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Quality of life : differences related to gender, age, socio-economic status and health status, in Portuguese teens

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QUALITY OF LIFE: DIFFERENCES RELATED TO GENDER, AGE, SOCIO-ECONOMIC STATUS AND HEALTH STATUS, IN PORTUGUESE TEENS

QUALIDADE DE VIDA: DIFERENÇAS DE GÉNERO, IDADE, ESTATUTO SOCIO-ECONOMICO E CONDIÇÃO DE SAUDE NOS ADOLESCENTES PORTUGUESES

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Abstract: The KIDSCREEN is a European cross-cultural and standardized instrument that assesses ten dimensions regarding quality of life in children, adolescents and their parents. The objective of this study is to use the KIDSCREEN-52 in order to assess interpersonal differences during pre adolescence and adolescence in Portugal.

The present study focuses only in the children' and adolescents' versions of KIDSCREEN-52. A sample of 3195 children and adolescents from 5th grade (48,8%) and 7th grade (51,2%), mean age 11,8; SD 1,46; 49,2% boys, were inquired.

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Using ANOVAs, the differences according to gender, age, socio-economic status, migrant status and health conditions were identified. KIDSCREEN-52 questionnaire is a sensitive instrument to estimate the perception of quality of life in children and adolescents. The differences according to gender, age, socio-economic status, migrant status and health conditions, agree with the literature. The relevance of these findings will be discussed within Portuguese reality.

Key words: Assessment, Health-Related Quality of Life, Children and Adolescents.

Resumo: O KIDSCREEN é um instrumento europeu cross-cultural e padronizado que avalia dez dimensões de qualidade de vida em crianças, adolescentes e seus pais. O objectivo deste estudo é a utilização do KIDSCREEN-52, a fim de avaliar as diferenças interpessoais na adolescência e pré adolescência em Portugal.

O presente estudo centra-se apenas nas versões para crianças e adolescentes do KIDSCREEN-52. Foram questionados 3.195 crianças e adolescentes do 5º ano de escolaridade (48,8%) e 7º ano de escolaridade (51,2%), com idade média de 11,8, DP 1,46; rapazes 49,2%.

Com a utilização de ANOVAs foram identificadas diferenças de acordo com género, idade, estatuto sócio-economico, estatuto migrante e condição de saúde.

KIDSCREEN questionário-52 é um instrumento sensível para estimar a percepção da qualidade de vida em crianças e adolescentes. As diferenças de género, idade, estatuto sócio-economico, estatuto migrante e condição de saúde encontram-se de acordo com a literatura. A relevância destes resultados são discutidos dentro da realidade Portuguesa

Palavras-chave: Avaliação, qualidade de vida relacionada com a saúde, Crianças e Adolescentes.

Literature review

The most widely cited definition of QoL is provided by the World Health Organization (WHOQoL group), who defined the QoL as the individual's physical health, psychological well-being, independence level, social relationships and relationship with their environment and social context. QoL can also be defined as a personal perception of individual's own life in their specific cultural context and the value systems; and related to their goals, expectations, values and perspectives (WHOQOL, 1998).

The conceptualization principles of the quality of life are QoL construct which (1) it is multidimensional, influenced by the interaction of the personal and the environmental factors (Bramston, Chipuer & Pretty, 2005.; Fuh, Wang, Lu & Juang, 2005); (2) has both the subjective and the objective components; (3) is enhanced by self determination, resources, the purpose in life, and a sense of belonging (Cummins, 2005); and (4) it can be measured with generic or specific instruments (Helseth & Lund, 2005). The study and interest for positive health and positive emotions has been growing, and one of the positive variables

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is HRQoL, or subjective perception of quality of life (Diener & Lucas, 2000). Health-related quality of life (HRQOL) is generally conceptualized as a multidimensional construct, based on subjective well-being. The subjective indicators result of the personal evaluation about the person's own capabilities and expectations. This subjectivity implies that two persons with the same capabilities could have different HRQoL, depending on person perception and how the person deals with the context, life events and adversities (Diener, 2000).

The WHOQOL definition may not be directly applicable to the child's QoL. This is because children and adolescents may have different expectations of their own lives and well-being than adults have about children' and adolescents' life. In order to assess children' and adolescents' points of views of their own health and well-being (Koot, 2002), it is required to develop a standardized and cross-cultural assessment measure.

In the developing process of the KIDSCREEN project (Ravens-Sieberer et al. 2001), in order to create a new European generic measure of HRQOL in children and adolescents, it was found that all the HRQOL instruments analysed included items in the physical, psychological, and social domains, but the allocation of items among these domains varied significantly. The aim of the KIDSCREEN project was to build a standardized cross-cultural instrument, to estimate the subjective quality of life in children and adolescents and their parents. The KIDSCREEN is the first generic HRQOL measure for children developed simultaneously in several languages to ensure cross-cultural relevance and comparability. Psychometric analyses showed the items to show no differential item functioning across age-groups, gender and cultures. The KIDSCREEN-52 instrument includes ten dimensions, describing health-related quality of life: Physical Well-being, Psychological Well-being, Moods and Emotions, Self Perception, Autonomy, Parent Relation and Home Life Context, Financial Resources, Social Support and Peers, School Environment and Social Acceptance and Bullying (Ravens-Sieberer et al. 2001; 2005; The KIDSCREEN Group Europe, 2006).

Kidscreen Instruments (children and adolescents version and parents' version) were translated and piloted for the Portuguese population in 2005 (Gaspar & Matos, 2008; Gaspar, Matos, Ribeiro, Leal, 2005; 2006; Matos et al., 2006).

Studies focusing on children subjective well-being include interactions between demographics (e.g. age, gender and socio economic status), personal characteristics (Self Perceptions, Psychological Well-being, General Mood) and interpersonal characteristics (social relationships with family, peer group and community) (Caldera & Hart, 2004; Gaspar, 2005).

This must be considered within an ecological perspective, including multiple levels of analysis namely self-perceptions and family perceptions (Harding, 2001).

Clear differences between gender, age and socio-economic status can be found in the HRQOL of children and adolescents.

For instance, the girls' perception of health-related quality of life is inferior in all dimensions with the exception of "Social Support and Peers", "School Environment" and "Social Acceptance and Bullying". Adolescents (the older group, ages between 12 and 16 years old) presented an inferior perception of health-related quality of life in all measures except in the "Financial Resources" and "Social Acceptance and Bullying". The children and adolescents with a low SES presented a perception of health-related quality of life inferior in all dimensions (Bisegger et al. 2005; Ravens-Sieberer et al. 2001; 2005; Rueden et al. 2006; The KIDSCREEN Group Europe, 2006).

The socio-economic status has a deep impact on health-related quality of life, and it is often associated to a low parental schooling, interpersonal conflict, low socioeconomic status and belonging to an ethnic minority (Chen, Matthews & Boyce, 2002; STEP/BIT, 2003).

Many migrants from Portuguese speaking African countries live in Portugal, most of them in poor neighborhoods, having an instable social and economic situation, and some of them being in Portugal as illegal immigrants. Young people from migrant communities have serious social integration problems. They grow up between two different cultures and social patterns. They are more exposed to racism and discrimination, low socioeconomic status, educational and health service's ethnocentrism, different social norms and expectations, social stress and less personal control. Their school achievement and health status are poorer than of the Portuguese adolescents (STEP/BIT, 2003; WHO, 1999).

Health Behaviour in School Aged Children (HBSC) study carried out in Portugal in 2002 reported that adolescents without Portuguese nationality have lower socioeconomic status, lower school results, more problems in family's relationship, and more risk behaviours (e.g. increased alcohol and drugs use, sexual intercourse at earlier age). They also reported being more involved in fights and violent acts and feeling unhappy more frequently (Matos et al, 2003; Matos, Gonçalves & Gaspar, 2005).

A non existence of cross-cultural instruments to measure HRQoL in children and adolescents with and without chronic conditions it was a need to several countries and cultural reality, in Portugal, but in African countries with Portuguese language, Brazil and Latin America. The Portuguese version of Kidscreen Instrument and its analyses pretend to contribute to this need.

The importance of cross-cultural instrument (The KIDSCREEN Group Europe, 2006) has been widely recognized. The evidence serves in the systematic monitoring of outcomes from multinational population or multinational specific groups. Such cross-cultural studies also provide theoretical insights into whether QoL is a universal or a relativist concept (Skevington, Lotfy & O'Connell, 2004).

For this paper the hypotheses of the relation between HRQoL and related factors were based on the following model (The KIDSCREEN Group Europe, 2006, p. 33):

Figure 1. KIDSCREEN Model (The KIDSCREEN Group Europe, 2006, pp. 33)
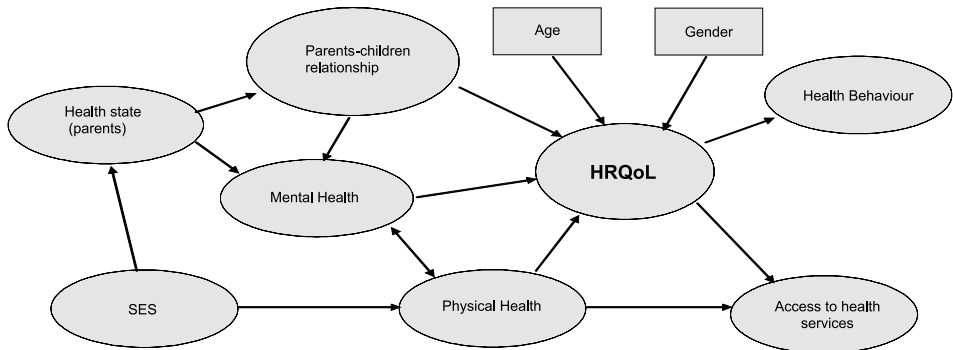
This multi-dimensional approach of HRQoL provides information about the different aspects and interpersonal differences of HRQoL and it could work as a structure to identify and develop strategies that promote HRQoL in children and adolescents (Helseth & Lund, 2005).

The main objective of this paper was to use analyse the Portuguese version of the instrument KIDSCREEN-52 (children and adolescents version) (Gaspar & Matos , 2008) in order to identify interpersonal differences in Portuguese children and adolescents – gender, age, socio economic status, nationality and health status, highlighting Portuguese multicultural and social reality.

Methods

Instrument

KIDSCREEN-52 was developed within the European project "Screening and Promotion for Health-Related Quality of Life in Children and Adolescents – A European Public Health Perspective" (European Commission): during 3 years (2001-2004), 13 countries were co-ordinated by the German team (Ravens- -Sieberer et al. 2001; Rajmil et al. 2004) who developed and evaluated this instrument, presenting a version for children and a version for parents, which can be used with children from 8 to 18 years old, and their parents. It is a self- -reported questionnaire of 52 items, which requires about 15 minutes to be filled and reports to the "last week". The KIDSCREEN-52 is organized in 10 dimensions: Physical Well-being (5 items), Psychological Well-being (6 items), Moods and

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Emotions (7 items), Self Perception (5 items), Autonomy (5 items), Parent Relation and Home Life Context (6 items), Financial Resources (3 items), Social Support and Peers (6 items), School Environment (6 items) and Social Acceptance and Bullying (3 items).

KIDSCREEN-52 can be used to measure, monitor and evaluate subjective health-related quality of life in children and adolescents populations. It can be used in schools, hospitals, in researching areas such as public health, health psychology and epidemiology.

In order to score KIDSCREEN-52 instrument, it is necessary to recode in the opposite sense (to inverse) 14 items, to make all items formulated positively (which means a higher score reflecting a higher HRQoL). The score range for KIDSCREEN-52 dimensions is 0-100.

The original scale was developed in English. The statistical analyses of the KIDSCREEN survey included different issues. One of the issues was to confirm and test the KIDSCREEN-52. That process included analyses to determine how well the structure of the instrument fit the data; confirmatory factor analysis (CFA) as well as multi-trait analyses (MAP) was conducted to explore if the inter--item correlation could be reasonably explained by specific 10-dimensional questionnaire structure. For each scale the internal consistency reliability (Cronbach's alpha) and the test-retest reliability were calculated. The results of MAP analyses as well as the CFA confirmed the structure of the multi-scale KIDSCREEN instrument. The goodness of the fit of the model was tested using Root Mean Square Error of Approximation (RMSEA = 0,049) and Comparative Fit Index (CFI = 0,979). The Cronback's alpha values were between 0, 89 and 0,79 (The KIDSCREEN Group Europe, 2006).

According to international guidelines, the translation of the KIDSCREEN draft questionnaire included a forward-backward-forward translation procedure with harmonisation processes.

Portuguese data are consistent with other European countries. Portuguese children and adolescent's perception of quality of life are apparently better in most of the dimensions except in "School Environment", where the Portuguese children and adolescents reflect a poorer perception of quality of life compared with the other European countries mean. In the dimensions "Financial Resources" and the "Moods and Emotions" the Portuguese means and the European means are quite the same (Gaspar & Matos, 2008; The KIDSCREEN Group Europe, 2006).

Sampling

Sampling methods were derived from the international study Health Behaviour School Aged-Children, enlarging HBSC sample, selecting in each of

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the national randomly selected schools, two extra random classes from 5th and 7th grades (Currie, Samdal, Boyce & Smith, 2001; Matos et al. 2003). It is a cross sectional national study, using a random national representative sample of 5th and 7th grade students.

KIDSCREEN questionnaires were applied in a classroom setting, after a random selection of schools and classes throughout the country. Schools were stratified by National Educational Regions (5 in the whole country). Questionnaires were anonymous and answered in a voluntarily bases. The research project was submitted to several national organizations (Ministry of Education, National Data Protection Commission and National Ethics Commission). This sample is nationally representative for 5th and 7th grade, for Portuguese public schools (except Portuguese islands).

The study involved 95 schools and 162 classes. A sample of 3195 children and adolescents from 5th grade (48,8%) and 7th grade (51,2%), mean age 11,8 years old; SD 1,46; ranging from 10 to 16 (41,1% between 10,11 years old and 58,9% 12 years old or older); 49,2 % boys and 50,8 % girls, were inquired. In this paper the school grade was used as a proxy for age, 5th grade with mean age 10,70; SD=0,95 and 7th grade

Mean age 12,86; SD = 1,02. The majority of students come from a low or very low socio-economic status (62, 2%), and 3, 3% do not have a Portuguese nationality; those students are immigrants from the African, Portuguese speaking countries, or from Brazil.

Parents were included in the main study but parents' data was not included in this paper. The questionnaires were numbered parent/children; sent to schools and teachers gave them to parents.

Results

The data analyses were performed using SPSS 15.0.

Gender, school grade, socio-economic, nationality ("migrant status") and health conditions differences regarding children and adolescent's perception of health-related quality of life were identified using ANOVAs. Tables 1-5 highlight in bold the higher mean values (with statistical significance). The results from Tables 1-5 showed that statistical differences between the analysed groups are important, in some dimensions as the effect size reflected and, in some particular cases, the differences are of a quite high effects size (effect sizes >0,50, Cohen,1988).

Table 1. *Means and standard deviations and ANOVAs – Portuguese children and adolescents HRQOL – Gender comparisons – Children and Adolescents version (n= 3195)*

Dimensions	Boys (N=1573)		Girls (N=1622)		F	Effect size a)
	Mean	SD	Mean	SD		
Physical Well-Being	**75,64**	16,69	67,93	17,59	154,49***	0,44
Psychological Well-Being	**81,14**	16,45	79,06	17,22	11,89***	0,12
Moods & Emotions	**78,52**	18,66	75,29	19,57	21,60***	0,16
Self-Perception	**76,07**	17,14	71,25	18,90	54,94***	0,26
Autonomy	**78,75**	20,39	74,21	21,26	35,92***	0,21
Parent Relation & Home Life	**81,70**	18,61	78,55	20,84	19,56***	0,16
Financial Resources	74,13	27,44	74,29	26,87	(n.s.)	(n.s.)
Social Support &Peers	77,15	19,77	76,93	19,70	(n.s.)	(n.s.)
School Environment	67,00	21,63	**72,17**	18,18	51,97***	0,26
Soc. Acceptance (Bullying)	**81,11**	21,54	78,89	22,49	8,00***	0,10

*** p£0,001

a) Effect sizes >0,40 very good; > 0,20 good; > 0,10 low; >= 0,10 very low

The girls' perception of quality of life is significantly lower in all dimensions, except in "School Environment" where they got significantly higher results. In "Social Support and Peers" and "Financial Resources" dimensions, the differences were not statistical significant between boys and girls. The effect size analysis highlighted differences between boys and girls in "Self-Perceptions", "Autonomy", "School Environment" and especially in the "Physical Well-being" dimension (See Table 1).

Table 2: *Means and standard deviations and ANOVAs – Portuguese children and adolescents HRQOL – school grade comparisons – Children and Adolescents versions (n= 3195)*

Dimensions	5th grade (N=1560)		7th grade (N=1635)		F	Effect size a)
	Mean	SD	Mean	SD		
Physical Well-Being	**72,34**	17,54	71,06	17,60	4,05*	0,10
Psychological Well-Being	**82,26**	15,67	78,00	17,71	50,17***	0,30
Moods & Emotions	**79,35**	18,09	74,54	19,90	47,90***	0,31
Self-Perception	**77,77**	17,13	69,71	18,34	158,70***	0,47
Autonomy	**79,20**	19,84	73,90	21,70	50,03***	0,24
Parent Relation & Home Life	**82,61**	18,01	77,74	21,64	47,31***	0,31
Financial Resources	72,98	27,96	**75,38**	26,31	6,03*	0,11
Social Support &Peers	**78,03**	19,16	76,10	20,22	7,31**	0,11
School Environment	**75,73**	18,38	63,86	19,98	295,46***	0,69
Soc. Acceptance (Bullying)	77,60	22,83	**82,25**	21,05	35,43***	0,13

***p£0,001; **p£0,01; * p£0,05

a) Effect sizes >0,40 very good; > 0,20 good; > 0,10 low; >= 0,10 very low

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Adolescents (the 7th school grade group) presented a significantly lower perception of quality of life in all the measures, with the exception of the "Financial Resources" and "Social Acceptance and Bullying" where the older group presents significantly higher results. The effect size analysis highlighted differences between 5th and 7th grade in "Psychological Well-being", "Moods and Emotions", "Parents Relation and Home Life", and especially in the "Self--Perceptions" and "School Environment" dimensions (See Table 2).

Table 3: Means and standard deviations and ANOVAs – Portuguese children and adolescents HRQOL – Socio-economic status* comparisons – Children and Adolescents versions (n= 1987)

Dimensions	Medium/ high SES (N=752)		Low SES (N=1235)			
	Mean	SD	Mean	6,50*	F	Effect size a)
Physical Well-Being	**73,81**	16,96	70,57	14,96***	16,00***	0,19
Psychological Well-Being	**81,95**	15,00	80,01	4,35**	6,50*	0,12
Moods & Emotions	**79,78**	16,46	76,38	(n.s.)	14,96***	0,18
Self-Perception	**74,90**	17,97	73,13	8,69**	4,35**	0,10
Autonomy	76,13	19,18	77,06	35,79***	(n.s.)	(n.s.)
Parent Relation & Home Life	**82,76**	17,42	80,11	4,03*	8,69**	0,14
Financial Resources	**80,69**	23,79	73,43	9,68**	35,79***	0,28
Social Support &Peers	**78,52**	17,60	76,70	21,46***	4,03*	0,09
School Environment	**72,46**	18,41	69,63	16,00***	9,68**	0,14
Soc. Acceptance (Bullying)	**83,69**	18,68	79,17	6,50*	21,46***	0,21

***p£0,001; **p£0,01

* To define SES was used a scale as such: 1(high)-5(Low) (6) not identified, and was dichotomized 1+2+3 (Medium/high SES) and 4+5 (Low SES)

a) Effect sizes >0,40 very good; > 0,20 good; > 0,10 low; >= 0,10 very low

Participants with low socio-economic status (SES) perception of quality of life were significantly lower in all dimensions, except in "Autonomy" where differences were not statistical significant. The effect size analysis highlighted differences between students with Medium/high SES and students with Low SES in the "Financial Resources" and "Social Acceptance" dimensions (See Table 3).

Table 4: *Means and standard deviations and ANOVAs – Portuguese children and adolescents HRQOL – Nationality comparisons, between Portuguese and students from an African Portuguese speaking country or Brazil (CPLP) – Children and Adolescents versions (n= 2980)*

Dimensions	Portuguese (N=2882)		CPLP (N=98)			
	Mean	SD	Mean	SD	F	Effect size a)
Physical Well-Being	71,87	17,41	70,83	21,91	(n.s.)	(n.s.)
Psychological Well-Being	**80,53**	16,36	74,68	23,21	11,10***	0,34
Moods & Emotions	**77,23**	18,91	71,00	24,68	9,44**	0,32
Self-Perception	73,76	18,12	71,10	20,08	(n.s.)	(n.s.)
Autonomy	**76,91**	20,56	68,13	24,16	15,87***	0,41
Parent Relation & Home Life	**80,82**	19,27	70,70	24,76	24,32***	0,51
Financial Resources	**74,99**	26,67	60,51	29,21	25,02***	0,51
Social Support &Peers	**77,28**	19,54	71,49	21,45	7,43**	0,28
School Environment	70,13	19,74	67,27	20,81	(n.s.)	(n.s.)
Soc. Acceptance (Bullying)	**80,29**	21,84	72,37	28,72	11,81***	(n.s.)

***p£0,001; **p£0,01

a) Effect sizes >0,40 very good; > 0,20 good; > 0,10 low; >= 0,10 very low

Regarding participants with foreign nationality (from an African, Portuguese speaking country, or Brazil) but living in Portugal (Migrant status), their perception of quality of life was significantly lower in all dimensions, except in "Physical Well-Being", "Self Perception" and in "School Environment" where there were no statistical significant differences. The effect size analysis highlighted differences between students with Portuguese Nationality and students from an African Portuguese speaking country or Brazil (CPLP), especially in the "Parent Relation and Home Life" and "Financial Resources" dimensions (See Table 4).

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Table 5: *Means and standard deviations and ANOVAs – Portuguese children and adolescents HRQOL – Health condition comparisons* – Children and Adolescents versions (n= 3173)*

Dimensions	Without chronic condition (N=1277)		With chronic condition (N=396)			
	Mean	SD	Mean	SD	F	Effect size a)
Physical Well-Being	**72,73**	17,28	64,56	17,92	73,48***	0,49
Psychological Well-Being	**80,58**	16,40	76,94	19,39	15,84***	0,23
Moods & Emotions	**77,32**	18,92	73,96	20,69	9,95**	0,18
Self-Perception	**73,96**	17,96	71,58	19,59	5,80*	0,14
Autonomy	**77,23**	20,57	71,17	22,63	28,22***	0,31
Parent Relation & Home Life	**80,45**	19,46	78,13	21,49	4,62'*	0,12
Financial Resources	**74,87**	26,58	70,31	30,28	9,63**	0,18
Social Support &Peers	**77,43**	19,36	74,59	21,73	7,01**	0,15
School Environment	69,59	20,13	70,28	19,70	(n.s.)	(n.s.)
Soc. Acceptance (Bullying)	**80,76**	21,32	75,17	25,30	22,29***	0,27

*** p£0,001; **p£0,01
* Children were asked if they have any long-term disability, illness or medical condition

a) Effect sizes >0,40 very good; > 0,20 good; > 0,10 low; >= 0,10 very low

As for participants with chronic disease, the perception of quality of life was significantly lower in all dimensions, with the exception of "School Environment" where there were no statistical significant differences. The effect size analysis highlighted differences between students with and without chronic condition, especially in the "Physical Well-being" and "Autonomy" dimensions (See Table 5).

Discussion

The main purpose of this paper was to analyse the Portuguese version of the instrument KIDSCREEN-52 (children and adolescents version) (Gaspar & Matos , 2008) in order to identify interpersonal differences in Portuguese children and adolescents – gender, age, socio economic status, nationality and health status, highlighting Portuguese multicultural and social reality.

The results suggest that KIDSCREEN-52 questionnaire is an adequate instrument to estimate the perception of quality of life both in children and adolescents in the Portuguese language and according to their culture (Gaspar et al. 2005; 2006; Matos et al. 2006), just as some countries have their own

instruments (Bisegger et al. 2005; Ravens-Sieberer et al. 2001; 2005; Rueden et al. 2006; The KIDSCREEN Group Europe, 2006).

Clear differences according to gender, age, socio-economic status, migrant status and health condition can be found in the HRQOL of children and adolescents. The girls' perception of quality of life is significantly lower in all dimensions, except in "School Environment" where they got significantly higher results. In "Social Support and Peers" and "Financial Resources" dimensions, the differences were not statistical significant between boys and girls. Other KIDSCREEN studies show similar results, where girls' perception of health--related quality of life is significantly lower in all dimensions except in the "Social Support and Peers", "School Environment" and "Social Acceptance and Bullying" (Bisegger, et al., 2005; Ravens-Sieberer et al. 2001; 2005). It also confirms main literature about girls' having a less positive perception of happiness. Girls tend to internalize their problems and negative emotions, they think and speak more about their feelings and as a result they are more likely to develop an increasing awareness of their perception of happiness. Instead, boys tend to externalize with violent behaviour, substance use, etc. Girls show stronger investment in school, this aspect being reinforced by parents' and teachers' expectation (Gaspar, 2005; Matos et al. 2006).

Adolescents (the 7th school grade group) presented a significantly lower perception of quality of life in all the measures, with the exception of "Financial Resources" and "Social Acceptance and Bullying" where the older group presents significantly higher results. All physical, psychological and social changes that happened during adolescence could influence negatively their general perception of HRQoL. Adolescents could become more insecure about themselves and their life than children. Those aspects could have a negative impact in several adolescents' personal and social contexts, such us, self-perception, moods and emotion, and school, peers and family contexts. Similar results can be found in Ravens-Sieberer et al. (2005), the authors refer that adolescents (the older group) presented a less positive perception of health-related quality of life in all measures, except "Financial Resources" and "Social Acceptance and Bullying". Both studies results also confirm previous literature, namely a decrease of bullying, as children get older age across adolescence (Matos et al. 2003; Matos et al. 2006).

As for participants with low socio-economic status (SES), their perception of quality of life was significantly lower in all dimensions, except in "Autonomy" where differences were not statistical significant.

Portugal has long been known as a society of immigrants. The arrival of large numbers of immigrants from Africa, and lately from Brazil and East European countries, has increased the multicultural population of Portuguese schools, providing new educational challenges.

In this study, concerning participants with foreign nationality (belonging to an African, Portuguese speaking country, or Brazil) but living in Portugal,

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their perception of quality of life was significantly lower in all dimensions, except in "Physical Well-Being", "Self Perception" and in "School Environment" where there were no statistical significant differences. Those results also confirm the main literature about the impact of SES and migrant status in general health, and, specifically, in subjective well-being.

Many migrants from Portuguese-speaking African countries (i.e., Cape Verde, Mozambique, Angola, Sao Tomé, Guinea-Bissau) live in poor neighbourhoods, often illegally, under poor social and economic conditions. Young migrants are exposed to the different cultures and social patterns of their home country and of Portugal. Lifestyle and access to health and education are limited by poverty., they feel more frequently discriminated and stigmatized. Those aspects could be reflected in their well-being perception, social relationships, behaviour and future expectations (Gaspar, 2005; Matos et al. 2003).

As regards pparticipants with chronic disease, their perception of quality of life was significantly lower in all dimensions with the exception of "School Environment" where there were no statistical significant differences (Baars et al. 2005; Ravens-Sieberer & Bullinger, 2000; Ravens-Sieberer et al. 2005). In our society, children and adolescents with a long-term disability, illness or medical condition, could be confronted with many limitations, social incomprehension and discrimination. Those aspects could influence negatively their well-being, their autonomy and their relationship with school colleagues and friends.

Present findings corroborate with previous research either in the area of health-related quality of life or in the area of developmental psychology. They also corroborate with the general literature on personal and social differences, as well as the general gender and age differences beliefs, which suggest that both children and adolescents and their context are prone to perceive those differences (Caldera & Hart, 2004; Harding, 2001; Matos et al. 2003; Nelson, Laurendeau & Chamberland, 2001).

Results also suggest that KIDSCREEN-52 children and adolescents version is tailored and sensitive to developmental and ecological approaches, such as gender, age, socio-economic status, and migrant status and health condition differences.

Knowing the perception that children and adolescents have about their health-related quality of life can thus contribute to improve the evaluation and monitoring of youths health-related quality of life, and simultaneously improve intervention programs, either through relevant planning and effectiveness, by optimising their adequacy to age, gender, health condition differences and socio--cultural context.

Data collected through a reliable instrument to assess health-related quality of life allow monitoring the health of children and adolescents. This is one of the key issues in Public health and health psychology (Ribeiro, 2003).

Recommendations for Health Interventions

Portuguese school populations are, in the majority, issued from medium to low SES and are increasingly multicultural with the arrival of a large number of immigrants from Africa and elsewhere.

For interventions to be effective, parents and health and education professionals must have adequate skills and training to meet the specific needs of these target populations Programs should promote well-being, social and problem solving skills, school attendance and success, and not merely preventing risk behaviours.

Older children, girls, poor pupils, migrants and pupils with a chronic disease can easily become disengaged from school and drop out because curriculum, teachers, and school systems as a whole are unable to bridge cultural gaps due to a limited understanding of what school "for all" entails. Further, since risk behaviours are embedded in the psychosocial context, preventive intervention should be implemented at school, family, and community levels. Politicians, educators, health professionals, and other professional groups are encouraged to face the challenge of implementing effective interventions based on an understanding of gender, developmental and cultural diversity.

Key messages

- The KIDSCREEN-52 instrument has several strengths. It is based on a cross-cultural sensitive concept and it is available in many European countries, including Portugal. It is appropriate for use in multinational and cross-cultural collaborative research.
- The instrument is able to be used in research involving several interventions, and it is suitable for applications in many health and educational settings; it can also be applied with equal relevance in healthy populations as well as paediatrics populations with specific health conditions.
- Further research could confirm these results and obtain more consistent quality. These results indicate that overall the KIDSCREEN-52 is a sound, cross-cultural valid assessment of HRQOL for children and adolescents, as reflected by its conceptual and methodological strengths.
- KIDSCREEN instruments are sensitive to interpersonal differences that can help education and health professionals to better tailor their interventions among teens, so that they may better meet their specific characteristics.

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