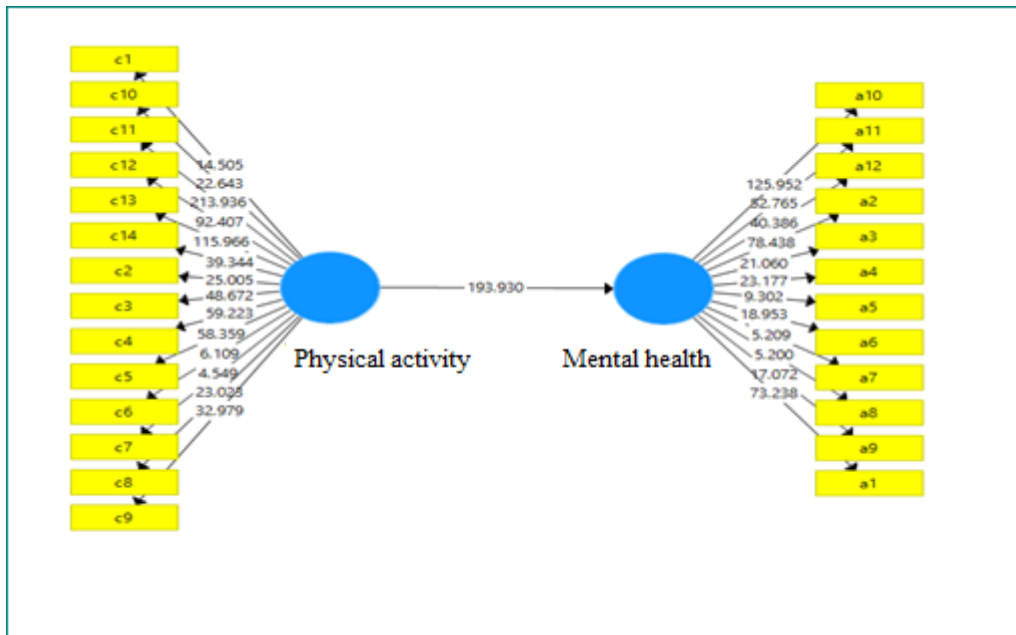


Figure 3. Significant Model of the Effect of Physical Activities on Mental Health of the Samples

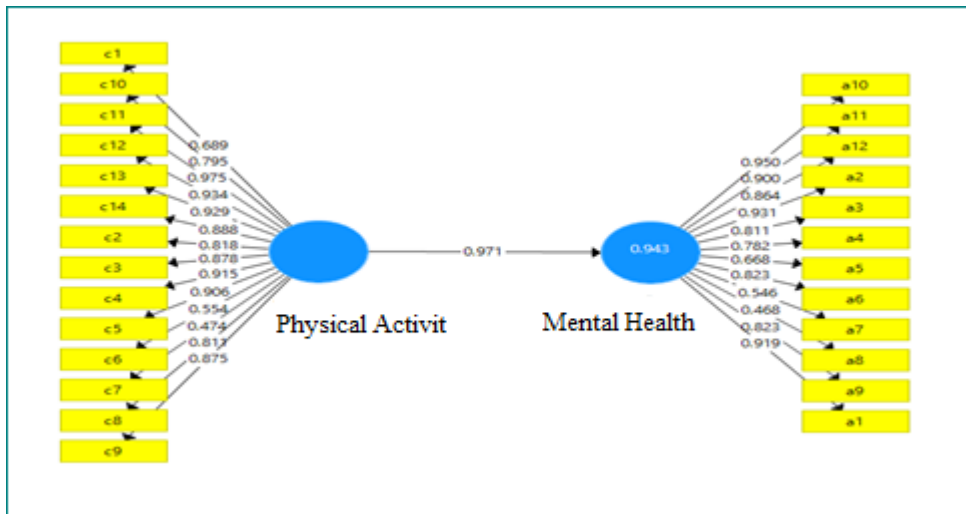


Figure4. Factor Loading Model of the Effect of Physical Activities on Mental Health of the Samples

Finally, in the hypothesis that physical activities affect the quality of life and mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 pandemic, the output of the models related to the test of this hypothesis is shown in figure (5) and (6). As it is clear in figure (5), the value of the t statistic related to the effect of physical activities on

quality of life and mental health is higher than 1.96 which confirms the relationship. In Figure (6), the effect of physical activities on the quality of life was reported at 0.958 indicating a direct and significant effect. Assuming all other factors remain constant, increasing physical activity by one unit increases the quality of life variable by 0.958. Also, the effect of physical activities on mental health has been reported at 0.971 indicating a direct and significant effect. Furthermore, the coefficient of determination for mental health was 0.943, indicating that the variable of physical activities may reflect 94.3% of changes in mental health. Furthermore, the effect of physical activity on mental health has been obtained at 0.971, indicating a direct and substantial effect that is statistically significant.

Assuming all other factors remain constant, increasing physical activity by one unit increases the mental health variable by 0.971. Therefore, physical activities affect the quality of life and mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 pandemic.

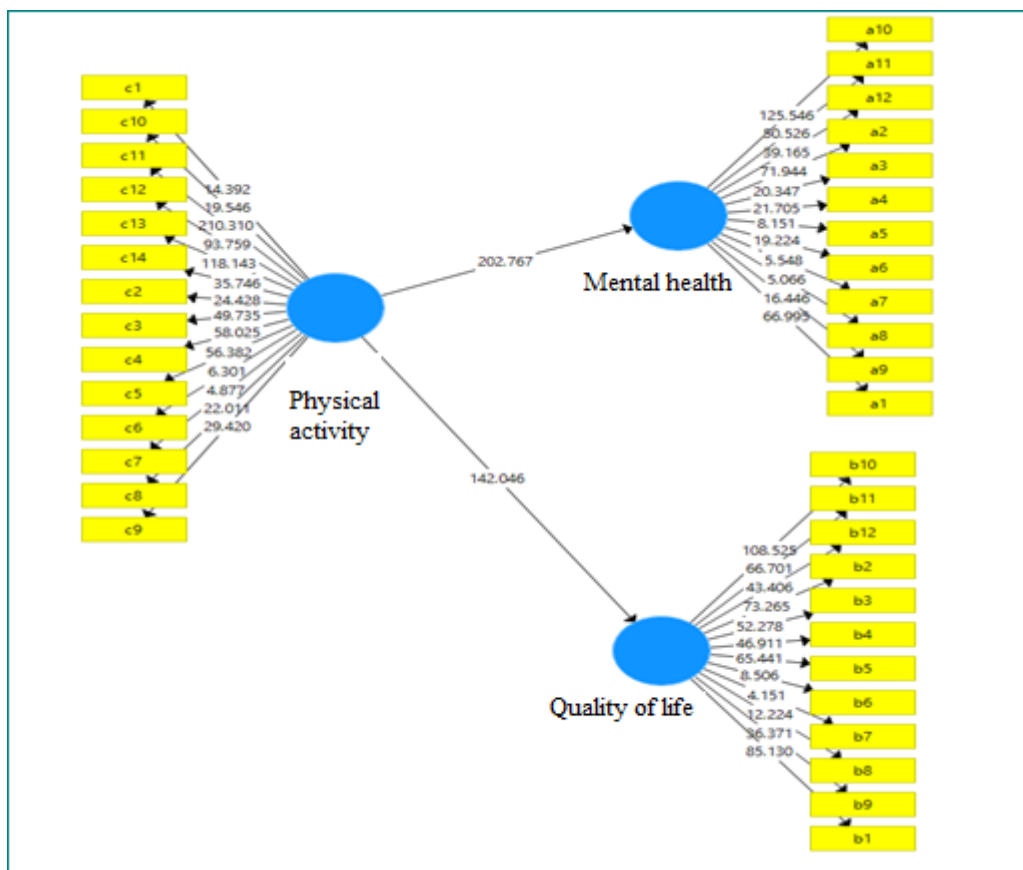


Figure5. Significant Model of the Effect of Physical Activities on the Quality of Life and Mental Health of the Samples regarding the Main Hypothesis



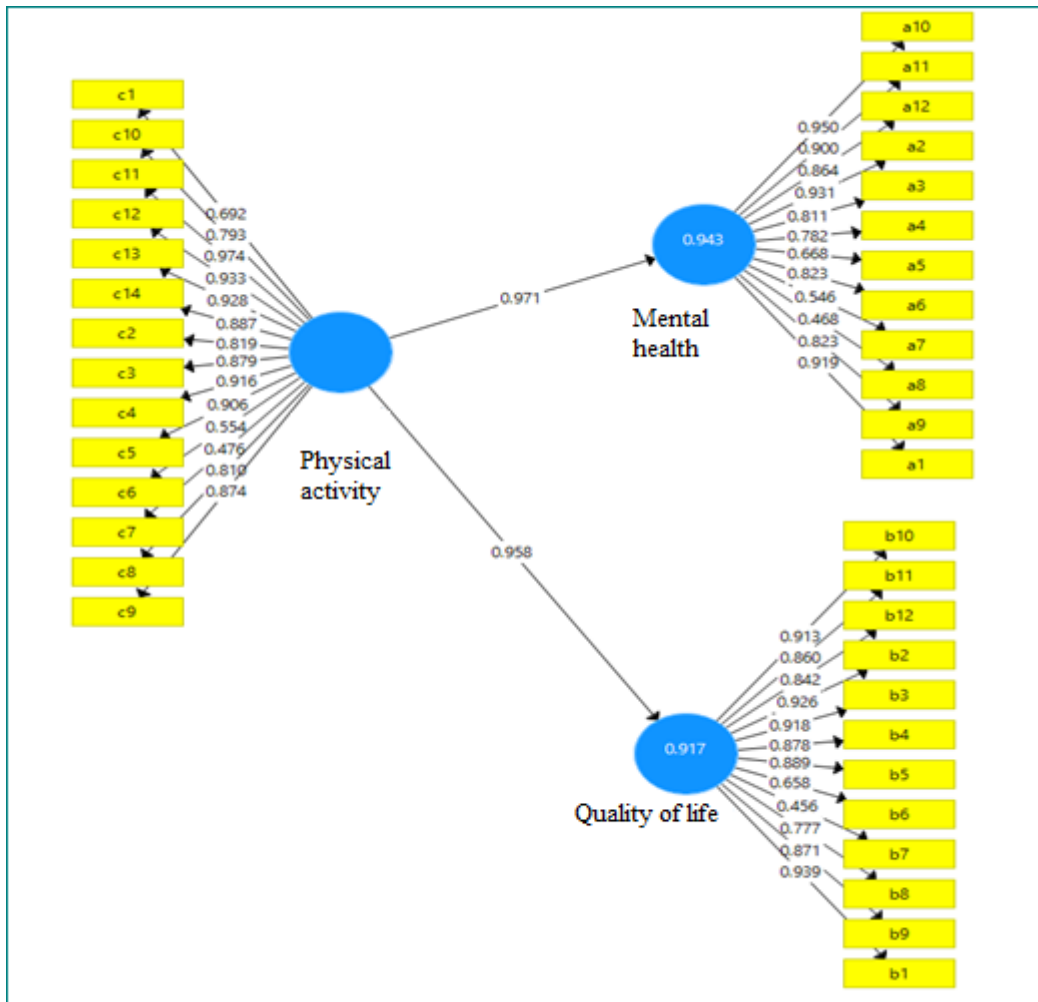


Figure6. Model of Factor Loading Coefficients of the Effect of Physical Activities on Quality of Life and Mental Health of the Samples regarding the Main Hypothesis

### Discussion and Conclusion

The present study aimed to examine the effect of physical activity on the quality of life and mental health of Ferdowsi University students whose field of study was not physical education during the COVID-19 pandemic. Physical activity is one of the most essential low-cost and effective instruments in people's lives, and it has been employed as an appropriate solution in all countries due to its favorable effect on physical and mental health. The first hypothesis considered the effect of physical activity on quality of life and the results showed that regarding the value of the t-statistic related to the effect of physical activities on quality of life, a positive and significant relationship was found between physical activity and quality of life during the COVID-19 pandemic. This finding revealed the direct effect of physical activity on the quality of life which is in line with the results of Dehghani Tafti et al. (2021), Nodehi et al. (2021), Mansour et al. (2021), Azi et al.

(2021)'s studies. To explain this hypothesis, it can be stated that health-related quality of life reflects the perceived sense of physical and mental well-being through time, which includes both physical health and psychosocial health. Regular online sports activity has a positive and significant effect on improving the quality of life during the COVID-19 lockdown. Regular physical activity is thus one of the most crucial elements in preserving and enhancing health and quality of life. Thus, since the low levels of physical activity during the COVID-19 pandemic have been related to an increase in the potential of negative thoughts and disease stress, physical activity is a controller and contributor to a higher quality of life during this crisis. Besides, according to the t statistic value related to the effect of physical activity on mental health, there is a positive and significant relationship between physical activity and mental health in the COVID-19 pandemic. This finding supports the second hypothesis which was concerned with the investigation of the effect of physical activity on mental health. The obtained results revealed the direct effect of physical activity on mental health and this result is consistent with the results of Soltanian et al. (2022)' study. This hypothesis can be explained by stating that anxiety, fear, and negative thoughts worsened during the COVID-19 pandemic compared to the period preceding the pandemic. It takes control and the use of solutions to raise the level of mental health, whereas physical activity can easily manage this important problem due to creating a sense of well-being, freshness, and helping physical health. To have substantially better mental health, people should properly manage their physical activity to optimize the related physical and mental health advantages, as well as the structure and pace of physical exercise in a health-enhancing manner. The results of the t-statistics related to the effect of physical activity on the quality of life and mental health in the general hypothesis revealed that the relationship between physical activity, quality of life, and mental health has been direct and strong. This result is consistent with the results of Nodehi et al. (2021), Soltanian et al. (2021), Parastesh and Moradi (2021), Saremi et al. (2022), Ravens-Sieberer et al. (2021), and McGuin et al. (2021) studies. This hypothesis can be explained by stating that mental health, physical activity, and quality of life during the university closure due to Covid-19, as well as the cancellation of sports and physical activity, differ depending on gender, basic level, type of sports participation, and economic status. As a result, the disruption of physical and mental health order and subsequently the degree of quality of life are caused by the symptoms of anxiety and depression as well as decreased levels of physical activity. Finally, considering the strong and direct effect of physical activity on quality of life and mental health, it is expected that appropriate conditions and facilities, as well as practical training for physical activity of adolescents can be used to control and raise the level of physical and mental health of students during the COVID-19 pandemic.

## References

- Arman Far, M.S., Shahrbanian, Sh., Yusufund, S., Kazemi, M. and Sabouri, S. (2021). *Sports activities, nutrition and mental health of community members during the outbreak of covid-19: A review study*. 23(4), 15-30.
- Parstesh, M. and Moradi, J. (2018). *A guide to physical activities at home to deal with the new Coronavirus (Covid-19)*. *Journal of Arak University of Medical Sciences*, 23(5), 632-645.

- *Dehghani Tafti, A.A., Karami, M., Rezaei Pendari, H., Jam Barsang, S. and Rahmati Andani, M. (2021). An investigation of the effectiveness of physical activity training based on self-regulation theory on the quality of life of Khomeini Shahr's elderly. Yazd Health Dawn, 20(6), 58-72.*
- *Soltanian, L., Agha Baba, A.R., Nabilpour, M. and Mehri Alwari Y. (2021). The relationship between physical activity and mood disorders during public lockdown during COVID-19 pandemic in racket athletes. Journal of Complementary Medicine, 11(4), 384-395.*
- *Sarmi, A., Aghababa, A.R., Bahrami, A.R. and Bahari, M. (2018). Covid-19, physical activity and mental well-being in adults living in Markazi Province: an online cross-sectional survey. 22(3), 12-4*
- *Aliani, S. and Peyman, N. (2021). Assessment of the mental well-being of the elderly during the COVID-19 Pandemic in Mashhad. Elderly scientific research journal, 16(1), 62-73.*
- *Mansouri, M.H., Pakar, E., Karimizadeh Ardakani, M. and Mohammadkhani, K. (2021). The effect of regular physical activity on students' aggression and quality of life during the COVID-19 lockdown. Health Education and Health Promotion, 9(4), 398-408.*
- *Nodehi, M.A., Ahmadi, M. and Moghimi, Z. (2021). An investigation of the impact of sports and physical activities during the COVID-19 pandemic on the mental health and quality of life of students. Working Group of Ethics in Sports Science Research Institute.*