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Original Article

The perception of condition and quality of life of athletes

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Abstract:
The aim of this study is to identify the Quality of Life Index of Brazilian rowers and investigate the relationship of this index with indicators of living conditions of athletes. This research involved the participation of 43 individuals, 31 men and 12 women with a mean age of 24.11 years old (±4.96). All athletes were associated to the federation and participated in official competitions. The research instruments used in this study were Quality of Life Index of Ferrans and Powers and a questionnaire about social indicators, which included questions about education, housing, employment and income among other topics. The results indicate that the index of quality of life of the athletes surveyed is 21.4 (±3.4), and the highest value was found for the familiar domain 23.4 (±4.2), and the lowest value was found in the health and functioning domain 20.7 (±3.8). The social indicators that show a relation with the quality of life index and its domains are gender, race, religion, income and time devoted to sports activities. The perception that the athlete has on the quality of life and living conditions should be taken into account in the planning of training and competition. Further studies are needed to be able to set appropriate comparisons and understand more consistently the quality of life for athletes.
Key words: athlete, sport, social conditions, personal satisfaction.

Introduction

Quality of life is an expression that is part of everyday life. Common sense uses this expression in different situations without the worry of a delimitation of meaning. In academia, there is also great interest in this area and often this same problem is present. The concept of quality of life is a multidimensional and complex construct. The theme includes elements that may affect the individual's perception of their surroundings, their feelings, their relationships, the way we interact in their context and their daily performance, including, but not limited to biological and physiological aspects (Minayo et al. 2000). Several questionnaires have been developed and validated the subject of study, which can be considered as generic or specific instruments, which are suitable to the healthy population and a population with some health problem respectively (Fayers and Machin 2009).

In sport, investigations on this subject are still rare and there are some challenges that must be overcome. Usually, studies on athletes in quality of life are related to sport injuries or particular condition of performance (Sauers et al. 20011; Parsons and Snyder, 2011; Valovich Mcleod, et al. 2010; Kuehl et al. 2010; Valovich Mcleod et al. 2009). Lam et al. (2013) pointed out that athletes constitute a separate specific population of other groups and that the normative values for athletes should also be established for a better understanding of this phenomenon. Another obstacle to be supplanted refers to the quality of life studies and the relationship with the social aspects. This approach is more rare and valuable nature of socioeconomic information on the structure of the athlete's career and even on your surroundings may be underestimated (Santos, 2013). This lack of information is evident in the case of Brazilian athletes.

The relevance of this theme is justified even in documents published by the International Olympic Committee Athletes' Commission, which demands are directly related to factors of the concept of quality of life. There is an effort of this entity to identify the needs of athletes and structure programs that provide conditions to develop a life plan and not just a sport performance. This approach has as a basic premise the need for balance between good physical, mental, social and spiritual athletes, which can result in a better athlete and a better life (International Olympic Committee [IOC] 2009; 2010). In the academic area, this trend is repeated in studies on the athlete's career structure from a holistic approach (Cecic Erpic et al. 2004; Wylleman et al. 2004; Stambulova et al. 2007; Stambulova et al. 2009). Wylleman and Lavallee (2004) state that to achieve and remain in the high level of competitive sport, athletes and people around them need to invest in diversified sectors such as physical, social and economic for a long time. During the career, an athlete goes through several steps and various transitions at different levels, such as athletic, psychological, social, academic, vocational and financial development (Wylleman et al. 2013). According to Ledochowski et al. (2012), athletes with a better quality of

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life are more capable of cope with stress and challenging situations than others, and this may be an advantage in a competitive environment.

This concern for the well-being of the athlete in various aspects of life has real proximity to studies on Quality of Life. Although there are several conceptual approaches, Castellón and Pino (2003) states that the commonalities between the different concepts of quality of life are composed of: development and activity, physical, material, social and emotional well-being. To Ferrans (1996) quality of life of a person can be defined as the sense of well-being and satisfaction or dissatisfaction in areas of life that are important to him or her. Following this theoretical framework, Ferrans and Powers (1992, 1985) developed and validated a research tool called Life Quality Index, which includes the satisfaction and importance that people attach to factors related to the following areas: health and functioning, socioeconomic, family, psychological and spiritual.

In this sense, the objective of this study is to identify the Brazilian rowers' Life Quality Index and investigate the relationship of this index with the indicators of living conditions of the athletes.

Material & methods

This study is characterized as descriptive cross-sectional research that uses two questionnaires as instruments.

Participants

The survey participants athletes representing all the São Paulo clubs who practice rowing, according to the website of the Brazilian Rowing Confederation (Brazilian Confederation of Remo [CBR], 2013) and each institution was asked to all athletes above 18 years associated with the federation, and competitors in official events at the state and national level participate in the study. The sample consists of 43 rowers, with a mean age of 24.11 (±4.9) with minimum age of 18 years and maximum 37 years. Data were collected in a single session in the place and time of training. The time for completion of the questionnaire was about 25 minutes. Social indicators of this group are presented in detail in the results.

Instruments

The first instrument sets the Quality of Life Index - QLI, and was developed and validated by Ferrans and Powers (Ferrans and Powers, 1985; Ferrans and Powers, 1992; Ferrans, 1996) and translated and validated for Portuguese by Kimura (1999) and Kimura and Silva (2009). The details of the psychometric properties of this instrument can be found in a study performed by Bakas *et al.* (2012). This instrument has been used by other authors as Kawakame and Miyadahira (2005) and Machado (2000), as well as studies related to physical activity, sport and the life quality index (Santos and Simões, 2012; Santos, 2013).

The concept adopted by Ferrans and Powers in preparing this research tool is that the feeling of well-being of a person derives satisfaction or dissatisfaction with the areas of life that are important to him or her (Kimura and Silva, 2009). Quality of life index created by Ferrans and Powers (1985) covers sixty-six items divided into two parts, in which it is observed four areas: health and functioning, social and economic, family, psychological and spiritual. The answers are obtained through a Likert scale of six points.

The first part concerns the satisfaction that the individual has with aspects of life that makes up the quality of life. Each item has six response options on a scale that range from very dissatisfied to very satisfied. The second part focuses on the importance attributed by individuals for every aspect of life that makes up the quality of life index and also has six response options that varies from no importance to very important. The quality of life index can be calculated for the thirty-three questions together and for each domain, namely:

- QLIhea: quality of life index related to the health and function domain;
- QLIsoc: quality of life index related to the social and economic domain;
- QLIpsy: quality of life index related to the psychological and spiritual domain;
- QLIfam: quality of life index related to the family domain;

The way of assigning scores according to the authors of the instrument indicates that the score of satisfaction issues must be resized in order to center the zero of the scale. This procedure is done by subtracting 3.5 of responses to each item of satisfaction, which produces scores -2.5, -1.5, -0.5, +0.5, +1.5 and +2 5 for the initial values of 1, 2, 3, 4, 5 and 6 respectively. Then these values are weighted by their corresponding importance, multiplying the value of each item by the value of the response to the importance. After that, the full amount is calculated by adding all the weighted values and dividing by the total number of questions answered. To extinguish negative values at the end, it adds up to 15 obtained values. Therefore, the value of the total quality of life index may vary between 0 and 30 points, with higher values indicating better quality of life. For the calculation of each domain is also used the same procedure (Kimura and Silva, 2009).

The second instrument is a socioeconomic questionnaire that seeks to obtain objective information about the living conditions and characteristics of participants by multiple-choice questions that aims to identify race, cult or religion, marital status, type of dwelling, income source, employment status, monthly income value, education, type of health care and time devoted sports activities of each athlete. Furthermore, the questionnaire identifies the age and gender of each athlete. Data from this instrument were analyzed from the frequency of responses of absolute value and percentage in each issue.

This questionnaire was developed from other socioeconomic questionnaires used by the Brazilian Institute of Geography and Statistics (Instituto Brasileiro de Geografia e Estatística [IBGE], 2010a; 2010b), that is responsible for the official census and the Ministry of Education (Ministério da Educação [MEC], 2011) who regularly performs demographic surveys of students across the country. In preparing this instrument was maintained the structures of the questionnaire and questions excluded were not related to the theme of the study.

It should be noted that the two instruments used had no nominal identification of individuals and recording of data was assigned a code for each athlete, respecting thus the right to anonymity of participants and the confidentiality of data.

Procedures

First, this study was submitted to and approved by the Institutional Ethics Committee. Then it was carried out the data collection process itself. Through the website of the Brazilian Confederation of Rowing (Confederação Brasileira de Remo [CBR], 2013) was identified the institutions that promote this sport in the state of São Paulo and from this diagnosis was made contact with the managers of all state clubs to check the possibility of data collection with athletes at a sport organization. Noteworthy is the fact that all institutions agreed to participate.

The study proposal was presented to institutional managers and coaches who signed the free and informed consent for the research. After such approvals were marked dates and times for the research project were presented to the athletes, and from the agreement to be involved in the study, participants also signed the informed consent. At these occasions were offered all the necessary explanations of the study. They were asked to complete questionnaires during a single data collection session. It was reiterated that the answers were confidential, and athletes were encouraged to fill out the questionnaires as truthfully as possible. The athletes had unlimited time to complete the instruments, which took about 25 minutes. The athletes then deposited their completed questionnaires in a sealed box that is designed to prevent the identification of study participants.

Statistical analysis

After data collecting, all answers were recorded in a Microsoft Office Excel 2007 spreadsheet (Microsoft Corp., Redmond, Washington), which was assigned a code for everyone and their responses obtained in the survey instruments. It was made an exploratory analysis of the data on which was recorded the frequency response of individuals to each question. Then, the QLI and its domains were calculated and analyzed (general, health and functioning, family, socioeconomic, psychological and spiritual) according to all the variables of the socioeconomic questionnaire. The following procedure was an analysis in which some groups were made, according to living condition's variables, so the number of subjects in each group was sufficient for analysis.

For variable race, a group was formed of white athletes and another formed by other races; for the variable religion was formed a group of Catholic athletes, a group composed of all other religions except Catholic and a third group of athletes without religion; in relation to housing athletes were analyzed who live at home with family and athlete who live at home with other people; in financial aid it was settled the comparison between the group of athletes who receive support from family, a second group of athletes who self-supporting and the third group of athletes who have income and contribute to the family; the variable work were formed groups of athletes who do not work and athletes who work; in item wage formed a group of athletes who receive up to two minimum wages and other obtaining more than two minimum wages; the variable education formed a group of athletes who have completed high school, a group of athletes who have not completed higher education and a group of athletes who have a graduate degree; the item for the health plan, a group was formed by athletes who have private health insurance and other group that uses the public health service; relative to the amount of hours devoted to sport activity it was established a group dedicated until 15 hours per week for sports activities and others who spend more than 15 hours per week for such activities.

Thus, t-tests for variables which have two groups, and F test for those having more than two groups were performed. The significance value adopted for these tests was 10%, that is, if the *p-value* of items related to living conditions of individuals is less than 10%, there is evidence that the Quality of Life Index is different for category's variable.

Results

The participants were 43 athletes, 31 men representing 72.1% of the group, with a mean age of 23.93 years (±4.96); and 12 women representing 27.9% of the group with a mean age of 24.58 (±5.15). The results for the overall QLI and domains are presented in Table 1. Table 2 presents the details of the results for the QLI and its domains for each group of athlete's regarding of the questionnaire responses on the living conditions.

Table 1. Descriptive values for the QLI and its domains.

	Minimum	Median	Mean	Maximum	SD
QLI	13.8	22.2	21.4	28.2	3.4
QLIfam	11.2	24.9	23.4	30.0	4.2
QLIhea	12.8	20.9	20.7	28.7	3.8
QLIsoc	11.2	21.8	21.1	28.3	3.7
QLIpsy	7.8	23.0	22.2	29.0	4.4

Table 2. Quality of Life Index and its domains according to social and living conditions.

	QLI		QLIfam		QLIhea		QLIsoc		QLIpsy	
	Mean	*SD*	Mean	*SD*	Mean	*SD*	Mean	*SD*	Mean	*SD*
Gender										
Male	21.5	3.7	22.7	4.4	21.0	4.1	21.0	3.9	22.4	4.7
Female	21.3	2.5	25.3	3.2	20.0	2.7	21.4	3.2	21.6	3.7
Race										
White	21.0	3.5	22.9	4.5	20.3	3.9	20.8	3.8	21.4	4.3
Black	20.8	-	30.0	-	18.5	-	19.6	-	22.9	-
Mulatto	23.8	1.5	23.6	3.6	23.0	2.0	23.3	4.0	26.8	1.5
Asian	22.1	3.6	25.2	2.5	21.1	3.9	21.6	3.8	23.4	4.8
Religion										
Catholic	22.1	3.5	22.9	4.5	21.3	3.8	22.0	4.5	23.3	3.8
Protestant	24.6	-	26.6	-	25.0	-	22.3	-	24.8	-
Spiritualist	21.7	0.9	27.9	1.6	19.6	1.2	20.9	1.3	23.6	0.9
Umbanda	22.1	2.9	23.4	2.2	22.4	3.3	20.3	3.9	22.7	4.5
Jewish	23.7	-	26.4	-	23.0	-	23.9	-	23.3	-
Other	22.1	-	23.2	-	22.5	-	21.0	-	21.7	-
Without religion	19.7	3.3	22.0	4.3	18.8	4.0	19.9	3.0	19.9	5.2
Marital status										
Single	21.5	3.5	23.3	4.4	21.0	3.9	21.0	3.8	22.2	4.6
Married	20.7	2.0	24.4	2.8	18.7	2.5	21.4	2.7	22.0	2.8
Kind of home										
At home with family	21.2	3.4	23.6	4.2	20.3	3.8	20.8	4.1	22.2	3.8
At home with others	22.2	3.4	23.4	4.4	21.8	3.9	22.2	2.2	22.5	5.9
At home alone	18.3	-	18.0	-	19.3	-	16.9	-	17.7	-
Income										
No income and receives support	22.5	3.3	24.0	2.7	21.5	4.0	22.4	3.0	24.3	3.5
With income and receives support	21.0	3.5	23.5	4.1	20.3	4.1	20.0	4.1	22.2	4.3
With income and self-supporting	22.4	2.1	25.3	2.4	21.4	2.7	22.7	2.1	22.4	3.6
With income and contributes with family	19.9	4.1	20.0	5.9	20.0	4.5	20.1	4.4	19.4	5.8
With income and is the main contributor of the family	22.4	-	27.6	-	20.4	-	22.0	-	23.3	-
Type of work										
With register	22.4	0.9	23.6	4.2	22.1	2.5	22.2	1.7	22.0	1.2
Without register	20.8	4.1	22.5	5.0	20.5	4.4	20.5	3.8	20.9	6.1
Self-employed	22.1	4.0	23.7	2.9	21.8	3.7	21.3	6.8	23.0	5.3
Does not work	21.1	2.2	24.0	3.3	20.2	3.6	20.3	0.7	22.6	3.5
Never worked	21.2	3.8	23.6	4.8	20.0	4.2	21.3	4.3	22.5	3.8
Never worked /seeking employment	24.2	-	25.5	-	23.4	-	21.8	-	28.8	-
Value of wages										
None	22.8	3.1	25.0	3.2	21.7	3.7	22.4	3.3	24.6	3.6
Less than 1 minimum wage	20.7	4.7	23.3	5.6	19.8	4.7	22.9	2.5	18.4	7.2
From 1 to 2 minimum wage	20.0	3.6	21.5	2.7	19.3	4.3	19.7	4.2	20.7	4.7
From 2 to 5 minimum wage	20.9	3.5	22.9	5.3	20.1	3.7	20.0	4.2	22.6	4.2

From 5 to 10 minimum wage	21.9	2.1	23.7	3.8	22.0	2.9	21.5	3.0	21.2	2.0
From 10 to 30 minimum wage	24.5	-	26.4	-	23.8	-	23.4	-	25.5	-
Education										
Complete high school	20.1	4.6	22.6	5.8	18.8	5.1	19.7	5.0	22.1	4.4
Incomplete higher education	21.5	3.1	23.4	3.7	20.7	3.2	21.5	3.2	22.4	5.2
Complete higher education	23.2	3.3	24.4	4.0	23.4	3.5	22.2	3.5	23.4	4.3
Specialization	21.3	2.6	24.8	2.9	20.6	3.0	21.0	4.4	21.1	2.8
Master's	20.5	3.6	18.3	5.1	20.9	5.0	18.9	1.7	22.6	5.3
Doctorate	20.8	-	25.9	-	18.9	-	22.6	-	19.4	-
Health care										
Public health service	20.1	3.9	22.1	3.6	19.6	3.6	20.0	5.0	20.0	6.8
Private health insurance	22.1	2.9	24.5	3.3	21.3	3.7	21.9	2.7	22.8	3.5
Private doctor	18.5	4.6	19.8	7.7	17.7	4.9	16.7	5.2	21.4	3.8
Other	20.2	-	12.5	-	20.9	-	18.4	-	24.3	-
Weekly hours of sports activities										
Up to 5 hours	23.9	-	26.1	-	22.2	-	24.9	-	25.3	-
From 5 to 10 hours	23.1	3.1	26.1	2.3	22.3	3.7	23.0	3.3	22.9	3.9
From 11 to 15 hours	20.8	3.7	23.8	3.4	19.9	4.0	20.7	3.2	21.0	6.4
From 16 to 20 hours	21.5	3.2	21.2	4.2	21.6	3.7	20.5	3.9	22.5	4.0
From 21 to 25 hours	22.3	-	21.0	-	21.4	-	24.3	-	23.0	-
From 26 to 30 hours	20.7	2.8	25.1	3.9	19.1	3.3	20.4	1.9	21.9	3.5
More than 30 hours	16.1	-	16.7	-	14.9	-	14.2	-	20.4	-

The following analysis compared the differences between groups for each variable using the t-test and test F. Table 3 presents the results for the QLI in general, in which significant differences were observed for religion variable. It was observed that the group formed by athletes who had some religion, excluding the Catholic group, had higher value than the Catholic group of athletes. These groups had higher values of overall Quality of Life than athletes without religion.

Table 3. Results of t-tests and test F for the overall QLI.

	***t*-Value**	***df***	***p*-Value**
Gender	0.176	41	0.861
Race	-1.237	40	0.223
Marital status	0.485	41	0.631
Kind of home	-0.912	40	0.367
Type of work	0.129	41	0.898
Value of wages	-0.197	41	0.845
Health care	-1.377	40	0.176
Weekly hours of sports activities	1.248	41	0.219
	***F*-Value**	***df***	***p*-Value**
Religion	3.117	2	0.055
Income	0.901	2	0.414
Education	0.764	2	0.473

Table 4 shows the results for the QLIfam, which suggest that there are significant differences between the groups of variable's gender, number of hours per week dedicated to sport, religion and income. The QLIfam for female athletes is higher than male athletes. Athletes who spend less than 15 hours weekly have higher QLIfam than the group who dedicated 15 hours or more per week in sport activities. The group consists of individuals who have any religion has higher QLIfam than the group of Catholics, moreover; the group without religion has the lowest value for QLIfam. The group of athletes who have income, and it is self-supporting has higher QLIfam than the group that has income and contributes to the family.

Table 4. Results of t-test and test F for the QLIfam.

	t-Value	*df*	*p*-Value
Gender	-1.840	41	0.073
Race	-1.525	40	0.135
Marital status	-0.563	41	0.577
Kind of home	0.153	40	0.880
Type of work	-0.603	41	0.550
Value of wages	-0.059	41	0.953
Health care	-1.371	40	0.178
Weekly hours of sports activities	2.609	41	0.013
	***F*-Value**	***df***	***p*-Value**
Religion	2.511	2	0.094
Income	2.765	2	0.075
Education	0.165	2	0.848

In sequence, table 5 reveals the data found for the QLIhea, which again point to the variable religion as significantly different between groups. Once more, the group of individuals, who have religion except Catholicism, have QLIhea with higher scores than the group of Catholic athletes. And in both cases, the values are higher than the group of athletes without religion.

Table 5. Results of t-test and test F for the QLIhea.

	t-Value	*df*	*p*-Value
Gender	0.713	41	0.480
Race	-0.798	40	0.429
Marital status	1.273	41	0.210
Kind of home	-1.168	40	0.250
Type of work	0.831	41	0.411
Value of wages	-0.466	41	0.644
Health care	-0.977	40	0.334
Weekly hours of sports activities	0.751	41	0.457
	***F*-Value**	***df***	***p*-Value**
Religion	2.843	2	0.070
Income	0.258	2	0.774
Education	1.516	2	0.232

The result for the QLIsoc indicated that unique variable that presented significant differences between groups was the number of hours dedicated to sport weekly, as shown in Table 6. The group of athletes who devotes less than 15 hours per week in sport activities had higher QLIsoc than the group that spent more than 15 hours per week in sport.

Table 6. Results of t-test and test F for the QLIsoc.

	t-Value	*df*	*p*-Value
Gender	-0.329	41	0.744
Race	-0.761	40	0.451
Marital status	-0.202	41	0.841
Kind of home	-1.186	40	0.243
Type of work	0.014	41	0.989
Value of wages	0.703	41	0.486
Health care	-1.025	40	0.312
Weekly hours of sports activities	1.823	41	0.076
	***F*-Value**	***df***	***p*-Value**
Religion	1.181	2	0.318
Income	0.979	2	0.384
Education	0.661	2	0.522

Finally, table 7 presents the data for the QLIpsy, which indicated that there are statistically significant differences in the race and religion variables. The group of whites showed lower values than the group of individuals of other races. It was noticed once more the difference between the groups regarding religion, but in this case, the Catholic athletes have higher scores of QLIpsy than the group of athletes from other religions, and the group without religion presented the lowest value for QLIpsy.

Table 7. Results of t-test and test F for the QLIpsy.

	t-Value	*df*	*p*-Value
Gender	0.568	41	0.573
Race	-1.955	40	0.058
Marital status	0.097	41	0.923
Kind of home	-0.231	40	0.819
Type of work	-0.882	41	0.383
Value of wages	-0.438	41	0.664
Health care	-1.657	40	0.105
Weekly hours of sports activities	0.025	41	0.980
	***F*-Value**	***df***	***p*-Value**
Religion	2.989	2	0.062
Income	1.713	2	0.193
Education	0.020	2	0.980

Dicussion

There are other studies on quality of life in athletes, but the diversity of methodological instruments and designs used interferes with a proper comparison between researchs, although expanding the approach of possibilities of the subject. In a study on quality of life in athletes, Huffman et al. (2008) used the Short-Form-36 (SF-36) and concluded that intercollegiate athletes reported significantly higher quality of life compared to a population group in general with similar age. Lam et al. (2013) used the Pediatric Quality of Life Inventory (PedsQL) to compare the values of quality of life of a group of young athletes and a group of adolescents in the general population and confirmed that juvenile athletes reported better quality of life in general than the non-athlete population of adolescents, particularly in the emotional aspect. Ledochowski et al. (2012) used the World Health Organization Quality of Life Bref - WHOQOL-Bref, to investigate the quality of life of athletes who participated in the Youth Olympic Games 2012 in Austria, and concluded that high quality of life has a positive influence in competitive anxiety in young elite athletes, and such information can be useful in creating long-term programs for the regulation of competitive anxiety in adolescent elite athletes in order to contribute to the health of the athlete. In a study performed by Santos (2013) that also used Ferrans and Powers QLI presented differing absolute values from the results of the rowing athletes. In the mentioned research, it was compared the QLI of amateur, semi-professional and professional athletes, and it was observed that the highest value was found for the QLIpsy, and the lowest value was the QLIsoc, unlike what happens to the results presented in this research. There were not found other studies that relate living conditions and quality of life in athletes, which restrains the comparison with data obtained by similar methodology. However, some theoretical formulations indicate possible analyzes for the results obtained. The variable religion seemed to affect the quality of life of the athletes, especially in the composition of the overall QLI, QLIhea, QLIfam and QLIpsy domains. Coakley and Pike (2007) observes that religion can help the athlete to deal with the uncertainties of the competitive environment and give meaning to their activities or put them in perspective. Religion serves to reduce the pressure the athlete feels on challenges that must be overcome in training and competitions, helps create links with other individuals of the group, and turns the sporting experience in an activity that has a significant purpose to life in a broad perspective. (Woods 2011) Perhaps these theoretical assumptions explain the impact of religion on the quality of life of the athletes, indicating that athletes who adopt some form of religion are better able to handle the sport environment. For the QLIsoc the results suggest that the time of weekly dedication to the sport can be decisive. This result confirms the study by Wrisberg (1996) which states that social and interpersonal lives of athletes are basically limited to people and activities related to the sport. Even in their free time, athletes end up mostly interacting with other athletes and restrict their lives's experiences to sport environment. Athletes have few opportunities for personal development in areas not related to their sport. In this study, the results indicate, that the group that devotes more hours to sport activities, have the lower quality of life in the socioeconomic aspect, which confirms such statements. The results for the QLIpsy highlighted the variable race. To analyze this data is important to note that the number of participants that make up the racial groups is a limitation for proper understanding of the results. From the theoretical approach, according to Adair (2012) the sport has been a paradoxical environment with regard to issues such as race, ethnicity and identity. For much of the 20th century, sport around the world has different environments. Whites and non-whites, for example, were separated in both the sport field and in society in general. Today the sport is more inclusive. However, antagonism still appears in the sport, as well as the assumptions about the athleticism based on stereotypes about race or ethnic origin. It should also be noted the concept of ethnicity includes the sharing of cultural elements of a particular group which gives them a sense of identity (Dias 2011). This consideration is relevant because the concept of quality of life adopted in this study implies the satisfaction that individuals have with areas of life that are important to them, and so aspects of the identity and culture can influence this perception. Finally, the Quality of Life Index that showed differences between groups of variables was the family domain. In addition to the variables of religion and time dedicated to sport activities previously

discussed, differences were found between groups of variable's gender and income. Regarding gender, this study showed an inverse result to the study by Santos (2013), in which the male group showed higher levels of quality of life than the female group. However, it should be noted that the significant gender difference was found in both studies. Such findings may be specific to the groups, and more research is needed on this issue to make progress in knowledge about the relationship between gender and the quality of life in athletes. Concerning income, Woods (2011) explains that aspiring young athletes to sports in high level have to invest lots of time and money in training and competition. If the family of the athlete does not have the resources to support such practice, the chances of success are severely restricted. In general, the competitive sports practice that search results involve costs with training, equipment, championships, travel, staff and others. Thus, the athlete must bear the costs or look for another source of funds, and find such a source of funds depends precisely the results that the athlete has in competitions. The results of this study are consistent with this logic. It is exactly the group of athletes who provide for themselves and contribute to the family income that have lower Quality of Life scores in the family domain. Quality of life assessment is useful to identify and improve aspects involving the training and sports performance, facilitate communication and support the decision making that involves athletes, coaches and managers, and to enable the detection of problematic conditions not explicit during routine activities. To get a better understanding of how the sports career evolves, it is essential to note the athletic, psychological, social, academic and professional development. However, reciprocal and interactive nature of these various dynamic contexts must be considered. In addition, there is a need to articulate the demands of each phase and transition from athlete's career development with the available resources in order to achieve a successful evolution in sports history (Wylleman and Lavalle, 2004). The Quality of Life Index and its domains allow the identification and analysis of such aspects. For Ledochowski et al (2012) are very important to keep the balance between the athlete's satisfaction with their lives, with themselves and their body image, and the athlete satisfaction with their relationships, safety, health and their environment. The well-being in all these aspects of life can be conceived as an essential parameter of a healthy state.

It should be noted as the limitation of this study the number of participants and the restricted geographical diversity, making it impossible to generalize the data. However, given the lack of studies on this theme the results may help the better understanding of the quality of life in rowers and facilitate comparisons between future studies. In this regard, it is important that new empirical research investigates the quality of life of athletes considering differences of age, gender, social and cultural aspects so that it becomes possible to improve existing knowledge on the subject to provide greater support to athletes.

Conclusions

According to the results, it was found that the largest absolute value for the group of rowing athletes was found in a Quality of Life family domain, and the lowest absolute value is related to the Quality of Life health and function domain. Among the social indicators and living conditions that is related to the quality of life index and its domains are the variable's gender, race, religion, income, and time devoted to sport activities. The perception that the athlete has on the quality of life and living conditions should be taken into account in the planning of training and competition.Future studies are needed to be able to set appropriate comparisons and understand more consistently the quality of life of athletes.

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