

## THE IMPACT OF LEISURE SPORTS ACTIVITIES ON THE INDEX OF QUALITY OF LIFE IN ADULTS

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### ABSTRACT

**Objective:** *The objective of this article is to show, in a declarative and comparative manner, the impact of recreational sports activities on quality of life index in adults, who perform leisure sports activities and for those who do not practice. The question of this study is: the leisure sport activities have an impact on the index of quality of life, in adults?*

**Methods:** *The study was conducted between October 2012, March 2013 on a sample of 500 adults, who responded to a survey questionnaire, for the evaluation of the quality of life, with the name Short form (SF – 36), of whom 318 individuals perform leisure sports activities and 182 do not perform this kind of activities. The age range of our subjects undergoing our research is 25–49 years.*

**Results:** *Out of the total subject population, (N= 500), for those who practice sports activities (N= 318), quality of life is good for 51.1% and satisfactory for 45.9%. For the persons which do not perform sports activities (N=182), 49.5% have a satisfactory quality of life, however, for 45.1% the quality of life is unsatisfactory and only for 5.5%, the quality of life is good.*

**Conclusions:** *The adult persons that perform sports activities in a consistent and sistematic way, have a better quality of life index than those who do not perform these types of activities.*

**Keywords:** *leisure sports activities, quality of life, health, adult persons.*

### 1. INTRODUCTION

When considering Sen<sup>1</sup>, quality of life offers the subjective perspective of people in regards to their own existence, their own increase or decrease of living standard. The quality of life (QoL) is more important than economic wellness and it invisions the tracking of the individual's interest, the power of fulfilling of certain actions and to accomplish different purposes

that need to be achieved.<sup>1</sup> It is not about personal utility, centered on happiness, pleasure or desire, but about the state of a person in relation to social circumstances, about the things that he is successful in doing or achieving during the course of his life.

In its essence, QoL implies a qualitative approach of social – human life, as it is measured (evaluated) by experts and as it is lived by subjects.<sup>2</sup> QoL, as Liu Ben – Chien<sup>3</sup> perceived it, is a subjective definition for everything that we call population wellness and of the environment in which the population lives. It expresses a set of desires that were accomplished and that, taken together, determinate the happiness and satisfaction of the individual.<sup>3</sup>

Serban and colab.<sup>4</sup> defines the QoL as being “physical, social, economic, psychological and spiritual wellness, as well as the capacity of individuals to accomplish their everyday tasks. On the basis of this definition, the authors<sup>4</sup> take away six dimensions of the QoL as follows: physical wellness, functional wellness, psychological wellness, social wellness, economic wellness, spiritual wellness.

Wellness is defined as prosperity, flourishing, well-being and it represents the level in which satisfaction is expressed. It incorporates all the evaluations of the different aspects of personal life, of changes and their results, of the favorable conditions that ensure life passing.<sup>4</sup>

QoL refers to the description and evaluation of nature, and maintaining life conditions for different citizen categories. The necessity of creating and especially improving of the QoL was noticed since the 60’s as a consequence of “The movement for social indicators”. Following certain government programs (educational, social and environmental), the need of utilizing indicators that measure the effectiveness of these programs in respect to the QoL. In 2001, the domain of QoL becomes one of major interest, in the E.U, specifically through “The foundation for Improving the QoL and Work”<sup>5</sup>, which had the purpose the improving of the QoL of the citizens in the E.U. Due to the fact that in our country, concerns for improving the QoL have appeared, yet this concept is understood in a diverse way. In Romanian literature, as years passed by, several papers that treat this concept have appeared.<sup>6-11</sup> In Romania, unfortunately, with the exception of a few papers, we dispose of few data in regards to the impact sports activities may have in the improvement of life, for all age categories.

According to a study made by Marginean<sup>8</sup>, in Europe we can find significant differences between the QoL when comparing different countries, It is better in the Nordic countries and worse in Southern and Eastern Europe. In comparison with the other E.U member countries, Romania situates in precarious positions when taking into consideration the macro-economic

resources related to the living standard and population financial income. Yet, the data indicates a better position in regards to subjective well-being. The author<sup>8</sup> states that, the research conducted in the year 2011, indicates a certain deterioration of QoL in many of the E.U member countries, comparing to the year 2007, due to the economic crisis. This decrease is related mostly to Greece, Spain, Cyprus and Portugal. The most disadvantaged population categories were persons with low income, long term unemployed persons and elderly people.

Generally, in 22 countries out of the 27 E.U members, a deterioration of the living standard evaluation values has been recorded, in 2011, comparing with 2007, and just two countries have shown improvement (Bulgaria and Austria). Major deteriorations of consumption availability in rapport with needs are shown in Greece (from 68% to 86%), Slovakia (from 42% to 71%), Estonia (50% in comparison with 67%), as well as in Slovenia (38% as opposed to 50%), France (37% and 49%), Ireland (21% and 43%), Great Britain (21% and 37%), Holland (22% and 31%), Finland (19% and 25%), Denmark (13% and 18%), Sweden (15% and 18%).<sup>8</sup>

The improvement of people's QoL must represent one of the major objective of each country in the E.U, as well as in all other countries all over the world.

The main assessing component of the QoL is represented by the health condition, and this is conditioned by the level of physical, psychological and social health, the three influencing themselves.

The health status can be assessed both objectively (example: collecting and analyzing of certain biological and clinical parameters, shown in a research/evaluation chart for each individual), as well as subjectively. The most frequent method of subjective assessment of health status is self-evaluation. Questionnaires of satisfaction and/or evaluation of own health status are frequently utilized, usually together with an objective method of evaluation of health.<sup>13</sup>

At an adult level, both nationally and European level wise, the health status presents low values, due to stress, work and other factors, that lead to the apparition of several illnesses, sometimes even chronic. The lack of performing sports activities/sport may contribute to the early debut of some diseases, especially of cardiovascular nature, and any rise in practicing these activities will bring benefit towards the overall health condition.

The improvement of health can be achieved, along with other methods, by practicing leisure sports activities.

The sport-recreational activities represent a requirement that conditions the increased benefit of the citizen, regardless of age and profession. Through the role attributed by society, recreational sports

activities outweigh the dimensions of certain leisure activities, taking part in the vast program of preparation and forming of the citizen for work and social life.

Nowadays, the tech-science evolution translates to less movement, and thus contributes to the considerable reduction of physical effort as opposed to the intellectual one. The statistical data published by World Health Organization<sup>14</sup>, highlights the significant growth in the last years of overweight and obese persons, due to the diminishing of physical activities (P.A) and the increase of sedentarism in everyday life. Under these conditions, measures must be taken to prevent these through the systemic practicing of physical exercises, thus replacing the three negative factors of modern civilization: sedentarism, overeating and over exhaustion.<sup>14</sup>

Also, sport, perceived through a more extended acceptance, as: sports for everyone or sport for health, represents in countries more developed a state policy, because the health condition and the development of the population depends on it.<sup>15</sup>. The fact that movement leads to maintaining an optimal state of health, regardless of age, sex and level of development etc., is a proven fact and should be accepted by everyone. The individual must form a healthy lifestyle for himself, to spend his free time through practicing a sport or certain preferred sports activities like: walks, trips, hikes etc., to know and harmonize his own body, counter-measuring the bad habits like sedentarism, stress, tobacco, alcohol, thus improving his own living standard and QoL.<sup>15</sup>

The aim of the study was to demonstrate if the leisure sport activities have an impact on the index of QoL, in adults.

## 2. MATERIAL AND METHODS

The study realized in the period October 2012 – march 2013 on a sample of 500 adult persons, out of which 318 were practicing leisure sports activities and 182 which did not practice these types of activities. The age of the subjects taking part in the research was ranging from 25 to 49 years old. Subjects were split as follows: for the age category 25-29 years old, N=66 (25 males; 40 females); aged between 30 and 34 y/o, N = 120 subjects (55 males and 65 females); for those aged between 35 and 39 y/o, we have N = 65 (males 39; females 26); subjects aged between 40 and 44 y/o, N = 175 (70 males and 105 females); 45–49 y/o, N = 75 (40 males and 35 females).

During the research, we applied a standard questionnaire, with the purpose of assessing the QoL level, with a large amount of scales and with the biggest utility, named MOS SF 36- *Medical Outcome Study-Short Form 36 (the study of medical activities results)*,<sup>16</sup>, acute form, with 36 items and 6 domains:

- *Scale of physical functionality* – with 10 items: (example: climbing several levels using the staircase, walking a distance greater than 1 kilometer. Scores between 10 and 30).
- *Scale of problems caused by physical conditions* – with 4 items (example: You have accomplished less activities than you originally desired; you were limited by the genre of work performed or by other activities? Scores between 4 and 8).
- *Scale of social functionality*: with 2 items (example: In the last four weeks, to what extent was your health condition or emotional problems affected in a negative way your usual social activities with your family, friends, neighbors or other group of people? In the last four weeks, how much did your health related or emotional problems affected your usual social activities (like visit to friends, relatives, etc.)? Scores between 2 and 10).
- *Scale of body pain* – with 2 items; (example: With what intensity have you felt pain in your body in the last four weeks?; In the last four weeks how much did the felt pain affect your daily work (including home and outside home activities?) Scores between 2 and 12).
- *Scale of mental health* – with 5 items (example: Were you mad? Were you calm and quiet?; Scores between 5 and 30).
- *Scale of problems caused by emotional states* – with 3 items (example: Did you accomplish less activities than you originally desired? Did you reduce the time period spent working or performing other activities?; Scores between 3 and 6).
- *Scale of vitality* – with 4 items (example: Were you feeling full of life? Were you feeling exhausted?; Scores between 5 and 30).
- *Scale of general health* - with 5 items (examples: I feel that I get ill faster than other people; I am as healthy as anybody I know; Scores between 5 and 25).<sup>16</sup>

The questionnaire had in its contents 11 questions, with interpretable values between 0 and 100 points. The higher the value is recorded, the better the quality of life indicator is. Every participant has checked one variant response.

The categorization values of the questionnaire are: scores between 80 and 100 points characterize a person capable of undergoing a normal activity, without obvious signs of illness, *QoL is good*; scores between 50 and 70 define a person that cannot undergo a normal activity and sometimes needs assistance, *QoL is satisfactory*, and scores below 49 points characterizes a person incapable that needs special assistance, institutionalization, *QoL is unsatisfactory*.

The questionnaire was applied both in the beginning as well as the end of the undergoing of different leisure sports activities in the city of Brasov, as well as on the street, for all age categories, belonging to the pool of subjects to which the study was referring to.

The questionnaire was applied to the adult population, which declared that they practice leisure sports activities, with a certain reoccurrence (participants to different sports activities: crosses, hiking, jogging, mountain running, running in parks, sport games, fitness gyms, cycling, swimming, ski etc.), to the persons that have mentioned that they do not practice sports activities (questioned on the street), as well as to those that took part in different mass sports activities, organized by regional/local institutions, sport associations, non-profit organizations, etc.)

After gathering and processing the data resulted from the questionnaire, the creation of statistical analysis was performed, through the statistical program SPSS 20.<sup>17</sup>

### 3. RESULTS AND DISCUSSIONS

#### 3.1. Interpretation of data collected from the questionnaire that was applied

##### 3.1.1. Validation of the questionnaire focused on the level of QoL<sup>17</sup>

The questionnaire that is referring to quality of life, presents an acceptable level of fidelity (Cronbach's alpha=0.705) (Table 1).

**Table 1.** Degree of internal consistency of the questionnaire centered on the QoL

Cronbach's Alpha	No. of Items
0.705	36

#### 3.2. QoL depending on pool analyzed, for adult persons that practice leisure sports activities<sup>17</sup>

Analyzing, depending on the QoL, the pool of persons that practice leisure sports activities (N=318), we can summarize that the average score obtained is 94.94.

Results differ from the average, higher or lower, with 2.44 points.

Modular value shows that the score of 94 points is the most common for the people in the pool analyzed.

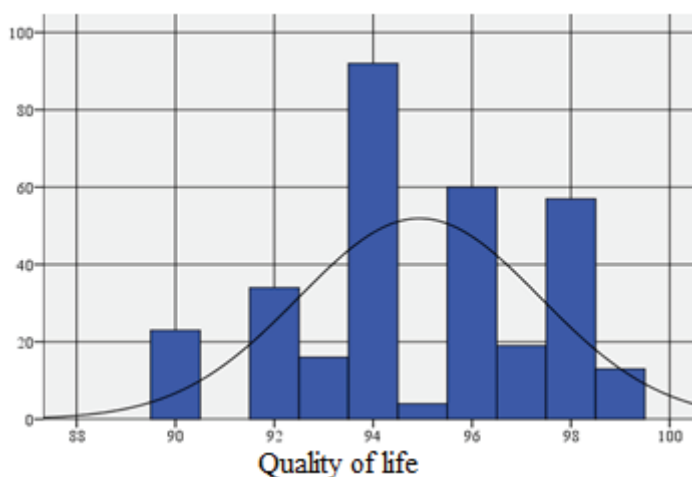
We also observe that we have an asymmetrical negative curve, (Fig. 1), slightly to the right (Skewness asymmetry coefficient -0.233) and

platykurtic (peak coefficient -0.732), flatter than a normal distribution, having dispersed values, on a higher interval when comparing to the average. Extreme values have a small presence (Table 2).

**Table 2.** Descriptive statistics on QoL for the pool of persons who practice leisure sports activities<sup>a</sup>

Quality of life		
N	Valid answers	318
	Eliptical answers	0
Average		94.94
Median line		94.00
Module (modular value)		94
Standard deviation		2.444
Skewness asymmetry coefficient		-0.233
Kurtosis coefficient		-0.732
Minimum		90
Maximum		99

a. Practicing leisure sports activities = yes



**Fig. 1** Histogram of the frequency distribution in reference to the QoL of adult persons that practice leisure sports activities.

Testing the distribution score normality (Kolmogorog-Smirnov Test) regarding to the QoL of persons that practice leisure sports activities (N=318), shows as that it is not normally distributed (Table 3).

**Table 3.** Testing the distribution score normality regarding to the QoL of persons that practice leisure sports activities

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Value	Degrees of freedom	Signification limit p	Value	Degrees of freedom	Signification limit p
Quality of life	0.168	318	0.000	.933	318	0.000

a. Practicing leisure sports activities = yes

As far as QoL is concerned, this is *good* for 54.1% of the subjects in the pool of the leisure sports activities practitioners, and *satisfactory* for 45.9% of the subjects in matter (Table 4).

**Table 4.** The distribution of the QoL index, for the persons that practice leisure sports activities

Variable responses	Frequency	Percentage	Percentage of valid responses	Cumulative percentage
	Satisfactory quality of life	146	45.9	45.9
Good quality of life	172	54.1	54.1	100.0
Total	318	100.0	100.0	

a. Practicing leisure sports activities = yes

We note that 54.1% (N=172) of those who perform leisure sports activities (N= 318) have a *good QoL* (Table 4). Out of these, 81 (54.4%) are males (aged between: 25-29 y/o, n=15, i.e. 18.51%; aged between 30-34 y/o, n=30, i.e. 37.04%; age of 35-39 y/o, n=15, i.e. 18.51%; age of 40-44 y/o, n=11, i.e. 13.58% and age of 45-49 y/o, n=10, i.e. 12.34%) and 91 (53.8%) are females. For the female gender, (N= 91), *with a good QoL*, distribution on age categories was made as follows: 25-29 y/o, n=20, i.e. 21.97%; between 30-34 y/o, n=32, i.e. 35.16%; for the age of 35-39 y/o, n=13, we have a percentage of 14.28; 40-44 y/o, n=20, i.e. 21.97% and 45-49 y/o, n=6, i.e. 6.59%.

Subjects (N=146) which, following the questionnaire statements have obtained a score leading to a *satisfactory* rating (in matter of self-perception on the level of the QoL), represent a percentage of 45.9 out of the subjects who perform sports activities, respectively N=318 (Table 4) and 68 of them are males (45.6%) and 78 females (46.2%). As far as the male gender is



concerned, age distribution is made as follows: 25-29 y/o, n=10, i.e. 14.70%; 30-34 y/o, n=20, i.e. 29.41%; 35-39 y/o, n=11, i.e. 16.17%; 40-44 y/o, n=24, i.e. 35.29% and 45-49 y/o, n=3, i.e. 4.41%. For the female gender, N=78, the subjects who declared a *satisfactory QoL*, are distributed as follows: 25-29 y/o, n=12 (15.38%); 30-34 y/o, n=25 (32.05%); 35-39 y/o, n=13 (16.66%); 40-44 y/o, n=20 (25.64%) and 45-49 y/o, n=8 (10.25%).

### 3.3. QoL, depending on the analyzed pool, for adult persons that do not practice leisure sports activities<sup>17</sup>

The subjects from the analyzed pool that *do not practice leisure sports activities* (N= 182), obtained scores between 40 and 75 on the matter of QoL.

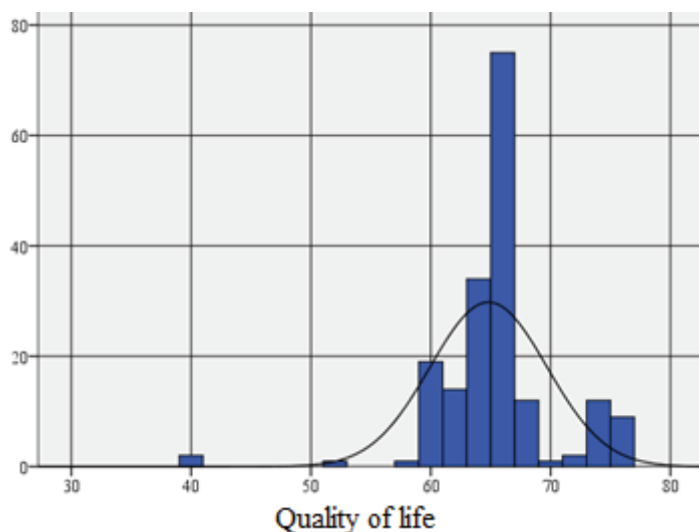
The average score obtained by subjects is 64.82, whereas the most frequent score encountered on subjects was 65.

We observe that we have an asymmetrical negative curve, (Fig. 1), slightly to the right (Skewness asymmetry coefficient -0.816), with several extreme values to the right and highly leptokurtic (Kurtosis coefficient 6.941), much more sharpen than a normal distribution, with many values concentrate around the mean value. (Table 5, Fig. 2).

**Table 5.** Descriptive statistics on QoL for the pool of persons who do not practice leisure sports activities<sup>a</sup>

Quality of life		
N	Valid answers	182
	Eliptical answers	0
Average		64.82
Median line		65.00
Module (modular value)		65
Standard deviation		4.876
Skewness asymmetry coefficient		-.816
Kurtosis coefficient		6.941
Minimum		40
Maximum		75

a. Practicing leisure sports activities = no



**Fig. 2.** Histogram of the frequency distribution in reference to the QoL of adult persons that do not practice leisure sports activities. The result of the normality test shows an abnormal distribution (Table 6).

**Table 6.** Testing the distribution score normality regarding to the QoL of persons that do not practice leisure sports activities<sup>a</sup>

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Value	Degrees of freedom	Signification limit p	Value	Degrees of freedom	Signification limit p
Quality of life	.287	182	.000	.796	182	.000

a. Practicing leisure sports activities = no

As far as the persons that do not perform leisure sports activities are concerned (N= 182), 49.5% have a *satisfactory QoL*, but for 45.1% out of them, *QoL is unsatisfactory* and only 5.5% have a *good QoL* (Table 7).

**Table7.** The distribution of the QoL index, for the persons that do not practice leisure sports activities<sup>a</sup>

	Frequency	Percentage	Percentage of the valid answers	Cumulative percentage
Valid answers	Unsatisfactory quality of life	82	45.1	45.1
	Satisfactory quality of life	90	49.5	94.5
	Good quality of life	10	5.5	100.0
	Total	182	100.0	100.0

## a. Practicing leisure sports activities = no

We note that 49.5% (N=90) of the total number of persons who do not perform leisure sports activities (N=182) have a *satisfactory QoL* (Table 7). Out of these, 42 (51.9%) are males (aged between 25 and 29 y/o, n=2, i.e. 4.77%; between 30 and 34 y/o, n=1, i.e. 2.38%; between 35-39 y/o, n=4, i.e. 9.52%; between 40-44 y/o, n=25, i.e. 59.52%, and between 45-49 y/o, n=10, i.e. 23.80%) and 48 females. For the female gender, 47.5% have a *satisfactory QoL* according to the following distribution on age categories: 25-29 y/o, n=3, i.e. 6.25%; 30-34 y/o, n=2, i.e. 4.17%; 35-39 y/o, n=3, i.e. 6.25%; 40-44 y/o, n=30, i.e. 62.5% and 45-49 y/o, n=10, i.e. 20.83%.

Subjects (N=82) which, following the questionnaire statements have obtained a score leading to a *unsatisfactory rating* (for the self-perception of QoL), represent a 45.1% from the non-practicing of leisure sports activities pool, respectively N=182 (Table 7), and are comprised of 36 males (44.4%) and 46 females(45.5%). As far as males are concerned, the age distribution is made as follows: 25-29 y/o, n=7, i.e. 19.44%; 30-34 y/o, n=4, i.e. 11.11%; 35-39 y.o, n=10, i.e. 27.8%; 40-44 y/o, n=15, i.e. 13.9% and 45-49 y/o, n=10, i.e. 27.8%. For the female gender, N=46, subjects were distributed as follows: 25-29 y/o, n=7 (15.21%); 30-34 y/o, n=3 (6.52%); 35-39 y/o, n=11 (23.9%); 40-44 y/o, n=15 (32.60%) and 45-49 y/o, n=10 (21.74%).

Subjects (N=10) which, following the questionnaire statements have obtained a score leading to a *good rating* (5.5%), for the male gender (N=3), the following distribution was performed (Table 7): 25-29 y/o, n=1, i.e. 33.3%; 30-34 y/o, n=1, i.e. 33.3%, 35-39 y/o, n=1, i.e. 33.3%; 40-44 y/o, n=0, i.e. 0%, 45-49 y/o, n=0, 0 i.e. %. For the female gender (N=7), subjects were distributed as follows: 25-29 y/o, n=2, (28.57%); 30-34 y/o, n=2, (28.57%); 35-39 y/o, n=1, (14.28%); 40-44 y/o, n=1, (14.28%) and 45-49 y/o, n=1 (14.28%).

#### **4. CONCLUSIONS**

Nana Kwame Anokye et al.<sup>18</sup> say higher levels of Physical activity (PA) are associated with better Health Related Quality of Life (HRQoL). This relationship is consistent across different measures and types of PA. Participation in walking and sports and exercise are correlated with a modest effect on HRQoL. Differences in the magnitude of HRQoL benefit associated with objective and subjective measures of PA are noticeable, with the former measure being associated with a relatively better HRQoL.<sup>18</sup>

Gabrielle Pucci et al.<sup>19</sup> confirm the same premise about the positive association between PA and QoL. The research results show that the type of associated PA in different ways for women and men and also for the different QoL domains. This relationship, though, varies according to gender, PA type and intensity. Additionally, the different QoL domains are distinctively influenced by PA. Leisure PA contributes more to the enhanced QoL than to transport activities.<sup>19</sup>

Jurakic et al.<sup>20</sup> assessing QoL with the SF-36 questionnaire, observed that leisure PA was associated with vitality and mental health domains among women, and with vitality and bodily pain among men. However, transport PA was inversely associated with QoL (physical domain in women and physical domain, bodily pain, social and physical component in men). The authors believe that the negative results of transport PA reflect the low importance given to walking for transportation as a way to provide health benefits.<sup>20</sup>

The research data shows that, adult persons that perform leisure sports activities in a systematic and continuous manner, have a QoL index better than the ones that do not take part in such activities.

As far as the QoL index is concerned, it is good for 54.1% of the pool subjects that participate in leisure sports activities, and satisfactory for 45.9% of the subjects.

For the persons that do not practice leisure sports activities, 49.5% have a satisfactory QoL index, while for 45.1%, the index is unsatisfactory and for just 5.5% the index is good.

#### **5. ABBREVIATIONS**

QOL Quality of Life

PA Physical activity

HRQoL Health Related Quality of Life

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