

## Sportive university students and life satisfaction

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### Abstract

The aim of this study was to investigate the levels of life satisfaction of individuals participating in sports or physical activity within the scope of gender, age, income status, parental education level and active sports. The sample of the study consisted of 442 people from Kastamonu Province. Parametric analysis methods were used to analyse the data. Independent *t*-test was used to determine the difference between two groups and one-way analysis of variance was used to determine the difference between two groups. According to the findings, there was no statistically significant difference between age and income status. In other words, life satisfaction levels of the participants were found to be high. The highest mean subscale was found to be the relationship satisfaction dimension with a mean of  $\bar{X} = 4.90$  and the lower mean was the overall life satisfaction sub-dimension with a mean of  $\bar{X} = 3.50$ . In parallel with this situation, it was determined that life satisfaction levels of the participants varied according to different variables.

**Keywords:** Life satisfaction, physical activity, sport, students, university.

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## 1. Introduction

The concept of life satisfaction, which was introduced during the 18th century Enlightenment period, was interpreted as a criterion of providing good life to people until the 19th century, and towards the end of the 20th century, intellectuals tried to create an appropriate definition of life satisfaction envisioning the components and measurements of good life (Prasoon & Chaturvedi, 2016). In this process, extensive academic studies and conceptual theories on the subject were introduced (Alfonso, Allison & Dunn 1992; Andrews & Robinson, 1991; Myers & Diener, 1995; Stock, Okun & Benin, 1986).

Scientists have expressed phenomena such as social relations, health, working life, personal well-being, freedom and moral values as parameters of life satisfaction (Glatzer, 1991). In addition, there is more than one definition in the literature regarding life satisfaction.

- Life satisfaction is expressed as an individual having a positive mindset towards living conditions and providing a balanced life expectancy (Sumner, 1966).
- Neugarten, Havighurst & Tobin (1961) expressed the concept of life satisfaction as the situation resulting from the comparison between what an individual expects from life and what he / she has in life.
- The concept of satisfaction with life is interpreted in two different ways: firstly, as having the necessary conditions for a good life, and secondly, as realising good life activities (Saris, Veenhoven, Scherpenzeel & Bunting, 1996).

In the process of evaluating the concept of life satisfaction, although some scientists have evaluated the life satisfaction of an individual from the perspective of other people towards the individual, today this situation is evaluated within the scope of the individual's own subjective evaluation (Theofilou, 2013).

It is thought that health phenomenon has an important place among life satisfaction parameters. In the literature, it is stated that there is a positive relationship between life satisfaction and health (Goel, Rosella, Fu & Alberga, 2018; In-sil, 2015; Palmore & Luikart, 1972; Yoo, Yang & Park, 2015). In this sense, it is expected that healthy people have a higher life satisfaction.

Lack of physical activity causes many physical and mental problems for individuals (WHO, 2003). It causes mental and physical problems such as diabetes, heart diseases, obesity, sleep problems, depression and lack of motivation. In this context, the life satisfaction level of the individual also decreases. In today's world, especially in 'Western' societies, individuals' chances of moving are even less due to the developing technology (TV, computer, social media etc.) and the increase in their financial well-being (Sallis & Glanz, 2009). Studies have revealed that physical activity had declined rapidly around the world (Ng & Popkin, 2012).

In general, it is expected that there is a positive relationship between engaging in sports and life satisfaction, as the relationship between physical activity or sports and a healthy life is positive (Tukaiev et al, 2019). In addition to the negative aspects of scientific developments, it is observed that people have become more interested in the phenomenon of quality of life due to the improvement in living standards and the possibility of a practical lifestyle (Song, Song & Jang, 2012).

The benefits of engaging in sports have been evaluated within the scope of mental and physical health in the relevant literature. It is stated that engaging in sports has a positive effect on the decrease in stress level, increase in self-confidence, increase in cognitive functioning level, as well as the secretion of serotonin hormone which is expressed as the happiness hormone (Biddle, 2016; Hassan & Amin, 2011; Heijnen, Hommel, Kibele & Colzato, 2016; Young, 2007).

In addition, it is stated in the literature that the concept of happiness and engaging in sports have a positive relationship (Huang & Humphreys, 2012; Ruseski, Humphreys, Hallman, Wicker & Breuer, 2014). When the physical benefits of engaging in sports are evaluated, it is stated in the relevant literature that engaging in sports is effective against ailments such as cardiovascular diseases, immunity, blood pressure, osteoporosis and cancer (Caspersen, Powell & Christenson, 1985; Miles, 2007; Warburton, Nicol & Bredin, 2006). The period of university education can be a stressful and challenging period for people who are the closest to the point of starting a new life (Yasar & Turgut, 2019; 2020). In this context, measuring the life satisfaction of university students is important to determine the life motivation of future generations.

As a result of the evaluations and literature review, it was thought that there might be a relationship between participating in sports or physical activity and life satisfaction, and the purpose of the study was to investigate the life satisfaction levels of people who engage in sports within the scope of age, income level, sports activities and gender.

## 2. Method

### 2.1. Participants

The universe of the research consisted of university students living in Kastamonu who regularly engage in sports or physical activity. The sample of the study, on the other hand, consisted of 442 university students living in Kastamonu Province and who engage in sports or physical activity regularly. According to Krejcie and Morgan (1970), the lowest sample number to be taken from the highest population number with a tolerance error margin of '0.05' is 384. In this context, the sample size is considered to be sufficient.

In the scope of the research, the convenience sampling method was chosen. This sampling method was chosen to select the universe of the study in accordance with the researcher's own judgments and eligibility criteria (Etikan, Musa & Alkassim, 2016). The purpose of choosing the convenience sampling method in the research is to reach more participants.

Table 1. Personal information of the participants

		Groups	(f)	(%)
Gender	Male		226	51.1
	Female		216	48.9
Age	18–21		232	52.5
	22–24		125	28.3
	25 and above		85	19.2

	0–100 \$	127	28.7
Income level	101–200 \$	136	30.8
	200 \$ and above	179	40.5
	Sport School (BESYO)	132	29.9
Sports branch	Football	82	18.6
	Basketball	76	17.2
	Volleyball	79	17.9
	Martial arts	73	16.5
	Others	226	51.1
Total		442	

### 2.2. Data collection tool

A data collection tool consisting of two parts was used in the research. In the first part of the data collection, the questionnaire consisted of personal information of the participants, and in the second part, the Life Satisfaction Scale developed by Kaba, Erol and Guc. (2018), consisting of 21 items and 5 sub-dimensions, was used with permission from the corresponding author.

### 2.3. Data collection and analysis

The data collection tool was administered to the university students individually. Participation in the research during the data collection process was carried out on a voluntary basis. No fees were charged or given to the participants.

In analysing the data, firstly, the demographic information of the participants and the frequency and percentage analysis for the answers to the questions were obtained. Then, it was examined whether the answers given in the data collection tool differed according to variables such as age, gender, income status and sports branch. Data normality was checked and it was determined that the data showed a normal distribution. In this context, parametric analysis methods were used in the data analysis. Independent *t*-test was used to determine the difference between groups and one-way analysis of variance was used to determine the difference between more than two groups. Scheffe's analysis, one of the *post-hoc* tests, was used to determine which group caused a difference between more than two groups.

## 3. Results

According to the analysis of the data obtained from the Life Satisfaction Scale's total score and sub-dimensions of the participants, it was determined that the data in both the total score and in all sub-dimensions showed normal distribution according to Skewness and Kurtosis values (+1.96 / -1.96). In this sense, parametric analysis methods were used in the data analysis (Can, 2016).

Table 2. Skewness and kurtosis values of the total score and sub-dimensions of the life satisfaction scale

Sub-dimensions	$\bar{X}$	Ss	Skewness	Kurtosis
General life satisfaction	3.50	0.19	-0.507	0.116
Relationship satisfaction	4.90	0.21	-1.004	0.116
Self-satisfaction	4.07	0.14	-0.906	0.116
Social environment satisfaction	3.38	0.14	-0.415	0.116
Job satisfaction	3.44	0.16	-0.582	0.116
Total	3,72	0.61	-0.633	0.116

$p < 0.05$ .

As a result, the total mean score of the participants was determined at the level of  $X = 3.72$ . In other words, the life satisfaction levels of the participants were determined to be high.

Table 3. *t*-test results according to the gender of the participants

Sub-dimensions	Gender	<i>n</i>	$\bar{X}$	Ss	<i>p</i>	Difference
General life satisfaction	Male	226	3.50	0.72	0.862	-
	Female	216	3.49	0.66		
Relationship satisfaction	Male	226	4.80	0.95	0.021	2 > 1
	Female	216	5.00	0.81		
Self-satisfaction	Male	226	4.01	0.81	0.063	-
	Female	216	4.14	0.73		
Social environment satisfaction	Male	226	3.38	0.99	0.931	-
	Female	216	3.39	1.07		
Job satisfaction	Male	226	3.45	1.10	0.947	-
	Female	216	3.44	1.15		
Total	Male	226	3.69	0.63	0.334	-
	Female	216	3.75	0.59		

$p < 0.05$ .

The average scores of the participants included in the study from the Life Satisfaction Scale according to the gender variable and the average scores obtained from the sub-dimensions are presented in Table 3.

According to the results, only in the relationship sub-dimension the mean scores of female participants were found to be higher than the average scores of male participants. It was determined that the total score that

the participants obtained from the Life Satisfaction Scale and from the other sub-dimensions showed that the life satisfaction levels of female participants in general were higher.

Table 4. ANOVA results by age of the participants

Sub-dimensions	Age	<i>n</i>	$\bar{X}$	Ss	<i>p</i>	Difference
General life satisfaction	18–21	232	3.46	0.70	0.356	-
	22–24	125	3.51	0.63		
	25 age and Above	85	3.58	0.76		
Relationship satisfaction	18–21	232	4.75	0.86	0.082	-
	22–24	125	4.89	0.95		
	25 age and Above	85	4.97	0.85		
Self-satisfaction	18–21	232	4.07	0.72	0.965	-
	22–24	125	4.07	0.79		
	25 age and Above	85	4.09	0.89		
Social environment satisfaction	18–21	232	3.37	1.01	0.948	-
	22–24	125	3.37	1.03		
	25 age and above	85	3.41	1.12		
Job satisfaction	18–21	232	3.41	1.14	0.780	-
	22–24	125	3.45	1.02		
	25 age and above	85	3.50	1.24		
Total	18–21	232	3.70	0.58	0.809	-
	22–24	125	3.72	0.61		
	25 age and Above	85	3.76	0.70		

$p < 0.05$ .

The average scores of the participants included in the study from the Life Satisfaction Scale according to the age variable and the average scores obtained from the sub-dimensions are presented in Table 4. According to the results, no statistically significant difference was found between the total score of the Life Satisfaction Scale and the mean scores of all sub-dimensions. Nevertheless, as a result of the analysis, it was found that the age of the participants increased with their life satisfaction.

Table 5. ANOVA results by income of the participants

Sub-dimensions	Income	<i>n</i>	$\bar{X}$	Ss	<i>p</i>	Difference
General life satisfaction	0–100 \$	127	3.51	0.75	0.107	-
	101–200 \$	136	3.40	0.68		
	200 \$ and Above	179	3.56	0.64		
Relationship satisfaction	0–100 \$	127	4.80	0.96	0.341	-
	101–200 \$	136	4.90	0.81		
	200 \$ and Above	179	4.96	0.89		
Self-satisfaction	0–100 \$	127	4.11	0.78	0.791	-
	101–200 \$	136	4.08	0.77		
	200 \$ and above	179	4.05	0.78		
Social environment satisfaction	0–100 \$	127	3.48	1.01	0.433	-
	101–200 \$	136	3.32	1.05		
	200 \$ and above	179	3.35	1.03		
Job satisfaction	0–100 \$	127	3.44	1.14	0.985	-
	101–200 \$	136	3.46	1.11		
	200 \$ and above	179	3.43	1.13		
Total	0–100 \$	127	3.72	0.64	0.687	-
	101–200 \$	136	3.68	0.57		
	200 \$ and above	179	3.74	0.62		

$p < 0.05$ .

The average scores of the participants included in the study from the Life Satisfaction Scale according to the income variable and the average scores obtained from the sub-dimensions are presented in Table 5. According to the results, no statistically significant difference was found between the total score of the Life Satisfaction Scale and the average scores of all sub-dimensions of the participants according to the income level variable. Among the total score and sub-scale scores obtained by the participants from the scale, close values were obtained within the scope of the Life Satisfaction Scale. Although there was no statistically significant difference in the total mean scores of the participants, the highest average scores were found in

the income levels of 200 \$ and above, **0–100 \$** and **100–200 \$**, respectively.

Table 6. ANOVA results according to the sports branch of the participants

Sub dimensions	Sports branch	<i>n</i>	$\bar{X}$	<i>Ss</i>	<i>p</i>	Difference
General life satisfaction	Football	132	3.55	0.70	0.227	-
	Basketball	82	3.44	0.75		
	Volleyball	76	3.45	0.55		
	Martial arts	79	3.40	0.70		
	Others	73	3.62	0.71		
Relationship satisfaction	Football	132	4.87	0.98	0.429	-
	Basketball	82	4.83	0.86		
	Volleyball	76	4.85	0.84		
	Martial arts	79	4.85	0.79		
	Others	73	4.81	0.87		
Self-satisfaction	Football	132	4.16	0.82	0.787	-
	Basketball	82	4.02	0.83		
	Volleyball	76	4.08	0.66		
	Martial arts	79	4.07	0.70		
	Others	73	4.10	0.82		
Social environment satisfaction	Football	132	3.46	0.97	0.738	-
	Basketball	82	3.44	0.98		
	Volleyball	76	3.42	1.07		
	Martial arts	79	3.30	1.00		
	Others	73	3.26	1.20		
Job satisfaction	Football	132	3.71	0.90	0.005	1 > 3.4
	Basketball	82	3.48	1.15		
	Volleyball	76	3.28	1.28		
	Martial arts	79	3.16	1.10		
	Others	73	3.40	1.23		
	Football	132	3.76	0.62	0.657	-
	Basketball	82	3.75	0.64		



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Total	Volleyball	76	3.70	0.57
	Martial arts	79	3.63	0.56
	Others	73	3.74	0.66

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$p < 0.05$ .

The average scores of the participants included in the study from the Life Satisfaction Scale according to the sports branch variable and the average scores obtained from the sub-dimensions are presented in Table 6. According to the results obtained, a statistically significant difference was found in favour of the football group and against the defence sports and other sports branches only in the job satisfaction sub-dimension, according to the scores of the participants from the Life Satisfaction Scale.

It has been determined that the football branch generally has a higher average than the other branches in the total score and sub-score averages of the participants according to the sports branch variable. Although there was no statistically significant difference in the total score averages of the participants, the highest average scores were found in the groups of football, basketball, other sports branches, volleyball and defence sports, respectively.

#### 4. Discussion

According to the findings of the study, it was determined that female participants have higher life satisfaction levels than male participants according to the gender variable. In parallel with this finding, it is seen in the studies conducted by Giusta, Jewell & Kambhampati (2011) and Lu (2000) that the level of life satisfaction between the sexes is higher among females. In addition to these, there are studies claiming that the level of life satisfaction does not differ between genders (Chan, Miller & Tcha. 2005). It is thought that the source of the difference may be related to the mismatch between the quality and cultural characteristics of the measured groups. In the study conducted by Capri (2017), the life satisfaction levels of the participants according to the gender variables were examined and it was found that the life satisfaction levels of female participants were higher than that of male participants. In this context, it is seen that there is a similarity between the results of the research conducted by Capri (2017) and the results of this research according to the gender variable.

As a result of the studies, it was observed that as the average age of the participants increased, their level of life satisfaction increased. When the relevant literature is examined, it can be seen that there are differences between the results of the studies in this scope. When the results of the research conducted by Myers and Diener (1995) were examined, it was stated that age and life satisfaction may vary in certain stages of human life. According to the results of the study conducted by Bengtson, Reedy & Gordon. (1985), no statistically significant difference was found among the life satisfaction levels of the participants according to the age variable. In a study conducted by Ryff (1989), in support of the research findings, it was determined that the life satisfaction rate increases as age increases.

According to the findings obtained from the participants, no significant difference was found between the life satisfaction levels and income levels of the participants. According to the results of the studies conducted by Chow (2005), Moller (1996) and Paolini, Yanez and Kelly. (2006), it was determined that life satisfaction varies according to income level and subjective well-being increases as income increases. According to the results of the study conducted by Mafini (2017), no statistically significant difference was

found between the income status and life satisfaction levels of the participants. The reason for obtaining different results among the related studies shows that life expectancy and needs of the individuals participating in the research differ.

In the results obtained in the sports branch, it was found that the average scores of the football branch participants in the sub-dimension of job satisfaction were higher. When the total scores are considered, it is seen that the football branch has a higher average compared to other branches. The reason for this result is thought to be related to the intense interest and demand of the society in the football branch.

As a result, the total mean score of the participants was determined at the level of  $X = 3.72$ . In other words, the life satisfaction levels of the participants were determined to be high. The sub-dimension with the highest average was determined as relationship satisfaction with the mean of  $X = 4.90$ , and the sub-dimension with the lowest average was determined as the general life satisfaction sub-dimension with an average of  $X = 3.50$ .

It has been stated that the concept of life satisfaction has an important place in the lives of individuals and varies according to different variables. In parallel with this situation, it has been determined in the results of the research that the life satisfaction levels of the participants vary according to different variables. In particular, it was found that active sportsmanship has a positive relationship with life satisfaction.

## 5. Conclusion and recommendation

Providing life satisfaction is seen as an increasingly difficult concept for people. Especially for university students, who are in the process of guiding and developing their lives, enjoying life and creating motivation for the future are very important processes. Despite this, physical activity and sports activities performed in this difficult process make a significant contribution to the mental and physical health of people. Therefore, it is important for people to participate in sports and physical activities and to make this participation process permanent. Based on the findings of the current research, the life satisfaction levels of people who engage in sports were found to be above the average score.

In addition, it is thought that conducting similar studies with participants from different cultures in the future will be important in determining the effect of cultural differences on life satisfaction. In addition, data were obtained from university students who actively engaged in sports in the study, and in future studies, measuring the life satisfaction of people who do not engage in sports or who are not students may be effective in comparing the relationship between sports and physical activity with life satisfaction.

## References

- Alfonso, V. C., Allison, D. B. & Dunn, G. M. (1992). Sexual fantasy and satisfaction: a multidimensional analysis of gender differences. *Journal of Psychology & Human Sexuality*, 5(3), 19–37. doi:[10.1300/J056v05n03\\_03](https://doi.org/10.1300/J056v05n03_03)
- Andrews, F. M. & Robinson, J. P. (1991). Measures of subjective well-being. *Measures of personality and social psychological attitudes*, 1, 61–114, doi:[10.1016/B978-0-12-590241-0.50007-1](https://doi.org/10.1016/B978-0-12-590241-0.50007-1)

- Turgut, M. (2021). Sportive university students and life satisfaction. *Cypriot Journal of Educational Science*. *Cypriot Journal of Educational Science*, 16(1), 423-435 <https://doi.org/10.18844/cjes.v16i1.5545>
- Bengtson, V. L., Reedy, M. N. & Gordon, C. (1985). *Aging and self-conceptions: personality processes and social contexts*. In J. E. Birren & K. W. Schaie (Eds.), *The handbooks of aging. Handbook of the psychology of aging* (pp. 544–593). New York, NY: Van Nostrand Reinhold Co.
- Biddle, S. (2016). Physical activity and mental health: evidence is growing. *World Psychiatry*, 15(2), 176–177. doi:[10.1002/wps.20331](https://doi.org/10.1002/wps.20331)
- Can, A. (2016) *Scientific data analysis in scientific research process with SPSS* (4th ed.). Pegem Academy. ISBN: 987-605-364-448-4.
- Capri, B. (2017). The investigation of general self-efficacy beliefs and life satisfaction of the job and vocational counselor education candidates' in terms of socio-demographic variables. *New Trends and Issues Proceedings on Humanities and Social Sciences [Online]*. 03, 25–33. Retrieved from [www.prosoc.eu](http://www.prosoc.eu)
- Caspersen, C. J., Powell, K. E. & Christenson, G. M. (1985). Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public health reports*, 100(2), 126–131. Retrieved from <https://www.jstor.org/stable/20056429>
- Chan, G., Miller, P. W. & Tcha, M. (2005). Happiness in university education. *International Review of Economics Education*, 4(1), 20–45. doi:[10.1016/S1477-3880\(15\)30139-0](https://doi.org/10.1016/S1477-3880(15)30139-0)
- Chow, H. P. (2005). Life satisfaction among university students in a Canadian prairie city: a multivariate analysis. *Social Indicators Research*, 70(2), 139–150. doi:[10.1007/s11205-004-7526-0](https://doi.org/10.1007/s11205-004-7526-0)
- Etikan, I., Musa, S. A. & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. doi: 10.11648/j.ajtas.20160501.11
- Giusta, D. M., Jewell, S. L. & Kambhampati, U. S. (2011). Gender and life satisfaction in the UK. *Feminist Economics*, 17(3), 1–34. doi:[10.1080/13545701.2011.582028](https://doi.org/10.1080/13545701.2011.582028)
- Glatzer, W. (1991). Quality of life in advanced industrialized countries: the case of West Germany. *Subjective Well-Being: An Interdisciplinary Perspective*. Oxford, UK: Pergamon (pp. 261–279). Retrieved from [https://worlddatabaseofhappiness-archive.eur.nl/hap\\_bib/freetexts/strack\\_f\\_1991.pdf#page=269](https://worlddatabaseofhappiness-archive.eur.nl/hap_bib/freetexts/strack_f_1991.pdf#page=269)
- Goel, V., Rosella, L. C., Fu, L. & Alberga, A. (2018). The relationship between life satisfaction and healthcare utilization: a longitudinal study. *American Journal of Preventive Medicine*, 55(2), 142–150. doi:[10.1016/j.amepre.2018.04.004](https://doi.org/10.1016/j.amepre.2018.04.004)
- Hassan, E. A. H. & Amin, M. A. (2011). Pilates exercises influence on the serotonin hormone, some physical variables and the depression degree in battered women. *World Journal of Sport Sciences*, 5(2), 89–100. ISSN 2078-4724
- Heijnen, S., Hommel, B., Kibele, A. & Colzato, L. S. (2016). Neuromodulation of aerobic exercise—a review. *Frontiers in Psychology*, 6, 1890. doi:[10.3389/fpsyg.2015.01890](https://doi.org/10.3389/fpsyg.2015.01890)
- Huang, H. & Humphreys, B. R. (2012). Sports participation and happiness: evidence from US microdata. *Journal of Economic Psychology*, 33(4), 776–793. doi:[10.1016/j.joep.2012.02.007](https://doi.org/10.1016/j.joep.2012.02.007)
- In-Sil, P., Ji-Young, K., Soon-Jeong, C. & Hyun-Jung, P. (2015). The relationship between wellbeing tendency, health consciousness, and life satisfaction among local community dance program participants. *Procedia-Social and Behavioral Sciences*, 205, 211–220. doi:[10.1016/j.sbspro.2015.09.061](https://doi.org/10.1016/j.sbspro.2015.09.061)
- Kaba, I., Erol, M. & Guc, K. (2018). Development of adults life satisfaction scale. *Anadolu University Journal of Social Sciences*, 18(1), 1–14. doi:[10.18037/ausbd.550232](https://doi.org/10.18037/ausbd.550232)
- Krejcie, R. V. & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. doi:[10.1177/001316447003000308](https://doi.org/10.1177/001316447003000308)

- Turgut, M. (2021). Sportive university students and life satisfaction. *Cypriot Journal of Educational Science*. *Cypriot Journal of Educational Science*, 16(1), 423-435 <https://doi.org/10.18844/cjes.v16i1.5545>
- Lu, L. (2000). Gender and conjugal differences in happiness. *The Journal of Social Psychology*, 140(1), 132–141. [doi:10.1080/00224540009600451](https://doi.org/10.1080/00224540009600451)
- Mafini, C. (2017). Economic factors and life satisfaction: trends from South African Communities. *Acta Universitatis Danubius. Œconomica*, 13(3). Retrieved from <https://EconPapers.repec.org/RePEc:dug:actaec:y:2017:i:3:p:155-168>
- Miles, L. (2007). Physical activity and health. *Nutrition Bulletin*, 32(4), 314–363. [doi:10.1111/j.1467-3010.2007.00668.x](https://doi.org/10.1111/j.1467-3010.2007.00668.x)
- Moller, V. (1996). Life satisfaction and expectations for the future in a sample of university students: a research note. *South African Journal of Sociology*, 27(1), 16–26. [doi:10.1080/02580144.1996.10430699](https://doi.org/10.1080/02580144.1996.10430699)
- Myers, D. G. & Diener, E. (1995). Who is happy? *Psychological Science*, 6(1), 10–19. [doi:10.1111%2Fj.1467-9280.1995.tb00298.x](https://doi.org/10.1111%2Fj.1467-9280.1995.tb00298.x)
- Neugarten, B. L., Havighurst, R. J. & Tobin, S. S. (1961). The measurement of life satisfaction. *Journal of Gerontology*. Retrieved from <https://psycnet.apa.org/doi/10.1093/geronj/16.2.134>
- Ng, S. W. & Popkin, B. M. (2012). Time use and physical activity: a shift away from movement across the globe. *Obesity Reviews*, 13(8), 659–680. [doi:10.1111/j.1467-789X.2011.00982.x](https://doi.org/10.1111/j.1467-789X.2011.00982.x)
- Palmore, E. & Luikart, C. (1972). Health and social factors related to life satisfaction. *Journal of Health and Social Behavior*, 68–80. [doi:10.2307/2136974](https://doi.org/10.2307/2136974)
- Paolini, L., Yanez, A. P. & Kelly, W. E. (2006). An examination of worry and life satisfaction among college students. *Individual Differences Research*, 4(5), 331–339. ISSN: 1541-745X
- Prasoon, R. & Chaturvedi, K., R. (2016). Life satisfaction: a literature review. *The Researcher-International Journal of Management Humanities and Social Sciences*, 1(2), 25–32. Retrieved from <https://pdf4pro.com/view/life-satisfaction-a-literature-review-the-researcher-2b50c3.html>
- Ruseski, J. E., Humphreys, B. R., Hallman, K., Wicker, P. & Breuer, C. (2014). Sport participation and subjective well-being: instrumental variable results from German survey data. *Journal of Physical Activity and Health*, 11(2), 396–403. [doi:10.1123/jpah.2012-0001](https://doi.org/10.1123/jpah.2012-0001)
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069. Retrieved from <https://psycnet.apa.org/doi/10.1037/0022-3514.57.6.1069>
- Sallis, J. F. & Glanz, K. (2009). Physical activity and food environments: solutions to the obesity epidemic. *The Milbank Quarterly*, 87(1), 123–154. [doi:10.1111/j.1468009.2009.00550.x](https://doi.org/10.1111/j.1468009.2009.00550.x)
- Saris, W., Veenhoven, R., Scherpenzeel, A. C. & Bunting, B. (1996). *A comparative study of Europe* (pp. 11–48). Erasmus University Pres.
- Song, B. N., Song, K. S. & Jang, S. H. (2012). Health promotion lifestyle to the selection factors of dental institutions among some office workers. *Journal of Korean society of Dental Hygiene*, 12(1), 179–187. [doi:10.13065/jksdh.2012.12.1.179](https://doi.org/10.13065/jksdh.2012.12.1.179)
- Stock, W. A., Okun, M. A. & Benin, M. (1986). Structure of subjective well-being among the elderly. *Psychology and Aging*, 1(2), 91. [doi: 10.1037//0882-7974.1.2.91](https://doi.org/10.1037//0882-7974.1.2.91)
- Sumner, L.W. (1996). *Welfare, happiness and ethics* (p. 239). New York: Clarendon Press. Retrieved from <http://hdl.handle.net/10822/889454>
- Theofilou, P. (2013). Quality of life: definition and measurement. *Europe's Journal of Psychology*, 9(1), 150–162. [doi:10.5964/ejop.v9i1.337](https://doi.org/10.5964/ejop.v9i1.337)

- Turgut, M. (2021). Sportive university students and life satisfaction. *Cypriot Journal of Educational Science*. *Cypriot Journal of Educational Science*, 16(1), 423-435 <https://doi.org/10.18844/cjes.v16i1.5545>
- Tukaiev, S., Dolgova, O., Lysenko, O., Fedorchuk, S., Havrylets, Y., Rizun, V., Vasheka & Tol, A. (2019). Amateur sport and emotional burnout formation in high school students. *Contemporary Educational Researches Journal*, 9(4), 103–109. doi:10.18844/cerj.v9i4.4328
- Warburton, D. E., Nicol, C. W. & Bredin, S. S. (2006). Health benefits of physical activity: the evidence. *Cmaj*, 174(6), 801–809. doi:10.1503/cmaj.051351
- World Health Organization. (2003). *Health and development through physical activity and sport* (No. WHO/NMH/NPH/PAH/03.2). Geneva, Switzerland: World Health Organization. Retrieved from [https://apps.who.int/iris/bitstream/handle/10665/67796/WHO\\_NMH\\_NPH\\_PAH\\_03.2.pdf](https://apps.who.int/iris/bitstream/handle/10665/67796/WHO_NMH_NPH_PAH_03.2.pdf)
- Yasar, O. M. & Turgut, M. (2019). Sport science college students and career stress. *Cypriot Journal of Educational Science*, 14(4), 580–589. doi:10.18844/cjes.v11i4.4383
- Yasar, O., M. & Turgut, M. (2020). Unemployment anxiety of last year college students. *Cypriot Journal of Educational Science*, 15(1), 056–064. doi:10.18844/cjes.v15i1.4588
- Yoo, C., Yang, Y. & Park, S. (2015). A study on physical status and life satisfaction of workers. *Journal of Physical Therapy Science*, 27(8), 2423–2424. doi:10.1589/jpts.27.2423
- Young, S. N. (2007). How to increase serotonin in the human brain without drugs. *Journal of Psychiatry & Neuroscience: JPN*, 32(6), 394. Retrieved from <https://search.proquest.com/openview/2562a7e51a9adb18712a736310e23781/1?pq-origsite=gscholar&cbl=30201>