

## Relationship between happiness and different levels of physical activity

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### Abstract

**Introduction.** Happiness is an important factor in human life. **Aim of Study.** The aim of this research was to examine the relationship between happiness and different levels of physical activity of students of the Khorramshahr Marine Science and Technology University in Iran. **Materials and Methods.** The following tests were used in the statistical analysis: t-test, one-way ANOVA and Tukey's range test. The study sample comprised 156 students (53 men, 103 women) selected by way of cluster sampling from the population of all 1,200 students of the Khorramshahr Marine Science and Technology University in the academic year of 2013-2014. The participants completed a demographic questionnaire, physical activity questionnaire, and Oxford Happiness Questionnaire (OHQ) during one session. **Results.** The t-test results revealed non-significant differences in the happiness levels between the male and female students ( $p < 0.05$ ). The results of ANOVA and Tukey's range test showed significant differences in happiness levels between physically active and semi-active students ( $p < 0.01$ ), and between physically active and non-active students ( $p < 0.01$ ). **Conclusions.** Physical activity is an effective determinant of the level of happiness.

**KEYWORDS:** happiness, students, physical activity.

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### Introduction

Happiness is an important factor in human life. A happy person is someone who always feels good about oneself and others, effectively copes with disappointments and weaknesses, never forgets learning, and is always honest with oneself and others [1, 2]. A happy life is full of happiness, trust and commitment. Factors affecting happiness include material conditions and internalization of external knowledge [4]. Encouraging people to take up purposeful activities such as physical activity, being a form of exhilaration of external factors, can help people live healthy and balanced lives [5, 6]. Exercise reduces anxiety and depression; while confidence increases and reinforces the concept of the self [7]. Gladysz, Norris, Nelson & Block [2009] demonstrated that participation in physical activity is an effective way to improve one's physical, mental and emotional health [8]. The feeling of happiness, energy and enthusiasm allows students to relax, and this mode is optimal for them to do their work more efficiently [2]. Students' physical preparation and sports skills are also significant mental factors affecting their academic achievements [9].

Students' performance in sports and physical activities is an important issue in education. Students are not required to express enjoyment in the same way the general public does. In other words, universities are places in which less conventional methods of mass celebration can be observed [10]. Research shows that experiencing joy by young people is important,

especially for students who are a vulnerable group, constituting a significant percentage of our population. The relationship between happiness and physical activity has been often discussed by reserachers. The present study examines this relationship among students of the Khorramshahr University of Marine Science and Technology in Iran.

**Materials and Methods**

A questionnaire survey was used as the main research method in the present study. The study population included 1,700 students of the Khorramshahr University of Marine Science and Technology in the academic year of 2013-2014. The sample consisted of 156 (53 male, 153 female) undergraduate students who had been selected using a stratified sampling method. A special permission to obtain the questionnaire data was secured from the authorities of the Khorramshahr University of Marine Science and Technology. The students were given the questionnaires and were informed in detail about the research objectives and the importance of providing sincere responses to the questionnaire items. They were also informed that all the obtained data will be kept strictly confidential, and were instructed to read the questions carefully before providing answers. Data were analyzed using Pearson’s correlation coefficient. A multiple regression analysis was carried out using SPSS version 22. The measurement instrument consisted of three questionnaires:

1. Personal data questionnaire (age, sex, marital status, educational status, etc.).
2. Oxford Happiness Questionnaire (OHQ) used to measure the happiness level. It had been developed by Argyle & LU in 1990, with reliability of 87% [11]. It included 29 items, each graded from 0 to 3. The scores could range from 0 to 87: 0-28 – low happiness level, 29-57 – average happiness level, and 58-87 – high happiness level.
3. Physical Activity Questionnaire assessing students’ daily physical activity. The students were divided

into three groups: passive, semi-active, and active. Passive students were those who were physically active for less than a month. Active students were those who were physically active for more than six months in a year and for at least thirty minutes a day for five days a week, or for at least sixty minutes a day, three days a week. The students whose levels of physical activity fell between the passive and active students were considered semi-active.

**Results and Discussion**

The students’ descriptive statistics are presented in Table 1.

**Table 1.** Students’ descriptive statistics

	Individual characteristics	Number	Percent
Sex	Male	53	34%
	Female	103	66%
Marital status	Single	136	87.2%
	Married	20	12.8%
Employment	Unemployed	144	92.3%
	Employed	12	7.7%
Residence	Student accommodation	117	75%
	Mortgage or rent	6	3.8%
	Home	33	21.2%

As shown in Table 1, women constituted 66% of the sample. 87.2% students were single, 92.3% were unemployed, and 75% lived in student accommodation. The *t*-test results revealed no significant differences in the level of happiness between male and female students of the Khorramshahr University of Marine Science (*t* = 0.22, sig = 0.82). The level of happiness of all students was (47.67), and the mean happiness level of male students was (47.96), i.e. slightly higher than the female students’ (47.52).

**Table 2.** Descriptive statistics and t-test results. Comparison of happiness levels between male and female students

Scale	Frequency	Mean	SD	Min.	Max	<i>t</i>	Significant
Total	156	47.67	11.54	17	77	0.22	0.82
Female	103	47.52	11.95	17	77		
Male	53	47.96	10.79	25	71		

**Table 3.** ANOVA regression analysis to predict happiness based on the amount of physical activity

Scale	Sum of squares	df	Mean square	F	<i>p</i> value
Regression	2408.17	1	2408.17	20.37	$p \leq 0.001$
Remaining	17516.906	148	118.357		
Total	19925.073	149			

Based on data from Table 3 at the 5% error level (sig = 0.000) a significant regression relationship between happiness and physical activity can be noted. Happiness is the dependent variable, while physical activity is the independent variable.

**Table 4.** Physical activity and happiness of students

Physical activity level happiness level	Inactive	Semi- active	Active	Total
High	6	16	7	29
Medium	44	57	13	114
Low	11	1	1	13
Total	61	74	21	156

According to Table 4, 8.3% ( $n = 13$ ) of the examined students displayed low levels of happiness, 73.1% ( $n = 114$ ) moderate levels, and 18.6% ( $n = 29$ ) high levels of happiness. 13.5% of students ( $n = 21$ ) were physically active, 47.4% ( $n = 74$ ) semi-active, and 39.1% ( $n = 61$ ) inactive. Tukey's test was used to examine differences between the groups. The test results revealed that the level of happiness of active students (53.1) and semi-active students (50.7) was identical (5% error level), but it was significantly different in comparison with inactive students (42.9). Also a statistically significant association was found between happiness and individual characteristics such as marital status, gender, employment and residence status of students of the Khorramshahr University of Marine Science and Technology.

### Conclusions

This study aimed to evaluate the happiness level and its association with physical activity in students of the Khorramshahr University of Marine Science and Technology in Iran. Physical activity was found to be a significant factor in the observed level of happiness. The results of statistical analysis showed the overall mean score of students' happiness at 47.67. No

significant differences in the happiness level of male and female students of the Khorramshahr University of Marine Science and Technology were found, therefore gender was not a factor. The results of the present study are consistent with the results of 12, 13, 4, 14 and 15. The level of happiness of male students (47.96) was slightly higher than female students (47.52), but not significant. Diener et al. (1984) explain this by the negative effect of emotions and positive effect of experience on both sexes [16].

The study also found that physically active and semi-active students displayed higher happiness levels compared with their inactive counterparts, and the difference was statistically significant. These results are consistent with those of 17, 18, 19 and 20. Also Ghasemi, Abedi & Bagheban [21] found that physical health was one of the causes of happiness. In addition, people are motivated to participate in sporting activities to a high degree. Health, fitness, happiness, social relationships and disease prevention are the major reasons for participation in sport, rather than strictly adhering to the Olympic motto (faster, higher, stronger). Also competing, and winning and losing in sports, played a minimal role in their motivation [22].

Research has shown [23] that physical activity is beneficial for treatment of light to severe depression and perceived stress associated atrophy. Moderate-to-vigorous physical activity can be used to counteract the feeling of anxiety. During extreme sport exercise the amount of released endorphins increases, which is why athletes feel happy and relaxed after doing certain exercises. Given the similarities between endorphins and opiate compounds, exercise can substitute for substance abuse by tobacco users. Exercise can relieve fatigue and increase vitality and happiness. It also accelerates blood circulation and respiratory activity and strengthens muscles. Individuals who seek to strengthen their bodies feel that their ability has increased and that things can be made easier for them [24, 25]. Researchers had shown a broad impact of the leisure-time physical activity on mental health (Department of Health and Human Services America 1996, after Khosravi et al. 2012) [26].

Studies have shown that physical exercise can prevent abuse of tobacco and alcohol by young people. Also, according to experts, quitting smoking can decrease the stress levels. And since exercise is important for reducing stress and increasing happiness it can be an effective activity for people in the process of quitting

smoking [28]. The results of the present study reveal that demographic factors such as marital status, gender, employment and residence status make only a small contribution to the level of happiness. This corresponds to the results by Lyubomirsky (2001) [4]. However, in some studies, e.g. Khosravi, Hadavi & Farahani (2010) and Buss (2000), marital happiness can be tied to marital status [26, 29]. In the present study only a small percentage of students were married, and no significant correlation with between happiness and marital status was found.

Researchers have shown that physical activity can increase the level of happiness and positively affect students' mental health and academic performance [19]. The creation of an environment for physical activity is considered important for students to develop and live a healthy lifestyle. It is hoped the results of the study will draw more and more attention to happiness and physical activity as factors affecting this type of environment in the Khorramshahr University of Marine Science and Technology. In addition, it is suggested that a version of the happiness scale for different Iranian populations should be designed.

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