Journal of Basic Research in Medical Sciences
Ilam University of Medical Sciences
Homepage: https://jbrms.medilam.ac.ir
Online ISSN: 2383-0972
Print ISSN: 2383-0506

Evaluating the Correlation of Physical Fitness and Happiness among College Students

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Article Info

Article type:
Research Article

Article history :
Received: 4 Jan. 2022
Revised: 6 Mar. 2022
Accepted: 27 Apr. 2022
Published online: 8 Jun. 2023

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ABSTRACT

Introduction: Physical activity has a significant impact on the quality of life and mental health of college students. The importance and role of happiness in mental health and social participation have been one of the most important priorities of psychology researchers. Also, very few studies have been conducted on happiness among college students, especially females, so the present study aimed to determine the correlation between physical fitness and happiness among female university students.

Materials and Methods: This research was a descriptive and correlational study. The participants consisted of a group of 124 females (aged 20.94 ± 1.82 years) who were selected randomly from Ilam university students. The AAHPERD battery was used to obtain the physical fitness grade of the students and the Oxford questionnaire was used to calculate their happiness. The data were analyzed by SPSS software and the Pearson correlation coefficient.

Results: Results of this study indicated a significant relationship between physical fitness and happiness ($r = 0.293$, $P = 0.048$).

Conclusion: The research indicated that exercise and physical activity effectively improve students' happiness and suggested that it must pay more attention to sport programs and increase university student's physical fitness.

Keywords: Physical Fitness, Happiness, University Students

How to cite this article: Naghibzadeh M. Evaluating the Correlation of Physical Fitness and Happiness among College Students. J Bas Res Med Sci. 2022; 10(4): 28-33.

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Publisher: Ilam University of Medical Sciences

Introduction

Students of college face several problems relating to nutrition, worries about the future, and tuition fees (1). Entering the university causes major changes in social, familial, and individual life and thus it is considered a critical period (2). Some conditions which may cause mental disorder to include not being familiar with the university environment, separation from family, not being interested in field of study, incompatibility with other people in the living environment, and decline welfare benefits (3). Thus, mental health problems are very common among university students (4).

Mental health has received a lot of attention in recent years, many psychological researchers have focused on the role of happiness in mental health, efficiency, and social participation (5).

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Happiness is an emotional state characterized by feelings of joy and contentment. Happiness is a dominant aim in every one's life. Recently, studies have shown that higher levels of happiness are associated with national development and lower mortality and disease (6). Physical activity has an important role in happiness and well-being (7).

Physical fitness is the state of being good physically, and ability to do daily tasks with vigor, without exhaustion, and to enjoy leisure time. The main components of Physical fitness are cardiorespiratory fitness, muscular strength, muscular endurance, flexibility, and body composition (8) which has been positively related to psychological well-being and negatively associated with psychological ill-being. Recent studies have shown that physical activity is associated with high self-esteem, happiness, and low anxiety levels among university students (9-11).

In addition, female students are an important part of young societies and play a vital role in modern human society, therefore, there is an urgent need to investigate their physical and mental health, and perform essential activities to improve their performance (12). While many studies in Iran have investigated the therapeutic role of exercise and physical activity within people suffering from mental disorders, for example, cancer survivors in older age, and people with disabilities, the small number of studies specifically evaluated the effects of physical activity on happiness among healthy people. Therefore, this study aimed to examine the association between physical fitness and happiness among female university students .

Materials and Methods

This study was a correlational descriptive study. The statistical population included 400 Ilam university's students who were enrolled in a general physical education course. From these 124 students were randomly selected. The participants were informed about the research and signed an informed consent according to the Declaration of Helsinki ethical standards. The inclusion criteria in included: ability to exercise, the exclusion criteria included: Diagnosing mental health problems and absence for more than two sessions.

The AAHPERD test was used for physical fitness assessment, they included: cardiorespiratory endurance (540 m run), anaerobic power (push-ups), explosive power of the legs (Sargent Jump Test), agility (4 × 9 m run), muscular endurance (sit-ups in a minute), and flexibility (sit-and-reach test). Body weight and height were measured by the Seca scale (CECA, Germany), and muscle mass, body fat percentage, and body mass index (BMI) were measured by the BoCAX1 device (Medigate, Korea).

The Oxford Happiness Inventory was used to measure of happiness with five sections: self-esteem, life satisfaction, efficiency, positive mood, and subjective well-being. It includes 29 item that for each item, the response format used a four-point Likert scale, characterized by corresponding increasing scores, numbered from 0 to 3, for example: 0 (never), 1 (sometimes), 2 (rarely), and 3 (always). The happiness score range is between 0 and 87 and was categorized as low (score: 0 – 39) and high (score: 40 – 87). The reliability and validity of the oxford happiness of the Persian version were estimated by Alipour and Agah Heris (13, 14) in which the Cronbach's α coefficient for questionnaire was 0.93. The Pearson tests was applied to evaluate the correlation of data. For inferential analysis of the data, first, the Kolmogorov–Smirnov test (K–S test) was used to ensure normal distribution of the data. Data were analyzed using SPSS version 22 ($P < 0.05$).

Results

The results show that the age of the students ranged from 19 to 32, with an average of 20.94 ±1.83 years. The average height was 160.66 ± 5.82 cm, while the average body weight was 57.16 ± 10.19 kg. There were

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80.64% (n = 100) for healthy and only 19.36% (n = 24) for low levels of happiness. Demographic characteristics of participating students are presented in Table 1. The percent distribution of muscular mass, body fat, and body mass index (BMI) among the participants of the study measured at the end of course are given in the Figure 1.

Table1. Demographic characteristics of the students participated in the study.

Test Measures	Mean (SD)	Range
Happiness	40.90 (11.34)	24-84
Mean fitness	16.78 (1.78)	11.5-19.75
540m Running (minute, second)	2.01 (0.25)	1.42-2.40
Push-ups (repetition)	21.83 (6.22)	0-32
Sit-ups (repetition)	31.42 (9.27)	0-49
Flexibility (cm)	15.85 (7.67)	-10-35
4 x 9 running (s)	12.70 (0.64)	11.06-14.28
Sargent jump (cm)	32 (4.54)	23-44
Body mass index (BMI)	22.02 (3.60)	16.4-33.2
Muscular mass (kg)	37.45 (5.17)	26.90-49.70
Body fat (%)	29.13 (4.99)	17.90-41.10

SD: Standard deviation

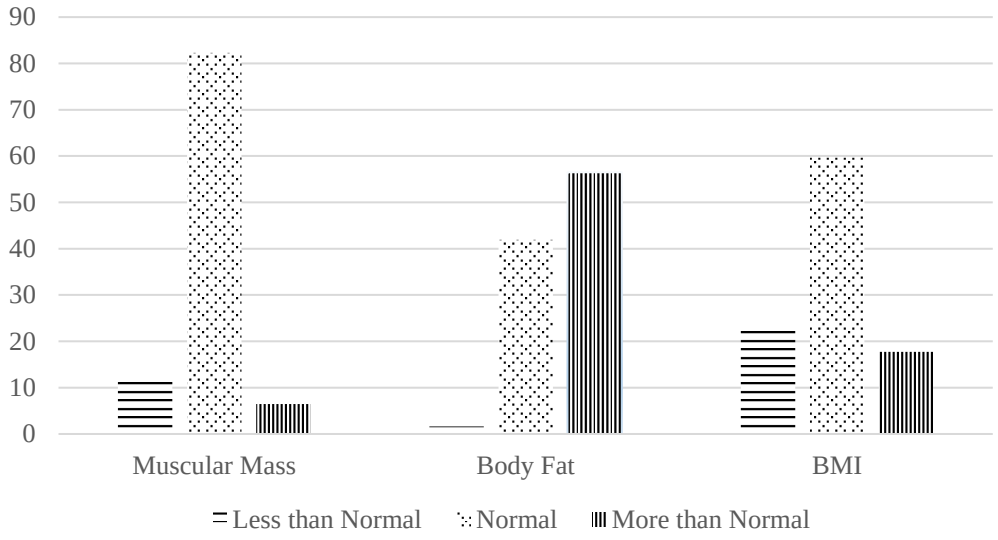


Figure 1. Percent distribution of muscular mass, body fat, and body mass index (BMI) among the participants of the study.

Pearson Correlation coefficient was used to evaluate the association between physical fitness and investigated variables relating to the happiness. As depicted in Table 2, there was a strong and significant relationship between happiness and the variables of the physical fitness. Moreover, the statistical analysis indicated that there is no significant association between happiness and Sargent jumps ($P < 0.05$).

Table 2. Pearson Correlation coefficient between physical fitness and investigated variables of happiness.

Variables	r	P value
Happiness	0.293	0.048*
Body mass index	-0.253	0.05*
Fat (kg)	-0.273	0.035*
540m Running	-0.638	0.00*
Flexibility	0.397	0.02*
Push-ups	0.551	0.00*
Sit-Ups	0.521	0.00*
4 x 9 Running	-0.791	0.00*
Sargent jumps	0.201	0.123

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Discussion

The results of the present study showed a significant relationship between happiness with variables of physical fitness among female students. Studies on the relationship between happiness and physical activity in young populations had similar results. Further research shows that the beneficial effects of exercise on happiness are more important. Results of Samadi (2021) showed that athlete students have better mental health than non-athlete students (15). Also, recent studies have shown that exercise is associated with happiness in the general population (6). Chien-Chang Ho (2022) reported that regular exercise was positively associated with happiness among young men (16). Moreover, Chen (2020) showed a positive effect of higher values of physical fitness on the occurrence of happiness (17).

These results also showed that regular physical activity reduces stress and anxiety and generally improved mental health. While in many searches there is a meaningful difference between athlete and non-athlete groups in the case of happiness; it seems that the major difference between this study and other research is that in most studies, subjects were athletes, but in this study and similar cases, subjects were who did not have any particular activity or they weren't categorized as athletes.

According to recent research, maintaining a high level of fitness helps promote mental health and more importantly, prevents mental diseases and provides suitable conditions to promote the quality of life (9, 10). Increasing physical fitness as a useful indicator affected by exercise and physical activities can increase the mental health of the people of society (18). Therefore, exercise as a stress management technique can reduce stressful symptoms, increase positive emotional states and help increase fitness, and life satisfaction by increasing mental and physical health and happiness (19-21). In other words, a high level of happiness improves mental health and creates a better environment for growth and realization of people`s capabilities in different domains.

Concerning the psychological view, physical activity remains happy and hopeful in life (21). Based on a physiological perspective, participating in physical activity is a means of relaxation, which can promote mental health outcomes such as happiness. It was proposed that happier individuals may be more likely to regularly attend physical activity, than those who are less happy (17, 20)

In Conclusion, this study showed that improving the quality of physical education classes is necessary to promote students' mental and physical health. These results can be considered by university administrators responsible for sports and mental health to plan and develop sports programs and activities as a constructive factor to promote students' mental health, and improving the physical fitness of young people in the university environment should be further emphasized. Although many searches and studies showed physical activity and exercise have a significant effect on promoting the level of happiness in students, there is still no agreement on the type of exercise However, further studies are required on other populations with larger sample sizes. In addition, it seems that different aspects of training including intensity, duration, and type of exercise must be related to the level of happiness, thus the association between aspects of training and happiness must be researched. Ultimately, further studies are needed to better understand the mechanisms and pathways of action that correlate sport and physical activity with happiness.

Acknowledgments

The author thanks the students who agreed to participate in this study.

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