Quantitative and Qualitative in Measuring Quality of Life in Sports

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Abstract: The quality of life of individuals, groups and communities depends on many factors, starting with what each person and family undertake, continuing with the interventions at the community level and ending with the public policy measures. Purpose: This study makes a quantitative and qualitative analysis of overall quality of life as perceived by young people who practice sports, and it also highlights the differences in perception of the quality of life among youth, according to gender and the sport practiced (individual or team sport), for the 16 life domains. Methods: The participants were 69 athletes. Quality of life has been measured using the Quality of Life Inventory (QoLI) for Romania, developed by Michael B. Frisch. Results: After processing the data, it has been found that the highest weighted satisfaction is obtained for Goals and Values, Play, Health and Self-Esteem, and the lowest satisfaction is recorded for Children, Money, Community and Neighborhood. Statistical processing also reveals an average overall quality of life for the study participants, regardless of gender and the practiced sport. Conclusions: It has been concluded that the influence of practicing individual sports on the overall quality of life for the participants in the study is at a higher level than in team sports.

Keywords: Quality of life, team sports, individual sports, weighted satisfaction, raw score of QoLI.

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1. Introduction

Quality of life (QoL) is a quite broad and omnipresent concept, which usually includes the subjective assessments of both negative and positive aspects of life. QoL is one of those popular phrases that we see and hear with increasing frequency. For example, at the individual level, it is a commonplace in professional discussions about disability and serious illness, and at the collective level, it is given serious attention in social policy debates, and is a stock in trade for EU policymakers (Phillips, 2016).

In 1984, the World Health Organization declares health to be “a state of complete physical, mental and social well-being, and not merely the absence of disease”. Many other definitions of both “health” and “quality of life” have been attempted, often linking the two and, for QoL, frequently emphasizing components of happiness and satisfaction with life. In the absence of any universally accepted definition, some investigators argue that most people, in the Western world at least, are familiar with the phrase “quality of life” and have an intuitive understanding of what it comprises. However, it is clear that “QoL” means different things to different people and takes on different meanings, according to the area of application (Fayers & Machin, 2013).

Later, in 1997, the World Health Organization defines QoL as individuals’ perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept, affected in a complex way by the person’s physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment. It can be noted that, from the definitions given over time to the concept of quality of life (QoL), most often the quality of life is associated with *happiness*, *life satisfaction* or a *subjective state of well-being* that we feel, all of us. These terms have been used as synonyms in the specialized literature, without taking into account each one’s specificity (Frisch, 1997). Happiness, life satisfaction and subjective well-being are mutually interrelated – they are all closely connected with the notion of quality of life – but they are also highly contested constructs. “Happiness” is perhaps the most contested; indeed, the disagreement about happiness is at an absolutely basic belief on this topic.

In this context, it can be stated that this concept is an evaluative one, being the resultant of relating the life conditions and activities that make up human existence to the human needs, values and aspirations, mentioning

that it refers to both the overall assessment of life (how good, satisfactory the life of different people, social groups, collectivities is) and the assessment of various life conditions or spheres, such as: environmental conditions, work life conditions, conditions of interpersonal relations and family life.

Official statistics of the European Union (EU) provide data on the development of quality of life indicators. Thus, *Quality of life indicators* is a Eurostat online publication providing recent statistics on the quality of life in the EU and presents a detailed analysis of 8+1 dimensions which can be measured statistically to represent the different complementary aspects of quality of life, complementing the indicator traditionally used as the measure of economic and social development, gross domestic product (GDP). Eight of these dimensions concern the functional capabilities citizens should have available to effectively pursue their self-defined well-being, according to their own values and priorities. The last dimension refers to the personal achievement of life satisfaction and well-being.

2. Problem Statement

According to specialized literature (Bognar, 2005), by “social indicator”, the advocates of the social indicators movement meant any piece of statistical data that can stand as a proxy for welfare. A social indicator can be used for the evaluation of how well the lives of people go in a society. A suitable general social indicator might be correlated with the welfare of all the members of society, or perhaps even with the welfare of people living in different societies; more narrow indicators may be correlated with the welfare of particular groups within society. Thus, combined with economic indicators, social indicators can give a more comprehensive picture of individual and social welfare.

The uses of social indicators can be described in terms of four major functions, namely the enlightenment function, the public policy function, the medical function, and the managerial function (Land, Michalos, & Sirgy, 2011)

Based on academic research and several initiatives, the following 8+1 dimensions/domains have been defined as an overarching framework for the measurement of well-being. Ideally, they should be considered simultaneously, because of potential trade-offs between them: material living conditions (income, consumption and material conditions); productive or main activity; health; education; leisure and social interactions; economic and physical safety; governance and basic rights; natural and living environment;

overall experience of life (S. Eurostat, Explained, 2016) (S. E. Eurostat, 2015), (Galloway, 2005).

Researchers have identified the 3 most common indicators for each of their 8 core QoL domains (Table 1).

Table 1. Core indicators and descriptors per core Quality of Life domain

Core QoL domain	Indicators	Descriptors
Emotional well-being	Contentment	Satisfaction, mood, enjoyment
	Self-concept	Identity, self-worth, self-esteem
	Lack of stress	Predictability, control
Interpersonal relations	Interactions	Social networks, social contacts
	Relationships	Relationships with family, friends, peers
	Supports	Emotional, physical, financial, feedback
Material well-being	Financial status	Income, benefits
	Employment	Work status, work environment
	Housing	Type of residence, ownership
Personal development	Education	Achievements, status
	Personal competence	Cognitive, social, practical
	Performance	Success, achievement, productivity
Physical well-being	Health	Functioning, symptoms, fitness, nutrition
	Activities of daily living	Self-care skills, mobility
	Leisure	Recreation, hobbies
Self-determination	Autonomy/personal control	Independence
	Goals and personal values	Desires, expectations
	Choices	Opportunities, options, preferences
Social inclusion	Community integration and participation	
	Community roles	Contributor, volunteer
	Social supports	Support network, services
Rights	Human	Respect, dignity, equality
	Legal	Citizenship, access, due process

Although health is one of the most important quality of life domains, there are also other areas, such as work conditions, school, neighborhood, which complete the quality of life domains. Also, aspects related to cultural, moral and spiritual values are key issues for the quality of life, which add to the complexity of measuring it. Thus, the quality of life of individuals, groups and communities depends on many factors, starting with what each person and family undertake, continuing with the interventions at the community level and ending with the public policy measures (Marginean, 2015).

Concerning the latest statistics on social indicators in Romania, by 2012, Romania reduced its greenhouse gases (GHG) emissions by 6.5%, thus remaining well below its 2020 target of an at most 19% increase, and experienced a significant fall of 8.7% in the number of people at risk of poverty or social exclusion since 2008, falling below its target value in 2013. Although it is still below the objective set as regards education, our country has made remarkable progress in increasing educational rate in the period 2008 to 2013. The EU statistics also highlight that the Research for Development in Romania has declined between 2008 and 2013, making it the farthest national target in comparison with other UE countries (S. Eurostat, Explained, 2016)

Research in recent decades has developed useful techniques that contribute to the conceptualization and measurement of these life domains, as well as their way of relating and correlating between them.

3. Research Questions/Aims of the research

The current research aimed to make a quantitative and qualitative analysis of the overall quality of life as perceived by young people who practice sports. The main objective of the present study was to highlight the differences in perception of the quality of life among youth, according to gender and the sport practiced (individual or team sport), for the 16 life domains.

4. Research Methods

4.1. Participants

The participants in the research were 69 athletes, with an average age of 22.2 years (± 2.3) and an average competitive experience of 10 years (± 4.08). Of the 69 athletes who took part in this study, 26 (38%) were female and 43 (62%) male. Of the total number, 40 athletes (58%) practiced individual sports and 29 (42%) team sports. Of the 40 athletes practicing individual sports, 18% practiced athletics, 15% dance sport and judo

respectively, 13% field tennis, 10% artistic gymnastics, 8% karate, taekwondo and kempo respectively, 3% powerlifting, and only 2% fencing. Of the 29 athletes practicing team sports, 53% practiced football, 22% handball, 13% volleyball, 9% basketball, and 3% rugby.

4.2. Materials

To assess quality of life among the study participants, it was administered the *Quality of Life Inventory* (QoLI) for Romania, developed by Michael B. Frisch, PhD (1994). According to the author, the QoLI questionnaire has been designed to meet the need for measuring, assessing and treating mental health from a positive perspective, as a complement for the methods that measure negative emotions and psychiatric symptoms in order to both evaluate the results of treatments and plan them, and also from the desire to measure satisfaction with life according to a complete theory - *Quality of Life Theory* - because the construct “quality of life” is an integrating, heuristic one, which presents a practical interest for various fields, such as psychology and medicine.

The QoLI assesses an individual's quality of life through self-report of the importance they attach to each of the 16 life domains (on a 3-point rating scale), as well as their current satisfaction with each domain (on a 6-point rating scale). Importance scores are multiplied by satisfaction scores for each domain, and then these scores are summed to determine an overall current quality of life for each individual. This measure is very quick to complete, and has been normed in a community sample of adults. It has also been used to track changes in individuals over the course of therapy. Higher scores indicate a higher overall quality of life (M. B. Frisch, 1994). The 16 life domains are the core of QoLI, and they are: Health, Self-Esteem, Goals and Values, Money, Work, Play, Learning, Creativity, Helping, Love, Friends, Children, Relatives, Home, Neighborhood and Community. Each of these domains measured by QoLI refers to the functioning of a person in everyday life, using, more than other tools, life domains related to change outside the formal therapeutic context. The use of this instrument aims at obtaining a result of the assessment (total score) and facilitating the construction of a treatment plan by revealing the satisfaction or dissatisfaction areas out of the 16 life domains. Respondents assess each domain depending on its importance for their own happiness and in terms of personal satisfaction with that domain. Thus, the QoLI content and scoring scheme directly reflect the quality of life theory through: 1) the way of defining satisfaction with life; 2) the way in which overall life satisfaction sums up each person's satisfaction with certain life domains; 3) the way in

which the scores for Satisfaction are weighted depending on the importance given to each of the domains; 4) the 16 life domains assessed by this instrument (M. Frisch, 2014; M. B. Frisch, 1994).

4.3. Procedure

The QoLI was administered by a psychologist with a degree in psychology and also in sports psychology. The study participants were administered in group the pencil-paper version of the inventory, and completing the test lasted between 10 and 15 minutes.

5. Findings

Table 2 provides an overall picture of the profile of weighted satisfaction for each life domain. The QoLI score profile regarding weighted satisfaction for each life domain varies between -6 (very high dissatisfaction) and +6 (very high satisfaction). After processing the data, it has been found that the highest weighted satisfaction is obtained for: *Goals and Values* (mean = 4.09, ± 1.75 SD, with a variance of 3.05 and a 95% confidence interval for mean comprised between 3.65 and 4.49); *Play* (mean = 3.88, ± 1.89 , with a variance of 3.58 and a 95% confidence interval for mean comprised between 3.45 and 4.29); *Health* (mean = 3.75, ± 1.92 , with a variance of 3.69 and a 95% confidence interval for mean comprised between 3.26 and 4.16); *Self-Esteem* (mean = 3.65, ± 2.01 , with a variance of 4.05 and a 95% confidence interval for mean comprised between 3.17 and 4.12). The lowest satisfaction is recorded for *Children* (mean = 0.32, ± 3.66), *Money* (mean = 1.04, ± 2.59), *Community* (mean = 1.38, ± 2.03) and *Neighborhood* (mean = 1.59, ± 2.36).

Table 2. Descriptive statistics regarding quality of life in the 16 domains for the sample of athletes

Weighted Satisfaction Profile					
Life domain	Mean	Std. Deviation	Std. Error	95% Confidence Interval	
				Lower	Upper
Health	3.75	1.92	.23	3.22	4.16
Self-Esteem	3.65	2.01	.24	3.17	4.12
Goals and Values	4.09	1.75	.22	3.65	4.49
Money	1.04	2.59	.31	.41	1.58
Employment	2.90	2.50	.30	2.26	3.45

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Play	3.88	1.90	.22	3.45	4.29
Learning	2.93	1.81		2.49	3.36
Creativity	2.81	2.28	.28	2.26	3.38
Supports	3.16	1.96	.24	2.68	3.64
Love	2.74	3.58	.43	1.83	3.56
Friends	2.75	2.69	.32	2.09	3.33
Children	.32	3.65	.45	-.58	1.23
Relatives	3.45	2.37	.28	2.91	4.00
Housing	3.77	2.69	.33	3.06	4.36
Neighborhood	1.59	2.36	.28	1.04	2.14
Community	1.38	2.03	.24	.87	1.84

The high level of *Goals and Values* domain among participants emphasizes that it represents a target area to which they have given a strongly positive response. This is due to sports, because in both training and competition, they set short- or long-term objectives as regards sports performance. In this respect, an important role comes to mental training, which involves the cognitive repetition of some work tasks designed to reach the objectives, and the incorporation of sports values and ideals enables young people to function as a unitary whole.

Also, the increased level of *Self-Esteem* among athletes highlights that they have a feeling of respect towards their own person, which proves great self-confidence and self-contentment. The data support the view that practicing sports has significant effects on self-image, because self-esteem is the mark of a champion. Self-worth, self-dignity at various levels of awareness makes young athletes able to play multiple roles, to develop a strong ego and self.

Over time, both sports, in general, and physical activities, in particular, have been used as a tool for improving mental and physical health, but also social welfare. Sport is considered to contribute to achieving mental health objectives, including addressing depression and stress-related disorders. The research results reveal a high level of health status in the study participants, providing thus an overview of the relationship between sport and health.

The high score achieved in the *Play* domain demonstrates that athletes still have the ability to reactivate themselves through this type of activity. In this respect, *Quality of Life Therapy* supports the idea that play is not an additional type of activity, but something that people usually need and helps them reactivate. Also, *Love* (2.74 +/-3.58), in this stage of life, makes young people to fusion with the other's self and fall in love, to feel loved and understood by the others.

The average score of quality of life achieved in the *Employment* domain (mean = 2.90, +/-2.48) is also supported by the fact that many athletes do not have yet a job allowing them a better standard of living. Regarding this domain, the chief problems mentioned as hindering their achievements are: "lack of money", they "would like to earn more money" or "would like their work to be appreciated as it should".

Lack of leisure time represents the main problem as regards the domains of *Learning* (2.93, +/-1.80) and *Creativity* (2.81,+/-2.27). Because, for the sample of participants, learning is directly related to sports performance or carrier, these results are explainable. The domains of *Love*, *Friends and Relatives* also fall within the average level of quality of life. The main problems that correspond with the respondents' fulfillment are: "I need more friends", "I have few friends", "I see my relatives very rarely", "I would like to have a closer relationship with my family".

In Table 3, it can be noted the means and standard deviations of overall quality of life, according to gender and the sport practiced by the athletes (individual or team sport). Regarding the overall quality of life, this can be high (between 3.6 and 6.0), average (between 1.6 and 3.5) or low (between -0.6 and 0.8).

Table 3. Means and standard deviations regarding the differences
by gender and sport

Life domain	Gender		Sports	
	Mean (+/-SD)		Mean (+/-SD)	
	Female	Male	Individual	Team
Health	3.38 (+/-2.51)	3.98 (+/-1.44)	4.05 (+/-1.30)	3.34 (+/-2.51)
Self-Esteem	3.88 (+/-1.98)	3.51 (+/-2.04)	3.93 (+/-2.15)	3.28 (+/-1.77)
Goals and Values	3.96 (+/-1.88)	4.16 (+/-1.67)	4.50 (+/-1.61)	3.52 (+/-1.785)
Money	1.73 (+/-2.57)	.63 (+/-2.55)	1.35 (+/-2.26)	.62 (+/-2.98)
Employment	3.23 (+/-1.82)	2.70 (+/-)	3.38 (+/-2.81)	2.24 (+/-)

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		2.81)		1.79)
Play	3.65 (+/-1.79)	4.02 (+/-1.96)	4.15 (+/-1.67)	3.52 (+/-2.13)
Learning	3.23 (+/-1.80)	2.74 (+/-1.81)	3.18 (+/-1.81)	2.59 (+/-1.78)
Creativity	3.00 (+/-2.40)	2.70 (+/-2.22)	2.68 (+/-2.22)	3.00 (+/-2.37)
Supports	3.58 (+/-1.63)	2.91 (+/-2.13)	3.28 (+/-1.92)	3.00 (+/-2.05)
Love	3.04(+/-3.80)	2.56 (+/-3.47)	3.13 (+/-3.53)	2.21 (+/-3.63)
Friends	3.04 (+/-2.89)	2.58 (+/-2.57)	2.73 (+/-2.44)	2.79 (+/-3.04)
Children	.23 (+/-4.16)	.37 (+/-3.37)	.23 (+/-4.01)	.45 (+/-3.17)
Relatives	4.08 (+/-2.13)	3.07 (+/-2.44)	3.63 (+/-2.36)	3.21 (+/-2.39)
Housing	4.54 (+/-1.75)	3.30 (+/-3.04)	4.08 (+/-1.88)	3.34 (+/-3.51)
Neighborhood	2.00 (+/-2.58)	1.35 (+/-2.21)	1.98 (+/-2.48)	1.07 (+/-2.10)
Community	2.31 (+/-1.79)	.81 (+/-1.98)	1.63 (+/-2.08)	1.03 (+/-1.93)

By carefully analyzing the quality of life for the 16 domains, by gender and sport practiced, it is highlighted that male athletes (3.98, +/-1.44) have a good level of health status compared to female athletes (3.38, +/-2.51), and this area is clearly better for the athletes who practice individual sports compared to those practicing team sports. Regarding self-esteem, it can be noted that female athletes (3.88, +/-1.98) have a better self-image compared to male athletes (3.51, +/-2.04), and the mean of this area is higher in individual sports (3.93, +/-2.15) compared to team sports (3.28, +/-1.77). Also the female athletes have better relationships with family, friends or relatives and are much more content with housing, whether it is rented or own residence (4.54, +/-1.75).

From the quantitative analysis, it is observed that male athletes are more interested in play (4.02, +/-1.96) compared to female athletes (3.65, +/-1.79), which indicates the importance they give to spending their leisure time relaxing and having fun. Not the same can be said when it is about the money they earn at their workplace. Although quality of life for the money and employment domains frames the study participants into an average

standard of living, it can be noted that female athletes (1.73, $\pm$ 2.57) are much more content with the money they earn, the goods they hold, their workplace (3.23, $\pm$ 1.82), pay more attention to learning new abilities and knowledge (3.23, $\pm$ 1.80), are more creative (3.00, $\pm$ 2.40), feel more loved and understood in their couple relationship (3.04, $\pm$ 3.80) compared to male athletes. These areas have a higher level in individual sports compared to team sports. Also the female athletes show increased spirit de mutual aid (3.58, $\pm$ 1.63) for those who need help and contribute more to developing the community in which they live compared to male athletes (2.91, $\pm$ 2.13). And if we refer to the sport practiced, it can be seen that those who practice individual sports (3.28, $\pm$ 1.92) have a better attitude towards aiding the community compared to those practicing team sports (3.00, $\pm$ 2.05).

Although the average score for children domain frames all the athletes into a low level, it can be noticed that male athletes (0.37, $\pm$ 3.37) are much more satisfied with their relationship with children or wish more to have children compared to female athletes (0.23, $\pm$ 4.16). We believe that the average age (22.2, $\pm$ 2.3 years) of the participants in the study has made this score to be low.

Table 4. Overall quality of life by gender and sport

Overall Quality of Life	Gender	Sports	Mean	Std. Deviation	N
	Female	Individual	1.88	1.025	16
		Team	1.25	.707	10
		Total	1.67	.963	26
	Male	Individual	1.71	.956	24
		Team	1.84	.958	19
		Total	1.78	.947	43
	Total	Individual	1.78	.976	40
		Team	1.67	.920	29
		Total	1.73	.947	69

It is noted an average level of overall quality of life for the participants in the study, regardless of gender and the sport practiced. However, it is found that, in the case of female subjects, 16 (69%) of those practicing individual sports have a better level of overall quality of life (mean = 1.88, $\pm$ 1.025) compared to the 10 subjects (38%) practicing team sports (mean = 1.25, $\pm$.707). As to the male participants, it is found a higher level of overall quality of life for 19 (44%) of those who practice team sports (mean = 1.84, $\pm$.958) compared to the 24 subjects (54%) involved in

individual sports, for whom the level of overall quality of life has a mean of 1.71 (+/- .956). Thus, it can be asserted that practicing individual sports (compared to team sports) has a greater influence on the level of overall quality of life in the case of female athletes (regarding the male athletes, we can observe the opposite).

Fig. 1. Raw score - QoLI boxplot

Figure 1 represents the boxplot that provides information about the central tendency and the form of studied distribution on the raw score of QoLI, as regards both the gender and the sport practiced. Thus, it can be seen the graphical reflection summed up by the 5 values of distribution: minimum value, first quartile, median, third quartile and maximum value, as well as the presence of excessive values situated outside the distribution. It is observed that, for the raw score of QoLI by gender, there is a single excessive value, and for the raw score of QoLI by sport practiced, there are four excessive values (observation and conversation as research methods support our decision not to eliminate the outliers found). The horizontal line in the box represents the data raw median: since it is not in the center of the box, the distribution of data is asymmetrical in terms of raw score of QoLI by gender and the sport practiced.

6. Conclusions

It is becoming more and more accepted by the decision makers that sport and active lifestyle are a suitable tool for improving both quality of life and living standard. They are able to produce national economic utilities too (Paar, 2013). Similar research (Vaez-Mousavi, 2000) on the quality of life of athletes from individual and team fields has concluded that quality of life of female athletes from individual fields is higher than that of female athletes

from team fields. In contrast, the quality of life of male athletes from team fields was found to be higher than that of male athletes from individual fields. With respect to the official statistics on the standard of living in Romania, the results of this study confirm them. Following the data analysis, it has been found that there are not important differences in the level of overall quality of life depending on gender. Thus, most participants in the study have achieved an average score for the overall level of QoLI. According to QoLI, respondents who record average scores are usually people with good functioning as regards their ability to reach satisfaction with the life domains, are generally content, happy and fulfilled, are successful in obtaining what they want from life and are able to satisfy their basic needs, to achieve their goals in many, but not all the important life domains. At the same time, they possess one or more psychosocial resources available for those with high scores. Regarding the athletes participating in the study, we think that all this is due to the practice of sport. Results prove an important contribution of practicing sports to other life domains, such as: health, goals and values or self-esteem. Also, it has been noticed its impact on the level of overall quality of daily life among athletes compared to the standard of living in our country. Results have emphasized a higher level of quality of life among participants who practice individual sports compared to those practicing team sports. We believe that the higher level of quality of life is an important resource of psychosocial availability, and not only, which the athletes can experience in life situations, but also in interpersonal relationships that bring satisfaction. Taking into account the fact that, in our study, the athletes (boys and girls) practicing individual sports registered higher scores compared to athletes practicing team sports, we can assert that they can be more objective in setting goals in both the competitive arena and everyday life. Also, they are more likely to aim at achievable goals, accessible in the life areas or to see the world in a clearer light, without negatively distorting the life situations, without exaggerating their own problems. Our research may be of interest for the specialists from the field of multidimensional education being a starting point for future investigation regarding the quality of life and a challenge for researchers at national and international level considering the impact of different life domains upon the personal and professional development.

The limits of our research are represented mainly by the characteristics of the sample: age, competitive experience, cultural and social background and the number of participants (we admit that the results could be different if other settings were involved).

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