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Quality of life of high school adolescents according to parental level of education

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ABSTRACT

Introduction: During adolescence, period marked by the accelerated body development, several factors can influence the quality of life. **Objective:** To identify the correlation between adolescents´ quality of life and their parents' level of education. **Method:** Seven hundred and seventy-three students, between the age of 14 and 19, from the city of Paranaguá, Paraná, Brazil, participated in the survey in a convenience sample by conglomerates. Sociodemographic data and parents' level of education were collected, in addition to the Pediatric Quality of Life Inventory™ assessment, version 4.0 (PedsQL 4.0). **Results:** Children of mothers with college degree showed more positive quality of life in the Physical (p=0.010), School (p=0.014) and Total Quality of Life (p=0.002) dimensions, compared to the children of mothers with elementary school. In the Social dimension, there was a difference between higher education and other levels of education. Children of fathers with college degree showed higher positive perception of quality of life in the Physical dimension (p=0.008), compared to other levels of education. In the School dimension, children had a higher perception (p=0.036) compared to the peers of parents with complete elementary school. Furthermore, there was a correlation between the level of education of parents in Physical (p=0.002 father; p=0.003 mother), School (p=0.004 father; p=0.028 mother) and Total Quality of Life (p=0.002 father; p=0.002 mother) dimensions. **Conclusion:** This study revealed the relationship between a better quality of life for the adolescents studied with a higher level of education of their parents.

Keywords: quality of life; educational status; adolescent.

INTRODUCTION

Quality of life has a complex concept and is related to people's (in)satisfaction with their lives. Besides including aspects traditionally related to health, such as the absence of diseases, physical pain, and motor disabilities[1], it is related to physical, mental, emotional, social, and environmental well-being[2]. In addition, quality of life has several approaches, such as economic, psychological, medical, and holistic lines[3]. Among these, the holistic approach stands out, in which quality of life is defined as multidimensional and dynamic among its elements, differing from person to person according to their environment/context and even between two people in a similar context[3]. That is, it is capable of encompassing several aspects not only of the individual him or herself, but of the political, economic, and social dynamics that direct or indirectly have repercussions

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in opportunities for social and human development, what can affect the perception of the quality of life of individuals.

In the context of studies on quality of life and human development, there is an increasing concern about quality of life in the context of adolescence, a period of physiological and behavioral changes that affect self-perception[4]. In this sense, issues such as increased obesity[5], reduced physical activity[6], increased prevalence of psychological disorders, especially anxiety and depression, and increased problems in the social, school, and family environments[4] are associated with a negative perception of quality of life. Furthermore, at the family level, a study identified that parental education was positively associated with quality of life in children and adolescents in seven European countries[7], but evidence in countries still in development, such as Brazil, have not been identified and may express different results.

It is worth noting that according to the *Instituto Brasileiro de Geografia e Estatística* (Brazilian Institute of Geography and Statistics/IBGE)[8], the level of education indicates the stages of study that have been started or completed. In Brazil, the educational level of the population grew from 33.6% in 2007 to 42.5% in 2014 and remained higher in females. In 2014, the portion with at least 11 years of study indicated 40.3% for men and 44.5% for women aged 25 years or older. Despite the percentage growth in schooling, we are far from the reality of developed countries; moreover, it is necessary to understand the possible factors that can contribute to a better quality of life of the population.

Thus, this study is based on the hypothesis that there is an association that the higher the level of education of parents, the better their children's perception of quality of life. Despite this, no studies were found in the literature in Brazil with empirical data about this association, nor did they explore the associations with the different dimensions of quality of life.

In view of the above, this research aimed to analyze the quality of life according to the parents' level of education of adolescents between 14 and 19 years old from high school in a city in the South of Brazil.

METHOD

This research, of an epidemiological and cross-sectional descriptive nature, was conducted with the macroproject "Sleep, physical activity and school performance of adolescents in the city of Paranaguá/PR", carried out according to ethical principles, and approved by the Ethics Committee on Research with Human Beings of the – Universidade do Estado de Santa Catarina (Nº. Opinion 1.671.544/2016). The research participation occurred with students who signed the Consent Form, and their parents signed the Informed Consent Form.

The student population was regularly enrolled in high school in state schools in the city of Paranaguá, with a total of 6,108 adolescents between 14 and 19 years. The criteria of Luiz and Magnanini[9] were adopted for sample calculation, using a 95% confidence interval, 5 percentage points of error, 50% for unknown outcome, and 1.5 for the effect of the conglomerate sample design. An additional 15% was added for loss reduction. The minimum sample size was 624 students. Two of the largest schools, which received students from all regions of the county, were selected for the survey. Due to the conglomerate data collection, the final sample was composed of adolescents from 14 to 19 years old students from state schools in the location, totaling 773 students.

Data collection was performed using a self-administered questionnaire that contained sociodemographic information such as age, gender, and the parents' level of education. For the level of education, the options between illiterate and complete higher education could be selected, on a five-point response scale (illiterate/incomplete Elementary School; complete Elementary School or incomplete Primary Education; complete Primary School or incomplete High School; complete High School or incomplete Higher Education; complete Higher Education). For analysis purposes, options 1), 2), and 3) were grouped as Complete Elementary School. For complete High School, option 4) was used. Finally, complete High School was formed by option 5).

The investigation of the health-related quality of life variable occurred through the Pediatric Quality of Life Inventory version 4.0 (PedsQL 4.0), developed and validated by Varni *et al.*[10], as a generic scale of the health-related quality of life instrument, HRQOL for several pediatric populations including healthy or with chronic problems children (2-18 years). This instrument was translated by Klatchoian *et al.*[11] and further cross-culturally validated following the methodology of Varni *et al.*[10]. The 23 item PedsQL 4.0 questionnaire covers: 1) Physical (eight items), 2) Emotional, 3) Social, and 4) School dimensions. The items have five response options on a *Likert* scale from never=0 to almost always=4. For analysis purposes, the values were operated on an inverse linear scale from 0 to 100, in which lower score represents more negative perception of quality of life. The result is presented according to the dimensions and a total sum by means of the averages of the scores of the items.

Statistical Analysis

The software Statistical Package for the Social Sciences (SPSS), version 20.0 was used for statistical analysis. Data normality was verified using the Kolmogorov Smirnov test, identifying non-normality, thus, non-parametric analyses were necessary. Descriptive analyses of categorical variables were exposed by relative and absolute frequency. Analyses of continuous variables were represented by media and standard deviations. The differences of the medias of the total quality of life scores and of each dimension according to the parents' level of education were verified by the Kruskal Wallis test with Dunn's *post hoc*. We also performed

the partial correlation controlling the analysis for age. A 5% probability level of confidence was adopted.

RESULTS

The adolescents had a mean age of 16.2 (1.07) years, and 50.2% were male. Regarding mother's level of education, the largest proportion of them had an education level of up to elementary school (43.5%). Considering paternal education level, the same situation was evidenced, 43.8% had only completed elementary school. The perception of total quality of life showed an average score of 73.8 (12.6) (Table 1). The adolescents had a higher media in social dimension (86.9) and a lower media in the Emotional dimension (58.8) when assessing the specific dimensions of quality of life.

The comparison between the mothers' level of education and the children's quality of life shown in Table 2 identified that, in the Physical (p=0.010), School (p=0.014), and Total Quality of Life (p=0.002) dimensions, the children of mothers with higher education had higher scores compared to the children of mothers who had only elementary school education. It is also noteworthy the relationship in which children of mothers with higher level of education presented on higher scores in the social dimension in comparison with the others (p=0.014).

When analyzing the scores of the perception of quality of life of adolescents according to the parents' level of education, there was a higher quality of life in the Physical dimension of the children of individuals with higher education in relation to the others (p=0.008). In the School dimension, the statistical contrast occurred between the quality of life of adolescents in which the parents had elementary school education and higher education, with children of parents with higher education showing higher media physical scores in the school dimension of quality of life (Table 3).

When verifying the correlations of the father's and mother's level of education with the score of perceived quality of life and its dimensions adjusted by age (Table 4), it is observed a correlation with both for total quality of life, as well as Physical and School dimensions (p<0.05). For both, there was no correlation with the social dimension (p>0.05). Finally, only the mothers' level of education was correlated with the Emotional dimension (p<0.029).

Table 1: Descriptive data of the sample

Variables	General (n=773)
Age, years - media (SD)	16.2 (1.07)
Sex, n (%)	
Male	388 (50.2)
Female	385 (49.8)
Mother's education level – n (%)	
Complete Elementary School	327 (43.5)
Complete High school	282 (37.5)
Complete Higher education	143 (19.0)
Father's education level – n (%)	
Elementary school complete	308 (43.8)
High school complete	252 (35.8)
Higher education complete	144 (20.5)
Total quality of life, points - mean (SD)	73.8 (12.6)

SD: standard deviation.

DISCUSSION

This study analyzed the perception of quality of life of adolescents from 14 to 19 years of age in high school according to the parents' level of education. In general, it was identified that adolescents with parents with higher level of education had a better perception of quality of life in the school and physical dimensions compared to their peers, whose fathers and mothers had lower level of education. Furthermore, adolescents with a

Table 2: Difference between mother's educational attainment and adolescent quality of life and its dimensions.

Adolescent Quality of Life - Dimensions	Mother's degree of education			
	Elementary School	Teaching high school	Education	p-value
Physical	78.93 (16.85)[a]	80.80 (14.61)[a,b]	83.83 (14.44)[b]	0.010
Emotional	57.09 (21.53)	59.55 (20.10)	61.20 (21.31)	0.131
Social	85.94 (16.20)[a]	86.75 (15.34)[a]	89.58 (14.80)[b]	0.025
School	66.10 (17.76)[a]	69.26 (16.36)[a,b]	69.72 (19.31)[b]	0.014
Total QL	72.18 (13.11)[a]	74.24 (11.64)[a,b]	76.29 (12.53)[b]	0.002

Distinct letters represent significant difference between the mean values.

Table 3: Difference between father's education level and adolescent's quality of life and its dimensions.

Adolescent Quality of Life - Dimensions	Father's level of education			
	Elementary School	Teaching high school	Education	p-value
Physics	79.71(16.65)[a]	80.37 (15.80)[a]	84.93 (12.90)[b]	0.008
Emotional	58.26 (21.18)	60.27 (20.76)	60.39 (21.76)	0.596
Social	86.36 (16.56)	87.68 (15.00)	87.59 (15.91)	0.713
School	66.24 (18.16)[a]	69.40 (17.53)[a,b]	70.42 (17.77)[b]	0.036
Total QL	72.86 (13.00)	74.55 (12.49)	75.84 (12.38)	0.053

Distinct letters represent significant difference between the mean values.

Table 4: Correlation between mother's and father's educational attainment with adolescent quality of life and its dimensions. Age-adjusted analysis.

Adolescent Quality of Life - Dimensions	Level of Education			
	Father		Mother	
	rho	p-value	rho	p-value
Physical	0.121	0.002	0.117	0.003
Emotional	0.058	0.143	0.087	0.029
Social	0.063	0.110	0.074	0.063
School	0.113	0.004	0.082	0.028
Total QL	0.121	0.002	0.124	0.002

higher mother's level of education had a more positive perception in the social dimension and in the total quality of life when compared to their peers with mothers with an education level up to elementary school.

For Kappel[12], the parents' education may condition the children's education and may limit the family's cultural ambience, which, consequently, may hinder the children's school and economic development. Moreover, the lower income conditions and material resources limit the access to culture, education, leisure, social assistance, sports, and health[12,13], hindering the proportion of stimuli that contribute to the physical, emotional, cognitive, and social development, and consequently reflect in a worse perception of quality of life compared to their peers.

It is worth mentioning that the education of the head of the family is seen as an indicator of the socioeconomic level related to family income[14] used even in the *Critério de Classificação Econômica Brasil* (Brazilian Economic Classification Criterion/ CCEB). Using this criterion, a study[15] found that the perception of quality of life related to environmental conditions was consistently associated with socioeconomic status, which may contribute to the understanding of the positive relationship between parental education and the overall quality of life of adolescents.

In addition to the association of the adolescents' general quality of life, the level of education of both parents was associated with better quality of life in the physical dimension. According to Gordia et al.[16] the perception of better quality of life in this dimension implies higher levels of physical activity, which has a positive impact on health and reduces physical limitations. Corroborating this idea, Fernandes *et al.*[17] and Silva et al.[18] identified greater engagement in sports practices in adolescents with high socioeconomic status (income and level of education) compared to their peers with low socioeconomic status, thus verifying the contribution of higher levels of physical activity to the more positive perception of quality of life in adolescents with higher socioeconomic status.

Regarding the positive correlation between the level of schooling of mothers and fathers and the perception of quality of life of their children in relation to school, some studies in the literature found similar results that support this relationship. In a study by Mascarenhas et al.[19] for example, the scholars indicated an association between school performance and the perceived effort of students whose parents had higher schooling. This is due to the importance of parents' schooling in relation to the construction of their children's self-perceptions of competence[20]. On the other hand, although the parents' level of education is associated with their children's school performance, this relationship depends on the involvement of these parents in their children's school life[21].

When verifying the stratified analyses regarding the parents' level of education, it was found that in the social dimension, only maternal education was associated. Thus, it is understood from the study by Andrade et al.[22] the importance of maternal education for a better lifestyle and development, directly impacting the adolescent's life from the organization of the environment and stimulation from the interaction. Moreover, even though Wagner *et al.*[23] reports an advance towards equality in domestic and financial functions and in the participation in child rearing, the results reinforce the greater involvement of mothers regarding fundamental aspects of child development, influencing their habits and way of relating to people[24].

The limitations of the study include the cross-sectional design, which made it impossible to indicate causality. In addition, data collection on the parents' socioeconomic data considered only the level of education. Variables such as marital status and income could help in the understanding and contribution of these issues in their association with the perception of quality of life of adolescents. Therefore, it is suggested, for future studies, to analyze these variables and identify the factors that explain the relationship between parents' education and children's quality of life.

This study points out the importance of the parents' level of education on their children's perception of quality of life. The higher the level of education, the better the adolescents' perception of quality of life. This evidence was especially in the physical, school, and social domains, the latter being associated only with mothers.

REFERENCES

1. Seidl EMF, Zannon CMLC. Qualidade de vida e saúde: aspectos conceituais e metodológicos. Cad Saude Publica. 2004;20(2):580-8. http://dx.doi.org/10.1590/S0102-311X2004000200027

2. Minayo MCS, Hartz ZMA, Buss PM. Qualidade de vida e saúde: um debate necessário. Cienc Saude Coletiva. 2000;5(1):7-18. http://dx.doi.org/10.1590/S1413-81232000000100002

3. Pereira EF, Teixeira CS, Santos A. Qualidade de vida: abordagens, conceitos e avaliação. Rev Bras Educ Fis Esporte. 2012;26(2):241-50. http://dx.doi.org/10.1590/S1807-55092012000200007

4. Gordia AP, Silva RCR, Quadros TMB, Campos W. Variáveis comportamentais e sociodemográficas estão associadas ao domínio psicológico da qualidade de vida de adolescentes. Rev Paul Pediatr. 2010;28(1):29-35. http://dx.doi.org/10.1590/S0103-05822010000100006

5. Kunkel N, Oliveira WF, Peres MA. Excesso de peso e qualidade de vida relacionada à saúde em adolescentes de Florianópolis, SC. Rev Saude Publica. 2009;43(2):226-35. http://dx.doi.org/10.1590/S0034-89102009005000012

6. Von Rueden U, Gosch A, Rajmil L, Bisegger C, Ravens-Sieberer U. Socioeconomic determinants of health related quality of life in childhood and adolescence: results from a European study. J Epidemiol Commun H. 2006;60(2):130-5. http://dx.doi.org/10.1136/jech.2005.039792

7. Instituto Brasileiro de Geografia e Estatística (IBGE). Censo demográfico 2010. Available from: https://www.ibge.gov.br/estatisticas/sociais/saude/9662-censo-demografico-2010.html?=&t=o-que-e.

8. Luiz RR, Magnanini MMF. A lógica da determinação do tamanho da amostra em investigações epidemiológicas. Cad Saude Coletiva. 2000;8(2):9-28.

9. Varni JW, Burwinkle TM, Seid M, Skarr D. The PedsQL 4.0 as a pediatric population health measure: feasibility, reliability, and validity. Ambul Pediatr. 2003;3(6):329-41. http://dx.doi.org/10.1367/1539-4409(2003)003≤0329:tpaapp≥2.0.co;2

10. Klatchoian DA, Len CA, Terreri MTRA, Silva M, Itamoto C, Ciconelli RM, *et al.* Qualidade de vida de crianças e adolescentes de São Paulo: confiabilidade e validade da versão brasileira do questionário genérico Pediatric Quality of Life Inventory™ versão 4.0. J Pediatr. 2008;84(4):308-15. http://dx.doi.org/10.1590/S0021-75572008000400005

11. Seabra AF, Mendonça DM, Thomis MA, Anjos LA, Maia JA. Determinantes biológicos e sócio-culturais associados à prática de atividade física de adolescentes. Cad Saude Publica. 2008;24:721-36. http://dx.doi.org/10.1590/S0102-311X2008000400002

12. Kappel DB. Índice de desenvolvimento infantil no Brasil: uma análise regional. Rev Bras Educ. 2007;12(35):232-240. https://doi.org/10.1590/S1413-24782007000200004

13. Torres HDG, Marques E, Ferreira MP, Bitar S. Pobreza e espaço: padrões de segregação em São Paulo. Estud Av. 2003;17(47):97-128. https://doi.org/10.1590/S0103-40142003000100006

14. Silva DAS, Pereira IMM, Oliveira AC. Impacto da escolaridade materna e paterna na percepção da imagem corporal em acadêmicos de Educação Física. Motricidade. 2012;8(2):22-31. http://dx.doi.org/10.6063/motricidade.8(2).709

15. Gordia AP, Quadros TMBD, Campos WD. Variáveis sociodemográficas como determinantes do domínio meio ambiente da qualidade de vida de adolescentes. Cienc Saude Coletiva. 2009;14:2261-8. https://doi.org/10.1590/S1413-81232009000600035

16. Gordia AP, Quadros TMB, Campos W, Petroski ÉL. Domínio físico da qualidade de vida entre adolescentes: associação com atividade física e sexo. Rev Salud Publica 2009;11(1);50-61.

17. Fernandes RMF. O sono normal. Medicina (Ribeirao Preto). 2006;39(2):157-68. https://doi.org/10.11606/issn.2176-7262.v39i2p157-168

18. Silva ICM, Knuth AG, Amorim TEC, Kremer MM, Rombaldi AJ, Hallal PRC, *et al.* Atividade física de pais e filhos: um estudo de base populacional. Rev Bras Educ Fis Esporte. 2008;22(4):257-63. https://doi.org/10.1590/S1807-55092008000400002

19. Mascarenhas SADN, Almeida LS, Barca A. Atribuições causais e rendimento escolar: impacto das habilitações escolares dos pais. Rev Port Educ. 2005;18(1):77-91.

20. Mascarenhas S. Avaliação dos processos, estilos e abordagens de aprendizagem dos alunos do ensino médio do Estado de Rondônia (Brasil) [dissertation]. [Coruña]: Universidade da Coruña; 2004.

21. Peralbo M, Fernández Amado ML. Estructura familiar y rendimiento escolar en educación secundaria obligatoria. Rev Galego-portuguesa Psicoloxía Educ. 2003;7(8):7.

22. Andrade SA, Santos DN, Bastos AC, Pedromônico MRM, Almeida-Filho ND, Barreto ML. Ambiente familiar e desenvolvimento cognitivo infantil: uma abordagem epidemiológica. Rev Saude Publica. 2005;39(4):606-611. https://doi.org/10.1590/S0034-89102005000400014

23. Wagner A, Predebon J, Mosmann C, Verza F. Compartilhar tarefas? Papéis e funções de pai e mãe na família contemporânea. Psicol Teor Pesq. 2005;21(2):181-6. http://dx.doi.org/10.1590/S0102-37722005000200008

24. Carvalho IMMD, Almeida PHD. Família e proteção social. São Paulo Perspec. 2003;17(2):109-122. https://doi.org/10.1590/S0102-88392003000200012