



Evaluation of Quality of Life of Public Technological High School Students

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Abstract: Quality of life is an individual's perception of his or her place in life, so it can be difference depending on the place we live, in this context the aim of this study was to evaluate the quality of life of young students of 2 public technological high school (City 01 and City 02) of São Paulo State, compare the results of these schools since they are located in different cities and compare between gender. As descriptive research, we evaluated 433 participants (n:433, mean age 16.050.92) of both sexes (male: 204 and female: 229); the instrument used was WHOQOL-brief applied online during the years 2022 and 2023. The results showed that the City 02 has a better general quality of life than City 01, as well, in physical and environment domains; most of the boys has a better quality of life in physical and psychological domain than girls. We concluded that between the cities of São Paulo (City 01) and Jundiaí (City 02) there is a significant difference in the general aspect of quality of life, that is, the City 02 has a better quality of life.

Keywords: Quality of Life, Technological High School, Adolescents, Evaluation.

1. INTRODUCTION

According to the World Health Organization, Quality Of Life (QOL) is “an individual's perception of his or her place in life, in the context of the culture and value systems in which he or she lives and in relation to his or her goals, expectations, standards and concerns”. It involves spiritual, physical, mental, psychological and emotional well-being, as well as, social relationships, such as family and friends, as well as health, education, housing, basic sanitation and other life circumstances [1]. In Brazil, the production of literature related to the quality of life of adolescents is still very incipient, which is reflected in the little discussion of the topic among health professionals [2].

Current interest in the theme of Quality of Life is related to the possibility of improving people's living conditions through specific actions in specific populations, which may involve physical, psychological, social and environmental aspects [3]. In this way, it promotes a better understanding of this phase of life and serves as a baseline for future studies with similar objectives, studying different ways of experiencing adolescence, that is, with the participation of groups in different situations [4].

The concept of quality of life evokes in its origin and emergence the need for interdisciplinary readings and approaches in dealing with health issues. Thus, its analysis applied to the health and disease processes of young people and children needs to be improved mainly in the methodological

approach at the cost of losing its broad perspective and fragmenting subjects and experiences, reducing them to relationships between variables [5].

Most quality-of-life instruments currently in use were developed from two frameworks: generic quality of life instruments and health-related quality of life instruments, so generic instruments have their roots in sociological research on work, family life, and well-being, and contain items focused on subjective aspects, and may include domains whose connection to health is not obvious, such as income, housing, and social support. Subjective quality of life assessment instruments tends to have good coverage with regard to their potential to verify the levels of well-being and satisfaction with life of individuals, at different times and in different life situations [6].

So, the question of this research is: there is any difference between the dimension of the quality of life of two different schools of two cities and between gender? In this context the aim of this study was to evaluate the quality of life of young students of 2 public technological high Scholl of São Paulo State; in the Other hand we want to compare the results of these Scholl's since they are located in different cities (São Paulo – Capital and Jundiai), and also compare between gender.

2. METHOD

This research is a descriptive one and included a total of 433 participants divided into two Cities of São Paulo State; in this way City 01 including young students of São Paulo City – Capital (n: 173) age between 14 to 17 years old (mean: 16.01 ± 0.93 , coefficient of variation: 5.80%); this group there was 75 male students (n: 75, age mean: 16.12 ± 1.22 , coefficient of variation: 7.68%) and 98 female students (n: 98, age mean: 16.43 ± 0.88 , coefficient of variation: 5.35%). Relation to City 02 there was included a total of 260 participants of the Jundiai City (n:260) aged between 14 to 17 years old (mean: 16.03 ± 1.00 , coefficient of variation: 6.23%); this group there was 129 male students (n: 129, age mean: 15.99 ± 1.13 , coefficient of variation: 7.06%) and 131 female students (n: 131, age mean: 16.06 ± 0.85 , coefficient of variation: 5.29%). In relation to the age of the participants, there is homogeneity.

The school of São Paulo, named City 01, is located at the east zone of the capital and involves around 1400 students, divided into morning and afternoon shifts. The second school of the City of Jundiai (named City 02), a City of São Paulo State, about 60 kilometers from the capital, and comprises a total of 2000 students also divided into two shifts. Both schools are high schools with technical courses.

The instrument used in this research was the World Health Organization Quality of Life, WHOQOL-brief (WHOQOL GROUP) [7, 8]. The instrument consists of 26 questions, two of which are general questions and the remaining 24 represent each of the 24 facets that make up the original instrument. Thus, unlike the WHOQOL-100 in which each of the 24 facets is assessed through 4 questions, the WHOQOL-brief is assessed through only one question. The data that gave rise to the abbreviated version were extracted from the field test of 20 centers in 18 different countries.

Data collection was done online, by October of 2022 to June of 2023, in which, first of all the participants were invited to have access to the free and informed consent form, thus contemplating all research ethics precautions. Then, the participant who agreed to participate in the study, through his/her legal representative, was directed to the questionnaire that was answered individually, and sent at the end of the completion. The response time for the self-completion instrument is approximately 10 minutes.

The statistical treatment was carried out according to the model intended for the instrument, in addition to establishing the count of means, standard deviation, coefficient of variation and amplitude, separately between cities and gender. In addition to this treatment, a comparison was also made between both municipalities and between genders in order to verify whether there are possible significant differences using test “t” ($p < 0.05$)

3. RESULTS AND DISCUSSION

According to Table 01 we can observe that the physical, psychological, social relationship and environmental domains are bigger in the City 02, including in general of quality of life, showing that in the City 02 the mean is significantly higher than the City 01. In the Self-evaluation of Quality-of-life domain, the City 01 the mean is highest, but not significant. The domains with significant difference are Physical and Environment.

Table 1. Results Total of Mean, Standard Deviation, Coefficient of Variation, Minimum and Maximum Value and Amplitude of Quality of Life of Young Students of City 01 and City 02.

Domain	Mean (±)		Coefficient of Variation (%)		Amplitude	
	City 01 (n: 173)	City 02 (n:260)	City 01 (n: 173)	City 02 (n:260)	City 01 (n: 173)	City 02 (n:260)
Physical	14.45* (2.58)	15.02* (2.17)	17.83	14.46	12.57	12.00
Psychological	13.12 (2.98)	13.64 (2.67)	22.72	19.60	14.00	13.33
Social Relationships	14.06 (2.31)	14.41 (2.26)	16.41	15.69	10.67	10.67
Environment	13.67** (2.34)	14.86** (2.04)	17.13	13.75	16.00	11.00
Self-evaluation of Quality of life	14.81 (2.79)	15.12 (2.70)	18.81	17.85	14.00	14.00
General	13.89** (2.00)	14.59** (1.65)	14.40	11.32	11.54	9.85

* Significant Difference ($p \leq 0.05$); ** Significant Difference ($p \leq 0.01$)

Regarding this sphere of comparison between municipalities we can highlight that The Human Development Index (HDI) of Jundiai, São Paulo, in 2023 was 0.822, which places the City in 11th place among all cities in Brazil. In 2010, Jundiai's HDI-M Longevity was 0.866 and life expectancy was 76.9 years [9].

The objectives and goals defined in the 2030 Agenda are integrated, cover the social, environmental and economic dimensions of sustainable development and can be put into practice by both public and private organizations, such as governments, civil society, the private sector and every citizen concerned about the future of future generations, so sustainable urban development and management are fundamental to the quality of life of our people [10, 11].

Sport during adolescence reaffirms itself as a facilitating element in the action aimed at seeking to improve quality of life. Therefore, combining, at this turn of the century, adolescence, sport and quality of life is a challenging task towards the desired citizenship which, as an expression of the conquest and maintenance of rights, presupposes the active participation of the subjects [12].

Then, the World Health Organization (WHO) defines quality of life as "an individual's perception of his or her position in life in the context of the culture and value system in which he or she lives and in relation to his or her goals, expectations, standards and concerns" [8].

When compared to physically disabled adolescents, physically disabled adolescents were the most vulnerable group in the perception of overall QOL and in the physical and environmental domains among the students investigated [13].

Observing Table 02, the comparison between boys and girls of São Paulo City (City 01) we can see that in physical, psychological, environment and in the general quality of life profile of boys (male) are higher than the girls (female) significantly; referring social relationships and self-evaluation of quality of life, there was there was no significant difference, therefore reflecting the equidistant results.

Table 2. Results of Mean, Standard Deviation, Coefficient of Variation, and Amplitude of Quality of Life of Male (n: 75) and Female (n: 98) Young Students of City 01.

Domain	Mean (±)		Coefficient of Variation (%)		Amplitude	
	Male (n: 75)	Female (n:98)	Male (n: 75)	Female (n:98)	Male (n: 75)	Female (n:98)
Physical	15.23** (2.57)	13.86** (2.43)	16.89	17.53	11.43	12.57

Evaluation of Quality of Life of Public Technological High School Students

Psychological	13.77** (2.97)	12.61** (2.90)	21.54	23.03	14.00	12.00
Social Relationships	14.22 (2.26)	13.93 (2.35)	15.89	16.84	10.67	10.67
Environment	14.09* (2.10)	13.34* (2.47)	14.88	18.54	9.00	16.00
Self-evaluation of Quality of life	15.28 (2.74)	14.44 (2.78)	17.96	19.22	12.00	14.00
General	14.43** (1.93)	13.46** (1.96)	13.40	14.53	7.69	11.54

* Significant Difference ($p \leq 0.05$); ** Significant Difference ($p \leq 0.01$)

The Psychological domain showed statistical differences between the sexes. These results demonstrate a tendency for men to have a better perception of QOL when compared to women corroborating the study of Cieslak et al. (2012) [14]. Female teenagers value family time more, while male teenagers value more leisure time [15].

The results generally corroborate the scientific evidence on the negative impact of depression on the QOL of adolescents. In this sense, the findings point to a prevalence rate of depressive symptoms that is more pronounced in females [16].

Adolescents who did not work showed better physical quality in the physical domain. One possible explanation is that daily work by adolescents can cause physical fatigue, leading to lower scores in questions with greater influence on this component. Better income conditions, not having to work, not consuming alcoholic beverages or tobacco, and exercising more frequently are positive factors for a better quality of life. Female gender was shown to be a factor related to lower scores in mental aspects [17].

When the analysis was done with gender separation (male x female) the female gender showed a discreet relationship relating greater leisure with an improvement in quality of life [18].

The adolescents with disabilities placed in special rooms presented themselves as the most vulnerable group in the perception of global quality of life in the domains "psychological", "social relationships" and "environment" among the investigated students, which suggests the need for public awareness and improvement of the conditions of accessibility and safety of this population [13].

Other important aspect refers to a greater participation of males as opposed to females in the sports context found in their study; The findings of their study may be related to the fact that males are more spontaneous, join several groups simultaneously, interact and form friendships faster than the opposite sex [19].

Practicing physical activity is very important for both sexes, as it has effects and benefits for health, and can reduce levels of anxiety, stress and depression, increase mood, physical and psychological well-being, self-esteem, performance in studies and other activities of daily life, positively influencing QOL [20].

Observing Table 03, the comparison between boys and girls of City 02 we can see that the only domain with significant difference was environment, I demonstrate that the result is greater in boys; in no other domain was there evidence of a significant difference

Table3. Results of Mean, Standard Deviation, Coefficient of Variation, and Amplitude of Quality of Life of Male (n: 129) and Female (n: 131) Young Students of City 02.

Domein	Mean (\pm)		Coefficient of Variation (%)		Amplitude	
	Male (n: 75)	Female (n:98)	Male (n: 75)	Female (n:98)	Male (n: 75)	Female (n:98)
Physical	15.49 (2.03)	14.56 (2.21)	13.13	15.19	9.14	12.00

Psychological	14.12 (2.59)	13.17 (2.67)	18.38	20.31	13.33	12.67
Social Relationships	14.30 (2.19)	14.51 (2.33)	15.31	16.06	9.33	10.67
Environment	14.88** (1.94)	14.84** (2.15)	13.02	14.49	8.50	11.00
Self-evaluation of Quality of life	15.30 (2.84)	14.95 (2.56)	18.53	17.11	14.00	12.00
General	14.83 (1.57)	14.35 (1.70)	10.57	11.86	6.92	9.85

** Significant Difference ($p \leq 0.01$)

A comparison was also established between genders in both cities, and, regarding females, there was a significant difference between the physical ($p=0.02$) and environmental ($p=0.01$) domains, as well as in the general result of quality of life ($p=0.01$), thus the adolescent students who live in City 02 present a higher quality of life index than those who live in City 01. The other comparison made was between adolescent boys who only showed a significant difference in the environmental domain ($p=0.01$), thus demonstrating, once again, that City 02 has a higher average in this domain.

Given these results, we can justify that the higher averages in the domains of City 02 refer to this municipality being further away from the capital, that is, with less reflection of the context of the metropolis.

The municipality of Jundiai (City 02) is located in the interior of the State of SP - Brazil, with an estimated population of 443,116 inhabitants, in a total territorial area of 432 km². 98.7% of the population has an adequate water supply and 90.3% has an adequate sewage system. The Human Development Index of Jundiai, São Paulo, in 2023 was 0.822, on a scale of 0 to 1. With this value, Jundiai occupied 11th place among cities in Brazil and 4th place in the state of São Paulo [21]

In general, adolescents from less privileged socioeconomic backgrounds are more likely to live in peripheral regions without basic sanitation, live in areas with high crime rates, live with a failed education and health system, have no opportunities for leisure, have financial difficulties, restricted diet and limited access to new technologies. It is clear that these factors imply a decrease in the QOL of this population, especially in aspects related to the environment, therefore, the environmental domain can be a vulnerable point in the QOL of adolescents [22].

In a study in the City of Curitiba, Paraná (Brazil), the most worrying domains for the QOL of the adolescents investigated were Psychological (for girls) and Environment (for boys and for the total sample), indicating that intervention strategies should be directed towards changes in facets related to psychological and environmental issues of the population studied [23].

Associations between time spent on sedentary behaviors and Health-related quality of life varied with the type and method of sedentary behavior measurement and the Health-related quality of life dimension. Time spent on video games/cell phones/tablets exhibited a negative relation with a large number of Health-related quality of life dimensions (psychological well-being, social support, peer group and school environment) [24].

Be involvement in motor activities was associated with a better perception of quality of life, differing in the frequency with which they are practiced. Exercising three or more times a week presented a more positive perception of quality of life [25].

There was a consensus that religiosity and spirituality directly influence the perception of quality of life in adolescents. By establishing meaning for existence and stimulating the shared experience of beliefs and worldviews, strengthening social ties and the sense of belonging, they become effective allies in the protection, promotion and recovery of health in situations of insecurity and anguish, as commonly occurs in adolescence [26].

Difficulties related to assessing quality of life may limit its inclusion in clinical practice, largely due to the lack of information among healthcare teams about the different possibilities that currently exist for investigating quality of life and considerations on quality of life attest to equivalence with other

analyses and demonstrate the need for investment in public policies, as current societies have serious structural problems, mainly related to economic, educational and health factors [14].

Attention is needed to observe these factors that affect the physical and mental health. And these problems could be transformed into a social issue, when their consequences are extended to other individuals who report directly to those professionals affected by the syndrome, resulting in loss of quality of medical care or education [27]. Large-scale studies should contribute to the identification of problems in certain areas, promoting the population's quality of life [2].

4. CONCLUSION

We concluded that between the cities of São Paulo and Jundiaí there is a significant difference in the general aspect of quality of life, that is, the City of Jundiaí has a better quality of life, in addition to the physical and environmental domain. When comparing boys and girls, in both cities in relation to the Environment, the average for boys is higher, in addition in the capital (City 01) boys have higher physical and psychological domains. In this study, we must be aware of the psychological domain, which presented a low value when compared to the other domains, an element that may be a post-pandemic reflection. It is clear that a limitation of this study was not having related other aspects such as the sociodemographic dimension.

AUTHOR CONTRIBUTIONS

Designed the study, literature search, data analysis, and wrote the first draft (Vinicius Barroso Hirota and Lucília Guerra). Added important intellectual content writing, criticizing, statistics and correcting previous versions of the manuscript (Elias de França, Erico Chagas Caperuto, Victor Augusto Ramos Fernandes, Marcelo Rodrigues da Cunha, Ronaldo VT dos Santos and Claudson Lincoln Begiatto); all authors approved the final version of the manuscript.

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