The KIDSCREEN questionnaires

Quality of life questionnaires
for children and adolescents

- Handbook -

THE KIDSCREEN GROUP EUROPE

Ulrike Ravens-Sieberer, Angela Gosch, Michael Erhart, Ursula von Rueden, Jennifer Nickel, Bärbel-Maria Kurth (co-ordinating centre Germany); Wolfgang Duer, Kristina Fuerth (Austria); Ladislav Czemy (Czech Republic); Pascal Auquier, Marie-Claude Simeoni, Stephane Robitail (France); Yannis Tountas, Christina Dimitrakaki (Greece); Agnes Czimbalmos, Anna Aszmann (Hungary); Jean Kilroe, Celia Keenaghan (Ireland); Jeanet Bruil, Symone Detmar, Eric Verrips (The Netherlands); Joanna Mazur, Ewa Mierzejewska (Poland); Mick Power, Clare Atherton, Katy Phillips (United Kingdom); Luis Rajmil, Silvina Berra, Cristian Tebé, Michael Herdman, Jordi Alonso (Spain); Curt Hagquist (Sweden); Thomas Abel, Bernhard Cloetta, Corinna Bisegger, Claudia Farley (Switzerland); Jacob Bjorner, Stef van Buuren, Michael Rigby, Alan Tennant, John Ware and Elizabeth Waters (Advisory Board)

PABST SCIENCE PUBLISHERS
Lengerich, Berlin, Bremen, Miami,
Riga, Viernheim, Wien, Zagreb

Acknowledgement:
The authors would like to thank all participating families in the KIDSCREEN study and all persons who contributed to the project. The KIDSCREEN Project was funded by the European Commission (contract No.: QLG-CT-2000-00751) within the Fifth Framework Program "Quality of Life and Management of Living Resources".

Bibliographic information published by Die Deutsche Nationalbibliothek
Die Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data is available in the internet at <http://dnb.ddb.de>.

The KIDSCREEN Group Europe

Prof. Dr. Ulrike Ravens-Sieberer
(Project Coordinator)
Research Unit Child and Adolescent Health
Robert Koch-Institute
Seestraße 10
13353 Berlin, Germany
Phone +49-30-4547-3436
Fax +49-30-4547-3531
E-mail: Ravens-SiebererU@rki.de

Prof. Dr. Ulrike Ravens-Sieberer
(Project Coordinator)
Bielefeld University
School of Public Health
WHO Collaborating Center for Child
and Adolescent Health Promotion
33501 Bielefeld, Germany
E-mail: U.Ravens-Sieberer@uni-bielefeld.de

Internet: htttp://www.kidscreen.org

Typesetting: Armin Vahrenhorst

Printing: KM-Druck, 64823 Groß-Umstadt, Germany

ISBN-10: 3-89967-334-4
ISBN-13: 978-3-89967-334-0

Table of contents

APPENDIX CD-ROM

Preface

Monitoring the health status of the population is one of the main activities of public health research. Health related quality of life (HRQoL) has recently been introduced into epidemiology to provide a descriptor of perceived health in the population as a basis for planning, monitoring, and evaluating health-related interventions in the community. Efforts have been made to include quality of life as an outcome parameter in national health surveys and also to standardise the use of these measures across European countries (e.g. the EURO HIS Project [Nosikov & Gudex, 2003] and the CHILD Health Indicator project [Rigby & Köhler, 2002]).

The project "Screening For and Promotion of Health-Related Quality of Life in Children and Adolescents – a European Public Health perspective" (acronym: KIDSCREEN) was funded by the European Commission (EC) under the programme "Research and Technological Development: Activities of a Generic Nature" within the EC 5th Framework Programme "Quality of Life and Management of Living Resources" (EC Grant Number: QLG-CT-2000-00751, Ravens-Sieberer et al., 2001).

Using a cross-cultural approach, the KIDSCREEN project simultaneously developed a set of standardised questionnaire for children and adolescents to assess their health-related quality of life (HRQoL). The HRQoL questionnaire can be used both in representative national surveys and also European-wide health surveys. In order to monitor the health of children and adolescents within the European community as part of health reporting. In addition the KIDSCREEN questionnaires can be used within a clinical and research context. The KIDSCREEN instruments are

- of a generic nature;
- applicable in different national and cultural contexts;
- comply with international quality standards in instrument development; and
- practical (e.g. short and easy to use and score).

In summary, the project developed, tested, and implemented instruments to assess the well-being and subjective health (HRQoL) of healthy children and those who suffer from chronic conditions aged between 8 and 18 years, as well as proxy measures for caregivers and parents (Ravens-Siebeer et al., 2005).

The KIDSCREEN project included three major phases of survey development, testing, and implementation. In the development phase, literature reviews, expert consultation, and children's focus groups were carried out Europe-wide to identify dimensions and items of HRQoL. The testing phase included representative surveys involving all project partners together with assessments of determinants of health. During the implementation phase, the KIDSCREEN-52, -27 and -10 versions were made available via modern communication technologies accompanied by user guides and manuals.

The KIDSCREEN project collaborated closely with the European DISABKIDS project entitled "Quality of life in children and adolescents with disabilities and their families - assessing patient views and patient needs for comprehensive care" which was also funded by the EC (www.disabkids.org).

How to use this Manual

The *first part* of this manual aims to provide a theoretical understanding of the background of the KIDSCREEN project and the KIDSCREEN instrument. It is addressed to researchers who want to know more about the KIDSCREEN project, the steps in developing the KIDSCREEN instrument and its validation and psychometric properties.

- *Chapter 1* reviews the theoretical background of the KIDSCREEN project, provides the rationale for a child and parent HRQoL measure, and for an international approach to HRQoL in children and adolescents, and describes the European KIDSCREEN partners.
- *Chapter 2* presents an overview of the KIDSCREEN questionnaire development, including details about the elements of the literature review, Delphi study, focus groups, translation, pilot testing and national surveys.
- *Chapter 3* and *Chapter 4* outline the psychometric properties of the different KIDSCREEN versions. The reliability, structure, and validity of the child and adolescent versions are described in *Chapter 3*, and *Chapter 4* addresses the parent / proxy version and the relationship between child and parent data.

The *second part* of the manual provides practical information about the different versions of the KIDSCREEN instrument, its administration, scoring, and interpretation.

- *Chapter 5* describes the three different questionnaire versions, the KIDSCREEN-52 (long version), KIDSCREEN-27 (short version) and the KIDSCREEN-10 index, as well as their scope of application in more detail. The most important results of the validation and psychometric properties of the respective versions are outlined as well.
- *Chapter 6* offers some suggestions for the administration of the KIDSCREEN questionnaires and also some requirements that should be followed.
- *Chapter 7* presents the scoring and interpretation guidelines of the KIDSCREEN questionnaire versions. The interpretation of the dimensions as well as the differences in scores is given.
- *Chapter 8* provides copyright information and the conditions of use of the KIDSCREEN instrument and translations. Contact addresses for support by the national KIDSCREEN partners are presented in *Chapter 9*.
- *Chapter 10* includes complete citations for the referenced publications.
- *Appendix* provides European and national norm data stratified by age and gender.

Summary Sheet of the KIDSCREEN Instruments

Authors: The KIDSCREEN Group (2006).
Publisher: Pabst Science Publishers.

Origin: The KIDSCREEN generic health-related quality of life measures for children and adolescents were developed within the project "Screening and Promotion for Health-related Quality of Life in Children and Adolescents - A European Public Health Perspective." The project was funded by the European Commission and took place over three years (2001-2004). Participants in the project were Austria, Czech Republic, France, Germany, Greece, Hungary, Ireland, Poland, Spain, Sweden, Switzerland, The Netherlands and the United Kingdom (Acknowledgement: The KIDSCREEN project was financed by the European Commission grant number QLG-CT-2000- 00751 within the EC 5th Framework-Programme "Quality of Life and Management of Living Resources").
Purpose: Designed to assess generic health-related quality of life (HRQoL) in healthy and chronically ill children and adolescents, to identify children at risk in terms of their subjective health, and to suggest appropriate early interventions by including the instrument in health services research and health reporting.
Description: The KIDSCREEN instruments were designed to address generic health-related quality of life. They are based on a comprehensive process of development across different countries. The instruments are designed to assess health-related quality of life in a standardized format as reported by children/adolescents or parents. A paper and pencil as well as a computer version are available for all three KIDSCREEN versions (KIDSCREEN-52, KIDSCREEN-27, KIDSCREEN-10 index).
Population: The KIDSCREEN measures are applicable to healthy and chronically ill children and adolescents from 8 to 18 years. Additionally, proxy versions for parents or other caregivers are available.
Development: The KIDSCREEN instruments assess children's and adolescents' subjective health and well-being (health-related quality of life - HRQoL). They were developed as self-report measures applicable for healthy and chronically ill children and adolescents aged from 8 to 18 years. The KIDSCREEN project used a simultaneous approach to include 13 European countries in the cross-cultural harmonisation and development of the measure. The generation of the questionnaire was based on literature reviews, expert consultation, and children's focus groups in all participating countries. This was done to identify dimensions and items of HRQOL which are relevant to respondents in all countries.
The KIDSCREEN-52 instrument measures 10 HRQoL dimensions: Physical Well-being (5 items); Psychological Well-being (6 items); Moods & Emotions (7 items); Self-Perception (5 items); Autonomy (5 items); Parent Relations & Home Life (6 items); Social Support & Peers (6 items); School Environment (6 items); Social Acceptance (Bullying) (3 items); and Financial Resources (3 items). It was constructed and pilot tested using the data of more than 3.000 European children and adolescents. In

addition to common psychometric analyses, Item-Response-Theory Analysis and Structural Equation Modelling were performed to determine the optimal item and scale characteristics of the questionnaire. One focus of analyses was to identify items showing differential item functioning (DIF). The control of DIF enables comparable measurement of the identified quality of life dimensions across the 13 European countries.
The KIDSCREEN-27 instrument measures 5 HRQoL dimensions: Physical Well-being (5 items); Psychological Well-being (7 items); Autonomy & Parent Relations (7 items); Social Support & Peers (4 items); School Environment (4 items). It was constructed and pilot-tested using the data of more than 10.000 European children and adolescents. The psychometric analyses resembled those of the KIDSCREEN-52.
The KIDSCREEN-10 instrument provides a singular index of global HRQoL covering physical, psychological and social facets of HRQoL (10 items). It was constructed in the same manner as the KIDSCREEN-27.
The KIDSCREEN-52, KIDSCREEN-27 and KIDSCREEN-10 were used in representative mail surveys of HRQoL in approximately 1800 children and their parents per country (total n = 22830) and normative data was produced. The final analysis of the instruments involving national and cross-cultural analyses confirmed the results of the pilot test. The sub-scales enable true cross-cultural measurement on interval scale level by fulfilling the assumption of the Rasch-model and displaying no DIF. Additionally, all three versions are available for parents and primary-care givers.
Scoring: The KIDSCREEN instruments can be self-administered or administered. Depending on the version, the instruments consist of 10 to 52 items, which are scored on a 5-point scale ranging from never / not at all to always. The time frame refers to the last week. Scores can be calculated for each dimension of the different KIDSCREEN instruments. T-values and percentages are available for each country stratified by age and gender.
Time required: KIDSCREEN-52 approx. 15-20 minutes; KIDSCREEN-27 approx. 10-15 minutes; KIDSCREEN-10 index approx. 5 minutes.
Reliability: KIDSCREEN-52: Internal consistency values (Cronbach's Alpha) range satisfactorily between .76 (Social Acceptance) and .89 (Financial Support) for the different dimensions for the self-report version, test-retest reliability at a 2 week interval varies between .56 and .77. Item intraclass correlation (ICC) between self-reported scores and scores from parents filling out the KIDSCREEN-52 proxy-version ranging from .45 (Moods & Emotions) and .62 (Physical Wellbeing, School Environment).
KIDSCREEN-27: Internal consistency values (Cronbach's Alpha) range satisfactorily between .79 (Physical Well-being) and .84 (Psychological Well-being) for the different dimensions for the self-report version, test-retest reliability at a 2 week interval varies between .61 and .74. Item intraclass correlation (ICC) between self-reported scores and scores from parents filling out the KIDSCREEN-27 proxy-version ranging from 0.44 (Social Support & Peers) and .61 (Physical Well-Being).
KIDSCREEN-10 Index: Internal consistency values (Cronbach's Alpha) reaches .82 for the self-report version, test-retest reliability at a 2 week interval reaches .55. Item intraclass correlation (ICC) between self-reported scores and scores from parents filling out the KIDSCREEN-10 Index proxy-version reaches.56.

Validity: Convergent and discriminant validity were shown using information on the children's and adolescents' physical (Children with Special Health Care Needs Screener for Parents, CSHCN) and mental health (Strength and Difficulties Questionnaire, SDQ). In addition to this, in each country the relationship between national HRQoL instruments for children and adolescents and the KIDSCREEN versions were analysed and showed overall satisfactory results.

Cross cultural applicability: The international, collaborative nature of the KIDSCREEN project provided many challenges in terms of producing an instrument which is conceptually and linguistically appropriate for use in many different countries. By giving each country the opportunity to be involved at the early stages of the instrument development (the item construction phase), the KIDSCREEN measures are the first truly cross-national HRQoL instrument for use in children and adolescents. The KIDSCREEN instruments can contribute to European policies by providing information about the types and distribution of quality of life impairments (nationally as well as Europe-wide). They enable a better understanding of perceived health in children and adolescents and can help to identify populations at risk.

In addition, another strength is the cooperation with the DISABKIDS project which aims at developing disease specific health-related quality of life modules for children and adolescents of the age-groups 4-7 and 8-16 with chronic conditions such as asthma, cerebral palsy, diabetes mellitus, epilepsy, juvenile arthritis, serious skin diseases, overweight problems and cystic fibrosis. The DISABKIDS modules can be used in addition to the KIDSCREEN measures. Both projects collaborated closely during the instrument development phases to ensure a joint methodology and a wide coverage.

Languages: Czech, Dutch, English (UK, USA, IE), French, German (AT, CH, D), Greek, Hungarian, Korean (RKO), Polish, Portuguese, Spanish, Swedish (as they become available, new translations will be presented on the website http://www.kidscreen.org).

Administration / Suggested Uses: All types of epidemiological and paediatric studies and clinical studies; health services research and health reporting; integrated outcome measurement. Administration is recommended for professionals in different fields (public health, epidemiology, medicine) and institutions (schools, hospitals, research labs, medical establishments) of the health care system.

References:

Ravens-Sieberer, U., Gosch, A., Abel, T., Auquier, P., Bellach, B.-M., Dür, W., Rajmil, L. & the European KIDSCREEN Group (2001). Quality of life in children and adolescents: a European public health perspective. Social and Preventive Medicine, 46, 297-302.

Ravens-Sieberer, U., Gosch, A., Rajmil, L., Erhart, M., Bruil, J., Duer, W., Auquier, P., Power, M., Abel, T., Czemy, L., Mazur, J., Czimbalmos, A., Tountas, Y., Hagquist, C., Kilroe, J. and the European KIDSCREEN Group. (2005). KIDSCREEN-52 quality-of-life measure for children and adolescents. Expert Review of Pharmacoeconomics & Outcomes Research, 5 (3), 353-364.

The KIDSCREEN Group Europe. (2006). The KIDSCREEN Questionnaires - Quality of life questionnaires for children and adolescents. Handbook. Lengerich: Pabst Science Publishers.

Other selected bibliographical information:

Bisegger, C., Cloetta, B., von Rueden, U., Abel, T., Ravens-Sieberer, U., and the European KIDSCREEN group. (2005). Health-related quality of life: gender differences in childhood and adolescence, Soz.-Präventivmed, 50, 281-291.

Detmar, S.B., Bruil, J., Ravens-Sieberer, U., Gosch, A., Bisegger, C., and the European KIDSCREEN group. (2006). The Use of Focus Groups in the Development of the KIDSCREEN HRQL Questionnaire, Quality of Life Research, Jan 2006, 1 - 9.

Herdman, M., Rajmil, L., Ravens-Sieberer, U., Bullinger, M., Power, M., Alonso, J., and the European KIDSCREEN and DISABKIDS groups (2002). Expert consensus in the development of a European health-related quality of life measure for children and adolescents: a Delphi study. Acta Pediatrica 91 (12), 1385-90.

Rajmil, L., Alonso, J., Berra, S., Ravens-Sieberer, U., Gosch, A., Simeoni, M.-C., Auquier, P., and the KIDSCREEN group. (2006). Use of a children questionnaire of health-related quality of life (KIDSCREEN) as a measure of needs for health care services. Journal of Adolescent Health, 38, 511-518.

Rajmil, L., Herdman, M., Fernández de Sanmamed, M.J., Detmar, S., Bruil, J., Ravens-Sieberer, U., Bullinger, M., Simeoni, M.-C., Auquier, P., and the Kidscreen group (2004). Generic Health-related Quality of Life Instruments in Children and Adolescents: A Qualitative Analysis of Content. Journal of Adolescent Health 34, 37-45.

von Rueden, U., Gosch, A., Rajmil, L., Bisegger, C., Ravens-Sieberer, U., and the KIDSCREEN Group. (2005). Socioeconomic determinants of health-related quality of life in childhood and adolescence: results from a European study, Journal of Epidemilology and Community Health. Journal of Epidemilology and Community Health, J Epidemiol Community Health, 60(2), 130-5.

See also **Internet Site:** http://www.kidscreen.org

1 Introduction

In recent years, health-related quality of life (HRQoL) has become a central research theme which is increasingly gaining importance in the field of public health, and also in medical research as an outcome and evaluation criterion. This development has been driven by several factors:

- the dissatisfaction with the way in which health has been routinely assessed in the biomedical area;
- the scepticism regarding the scope of classical outcome criteria used to evaluate interventions in medicine; and
- the relevance of assessing quality of life in children and adolescents in the community and on national level relates to prevention of disease and health promotion in children and adolescents.

So far, research has shown that including HRQoL in children's and adolescents' health surveys is feasible if instrument development takes into account the age, maturity and cognitive development of the child. HRQoL instruments can be of benefit for screening and early detection of possible impairments in children's well-being and functioning, and for identifying the social and behavioural determinants of health (e.g. socio-economic factors and health behaviours, acute and chronic health conditions), which can form the basis of early interventions.

Although several generic instruments to assess HRQoL exist, a few shortcomings are noted. Most instruments were developed for use mainly in children with a chronic illness (Eiser & Morse, 2001; Harding, 2001) and all instruments have been developed on a national rather than international basis. To date, cross-cultural aspects of health-related quality of life in children have not been addressed. An appropriate way to ensure that measures on subjective health perception are suitable for use in cross-cultural research is to develop the measure simultaneously in several countries. In addition, a healthy population should be involved in the development to ensure appropriateness for use in epidemiological surveys and preventive health care. This is the approach taken by members of the KIDSCREEN project, a collaborative effort between researchers in Europe.

Since the issue of how to allocate resources within the health care system has become a matter of intense debate, there is an increasing demand to determine the nature and the extent of health care needs and utilisation of health care services. While the debate has so far mainly been held on a national level, it is now extending to the international level. Taking the large variety of health care systems within the European Union into account, states with different health economics systems have only rarely been included in studies.

To meet these political, scientific, and practical demands, the KIDSCREEN project was oriented towards three tasks:

– to develop a generic questionnaire for assessing quality of life in healthy and ill children and adolescents;
– to translate the questionnaire which was used in a pilot test into ten languages and to test the psychometric quality of the instruments in 13 different countries; and
– to assess the value of the instruments by implementing and evaluating them in national health surveys and to continuously monitor, evaluate and improve the health and subjective well-being in children and adolescents.

1.1 Theoretical Background of the KIDSCREEN Project

1.1.1 Health-related Quality of Life as an Outcome Measure

Over the past century, advances in public health and medicine have increased the average life expectancy in the Western world. These advances, however, have been accompanied by a significant rise in the percentage of adults living with chronic health conditions such as heart disease, cancer, diabetes, arthritis, and mental illness. As a consequence, within the field of public health and medicine it was found to be important not only to focus on issues of *quantity* of life but also *quality* of life.
In general quality of life (QoL) is a complex, abstract, and multidimensional concept that is difficult to define and measure. In everyday language it is often used as a synonym for happiness including factors that contribute to the goodness and meaning of life. QoL is understood to be the personal satisfaction (or dissatisfaction) with the cultural or intellectual conditions under which an individual lives. In addition to personal happiness and a sense of purpose in life, people want social solidarity and healthy communities. In other words, QoL is a broad concept or reference point that has relevance to virtually all areas of human function (Evans, 1994). As a result, it has been extensively researched, reviewed, and discussed in the social science, psychology, economic, and medical literatures.
One of the important domains of QoL is health. Health can also be viewed as a subjective representation of function and well-being, as stated earlier in the WHO definition, which shifted from a purely biological model to a bio-psycho-social model in which the well-being and quality of life of individuals were assessed. The WHO definition (1948) holds an important expansion of the view of health, which is not only understood by somatic indicators, but comprises how a person feels, psychologically and physically, and how she or he manages with other persons and copes with everyday life. Health-related quality of life is described as a multidimensional construct covering physical, emotional, mental, social, and behavioural components of well-being and function as perceived by patients and/or other individuals. The WHO Quality of Life Group extends this definition and includes the cultural perspective: quality of life is defined as an individual's perception of their position in life in the context of the cultural and values systems in which they live, and in relation to their goals, expectations, standards and concerns.
Meanwhile, researchers in the fields of psychology, medicine and public health have developed useful techniques that have helped to conceptualise and measure these multiple domains and how they relate to each. To date, the importance of measuring HRQoL in individuals or groups of patients is well accepted. This is true for adults and increasingly for children and adolescents, although the utility of generic HRQoL measurement

in population health of children and adolescents has only recently begun to be explored. HRQoL questions about perceived health and function are thought to be an important component of health surveillance and should be routinely included as an indicator.
HRQoL measures can aid in identifying subgroups of children and adolescents who are at-risk for health problems, and can assist in determining the burden of a particular disease or disability (Center for Disease Control and Prevention, 2000). Further, it can help to evaluate health service needs. Results of such an evaluation can be used to influence public policy decisions, promoting policies and legislation related to children's and adolescents' health, and aiding in the allocation of healthcare resources. Monitoring the health status of the population allows public health professionals to improve the health of populations, by tracking health trends, identifying discrepancies in health, and planning health promotion activities and interventions.

1.1.2 The Need for HRQoL Research in Children and Adolescents

Research reflecting the child's point of view about well-being, perception, and behaviour is currently available only in rudimentary form. Most health-related quality of life measures for children and adolescents have been developed for chronically or severly ill paediatric patients (Eiser & Morse, 2001; Harding, 2001; Marra et al., 1996; Spieth & Harris, 1996; Rosenbaum & Saigal, 1996). A small but increasing number of generic questionnaires exist which assess HRQoL in both healthy and chronically ill children and adolescents (Rajmil et al., 2004; Bullinger & Ravens-Sieberer, 1995). This paucity of HRQoL research focused on children has several reasons: First, it can be explained by earlier doubts as to whether children are able to express opinions, attitudes, and feelings about their HRQoL reliably. To understand the concept of HRQoL, or to value aspects of one's own health and well-being, is determined by age, maturity and the cognitive development of a child. Recent research has shown that children are able to report on their well-being and functioning reliably if the questionnaire is appropriate to the child's age and cognitive level (Raat et al, 2002; Rebok et al., 2001; Riley, 2004).
Another critical point concerns the dimensions that are relevant and necessary to describe the concept of HRQoL in children and adolescents. Whether children would emphasise the same dimensions as adults is not clear, but it can be assumed that this is at least partly determined by the child's age. One shortcoming of the theoretical discussion and construction of questionnaires is that children are rarely asked to express their point of view. Increasing emphasis is given to considering the child's point of view as equally or more relevant than that of experts or the results of literature reviews.
Rapid development of instruments measuring quality of life is connected with the expansion of outcome assessment approaches, techniques that determine burden of disease and evidence-based methodologies, including clinical trials. The research and theoretical discussion of HRQoL in children and adolescents presented in recent years moved from the application of measures used in the adult population, to building and testing new instruments designed specifically for children of different ages and developmental competencies. There are strong arguments for self-reporting whenever possible, especially in aspects of emotional and social HRQoL. Finally, new studies have led to more advanced definitions, conceptualisations and operationalisations of paediatric HRQoL and to deeper insight into children's and adolescents' needs and perceptions of life satisfaction (Varni et al., 1999). The general definition of HRQoL used for adults could be applied to chil-

dren, although specific aspects of physical development and psychosocial functioning should be considered (Matza et al., 2004). Children should not be regarded as small adults; their special health needs should be acknowledged. Children are growing in the various social environments including family, school, peers, neighbourhoods, and community. Contrary to adults, they often have no choice and limited capability to move from disadvantageous environments. Moreover, they are growing and changing all the time, so longitudinal evaluation of HRQoL must account for the baseline level, as well as the natural change over time. When asked what was most important in their lives besides physical functioning, adolescents indicated that they valued social relationships (family and friends) and general mood, as well as the "sense of self" feelings and need for growing independence (Edwards et al., 2002).

Another trend in the discussion of HRQoL in children and adolescents is concentrated on the development of generic measures as more universal standards, having higher priority in epidemiological studies. Historically, numerous instruments have been employed to assess disease-specific conditions (Eiser & Morse, 2001), but recent publications found the disease-specific approach to be limited (Wallander et al., 2001). The impact of any disease is better learned through comparing quality of life of people with and without the disease. Generic measures could be applied in clinical settings together with a disease-specific instrument. Generic HRQoL measures may highlight some aspects of patient well-being which can be overlooked in a routine consultation, and may help in the evaluation of drug therapy where unexpected adverse effects are difficult to anticipate. The main purpose of applying generic measures on a population level is related to monitoring of population health, evaluation of the effects of health policies, and allocation of resources in relation to needs. This is applicable to all ages, including children, whose health is vital for the future strength and prosperity of society.

1.2 The Rationale for a Child and Parent Measure

Self-reports are generally the principal method used to assess a person's subjective view of health and well-being. This is true for children and adolescents as well as for adults. However, where children are concerned, problems can occur depending on their language and reading skills and their overall cognitive abilities to understand and interpret the questions. A limitation of a long-term view of events and consequences, and a deficit in the ability to pay attention for the time-period needed to answer a questionnaire, can also occur. Nevertheless, in recent studies it has consistently been shown that children and adolescents older than 8 years of age are able to understand questions, and to produce reliable and valid answers about their HRQoL (Riley, 2004). Consequently, information about the subjective health and well-being of these age-groups should be gathered by asking the children and adolescents themselves. This is especially important because health-related quality of life studies among adult patients that included proxy ratings have shown that proxy ratings correlate only sufficiently with ratings provided by the patients themselves.

Few studies have reported an investigation into these questions for children and parent measures – those that do have typically done so in the process of developing a new HRQoL measure for children and adolescents. Theunissen et al. (1998) compared the agreement between child self-reports and parent reports on children's HRQoL in a representative sample of 1105 Dutch children aged 8-11 years using the Dutch TNO/AZL

Quality of Life (TACQOL). Correlations between child self-reports and parent reports were between 0.44 to 0.66 depending on the dimension. Children reported lower HRQoL according to physical complaints, motor functioning, autonomy, cognitive functioning, and positive emotions scales in comparison to parental data. In another study comparing self-reported data of children with a chronic condition and parental data, an agreement for the TACQOL scales was between 0.10 to 0.99. The 416 children between 8 to 15 years scored lower on average on the physical complaint, motor functioning, and positive emotions scales. Parents reported lower HRQoL on the social and negative emotions scales (Koopman et al., 1999). In a study including 300 14-year-old adolescents with very low birth-weight, Verrips et al. (2000) found a good inter-rater agreement between children's and parents' report on the motor scale of the TACQOL, a satisfactory correlation for the autonomy and cognitive scales, but only moderate agreement in the social, body, and mood scales.
Other studies investigating the concordance between child and parent reports support these findings and show some evidence for greater concordance between the child and parent for physical functioning compared with social and emotional domains, but greater heterogeneity in the latter measures (Whiteman & Green, 1997). The agreement between child and proxy-reports depends on the observability of the domain (Verrips et al., 2000). It seems to be more difficult for parents of adolescents to gain insight into their child's assessment of emotional states and social relations, than for them to determine more objective aspects of their child's health such as physical functioning. It can be concluded that children and parents provide different information on HRQoL. Children and parents form part of the same psychosocial system, the family, providing information about the child's health-related quality of life from a somewhat different perspective. The child's subjective view of his or her own HRQoL is estimated to be of great importance and he or she should be the preferred respondent. However, sometimes it can be necessary to get a second opinion from a caregiver or parent (e.g. if the child is severely ill), or even in some situations when data only from caregivers are available. The inclusion of proxy measures can, however, provide additional information and the use of reports from different sources, both from children and parents is recommended (La Greca, 1990; Achenbach, McConnaughy & Howell, 1987). In some situations it is valuable to have information at least from parents as proxy measures for the assessment of the child's and adolescent's HRQoL.

1.3 The Rationale for an international Approach

In the age of increasing European and international collaboration, cross-culturally applicable HRQoL instruments are warranted. In epidemiological studies, a cross-culturally valid and sensitive HRQoL measure can be used to elicit information about the incidence and prevalence of HRQoL impairments in specific populations across cultures. To date the majority of HRQoL questionnaires for children and adolescents have been generated within one country and subsequently translated into other languages (Felder-Puig et al., 2004; Koot et al., 2004; Loonen et al., 2002; Reichenberg et al., 2000; Landgraf et al., 1998).
A cross-cultural adaptation of a questionnaire is subject to problems concerning cross-cultural equivalence (Bullinger & Ravens-Sieberer, 1995, Anderson et al., 1993, 1996). Part of the cross-cultural equivalence is the item-translation equivalence. This requires

each item to have the same meaning in the original and target language, i.e. the semantic equivalence is more important than the literal equivalence. Another issue is the scale equivalence, which requires that the different language versions should produce similar results according to reliability, validity, and responsiveness to change. A third aspect concerns the operational equivalence which describes whether different modes of application (e.g. paper and pencil test, telephone interview) provide similar results. Finally, the metric equivalence demands that scores obtained on scales must reflect the same degree of HRQoL across countries.
To answer these challanges and to provide a cross-culturally equivalent instrument, instrument development should, as defined by the WHOQOL Group, use a simultaneous approach including a primary consensus on relevant dimensions of HRQoL for certain age groups within each of the different countries. Furthermore, methods to develop a generic questionnaire and to generate equivalent multi-language versions should include – besides an international conceptualisation of the HRQoL construct – an initial item selection by the participation of all individual countries, forward and backward translation, and pre-testing in all participating countries. This should be an iterative process involving several steps of item refinement.

1.4 Description of the KIDSCREEN Project

The KIDSCREEN project started on February 1st, 2001. The three phases of the KIDSCREEN project are demonstrated in **Figure 2**. The developmental phase of the KIDSCREEN project included a literature search, a Delphi study with experts, and a focus group study with children, adolescents, and their parents. A first KIDSCREEN instrument was developed in English and translated into four languages (DE, ES, FR, and NL) using internationally accepted translation guidelines. This first KIDSCREEN instrument was administered in a pilot study. Following this pilot study, a further item reduction process was carried out including extensive psychometric analyses resulting in a 52-item KIDSCREEN research version. Phase 2 consisted of the administration of the questionnaire in national representative samples in order to obtain reference data. Phase 3 comprised the instrument implementation.
The KIDSCREEN project was co-ordinated by the German study centre, which was responsible for the scientific management across all of the work phases and also for all the participating centres, the time management, the financial management and the reports being written. The project started originally with seven countries (AT-Austria, CH-Switzerland, DE-Germany, ES-Spain, FR-France, NL-The Netherlands, and UK-United Kingdom). After the pilot study, when the basic instrument had been developed, the KIDSCREEN project was extended. Three more countries (CZ-Czech Republic, HU-Hungary and PL-Poland) of the Newly Associated States (NAS) joined the KIDSCREEN project and were funded by the EC as well. Also, three additional countries (EL-Greece, IE-Ireland, and SE-Sweden) joined the KIDSCREEN project with independent funding. These six countries translated the KIDSCREEN 52-item research instrument according to international translation guidelines and conducted a cognitive debriefing.
At the time the reference study started (Phase 2), the project involved thirteen European countries: AT, CH, CZ, DE, EL, ES, FR, HU, IE, NL, PL, SE, and UK. In **Figure 1** all participating countries are shown.

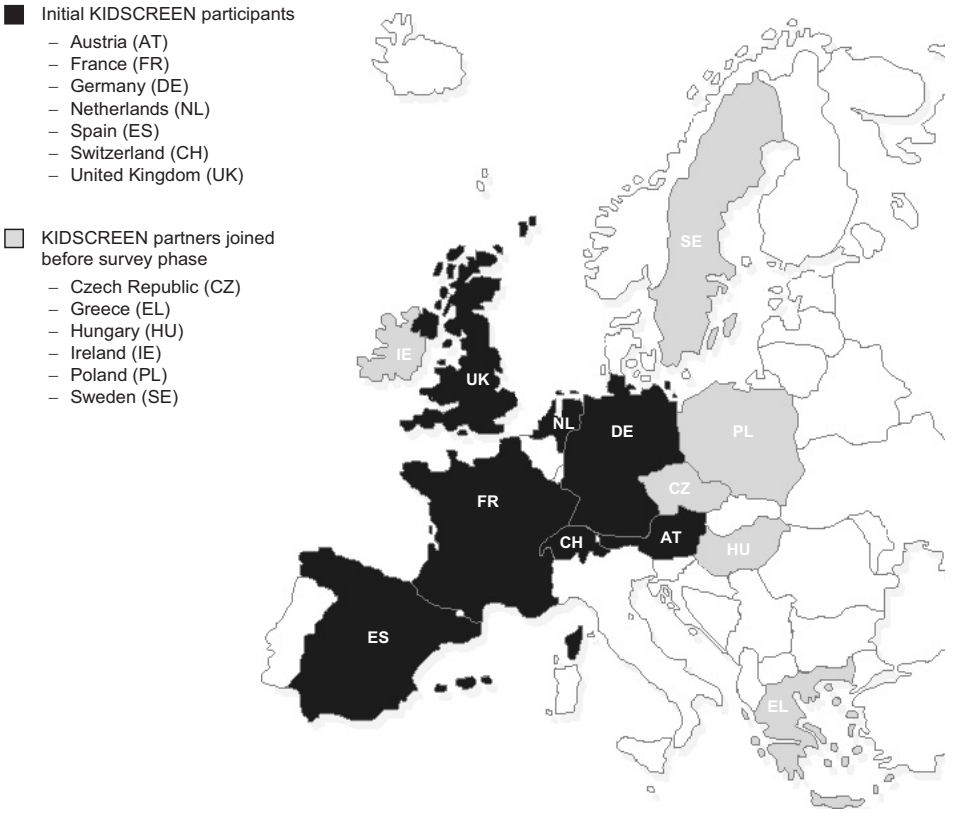


Figure 1:
Participants in the KIDSCREEN project

In 2003 all countries carried out a national representative survey and took part in the implementation phase in 2004. From Phase 2 to the present, all thirteen countries have worked together on the development of the KIDSCREEN instrument.

2 Development of the European KIDSCREEN Instruments

The KIDSCREEN approach followed a methodology which consisted of several work phases (see **Figure 2**) which reflected a stepwise instrument development procedure. In the instrument development phase, literature review (Chapter 2.1), delphi panel (Chapter 2.2) and focus groups (Chapter 2.3) were used to identify relevant items and dimensions. This item pool underwent a first item reduction procedure (Chapter 2.4). Remaining items were translated and harmonised by comparing items across languages (Chapter 2.5). The resulting pilot version was then tested in a pilot study that aimed to collect data for first psychometric analyses and to perform the final item reduction (Chapter 2.6). In representative national surveys, the performance, retest-reliability, and the construct validity were assessed (Chapter 3.1 and Chapter 3.3).

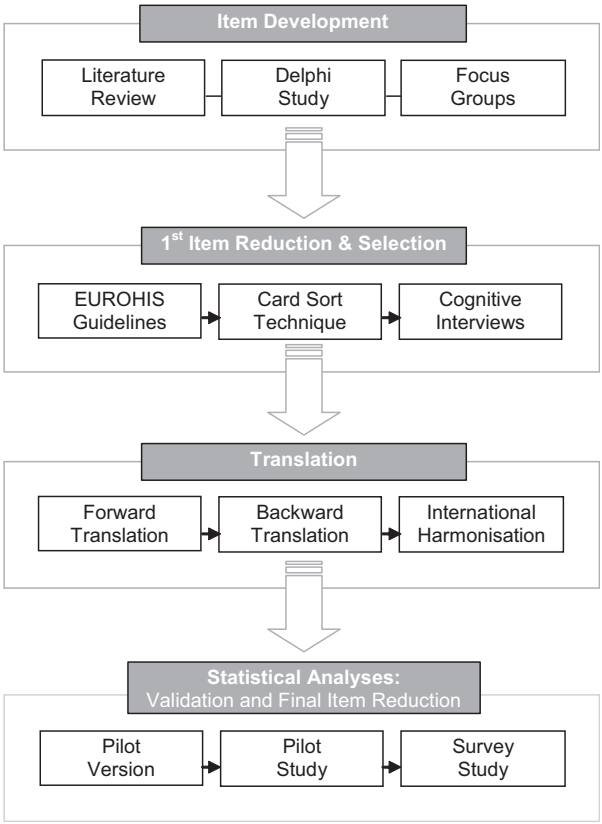


Figure 2:
Steps in the development of the KIDSCREEN instrument

2.1 Literature Review

In order to acquire an overview of the literature, particularly of instruments that have dealt with HRQoL in children and focused on international or cross-cultural research, a computer search was conducted using the MEDLINE data bases. Literature published from 1985 to 2000 was searched (via DIMDI, the German Institute for Medical Documentation and Information in Cologne).

To identify relevant studies, the search terms 'child' or 'adolescent' were used on the first level in association with the terms 'public health', 'health survey', 'health reporting' or 'epidemiology'. On the second level, two paths were integrated in the search. The first one included the terms 'quality of life', 'health status', 'well-being', 'adaptation' or 'psychosocial'. The second path searched for the terms 'instruments' or 'assessments'. Additionally the terms 'programme', 'health promotion', 'resources', 'cross-cultural', 'family', 'risk factors' or 'prevention' were investigated. Conducting the search with the additional terms, the number of abstracts increased to high levels (more than 25.000 hits), so that the references resulting from the added terms had to be excluded for review (**Figure 3**).

The first and the second path were combined and the duplicates deleted. Some articles which were not in the pool were added (e.g. from authors of the group) to the abstracts found during the MEDLINE search. After this procedure 9029 abstracts had to be reviewed with a short evaluation sheet to decide if they were relevant for the assessment. Each of the participating centres was asked to review a certain number of the distributed abstracts.

The evaluation was carried out according to pre-specified criteria covering aspects such as: application, design, assessment period, research aim, usage of QoL instruments, sample characteristics and relevance for the KIDSCREEN project. The results of this review showed that 335 (3.7%) of the 9029 abstracts were rated as relevant, 80 of them as having major relevance, 127 as moderately relevant, and 123 as having minor relevance (5 missing). The articles represented a variety of studies such as cohort studies, instrument validation studies, and epidemiological surveys. The majority of the studies were cross-sectional. Only 11 references dealt with the evaluation of a QoL instrument (including adult and disease-specific instruments).

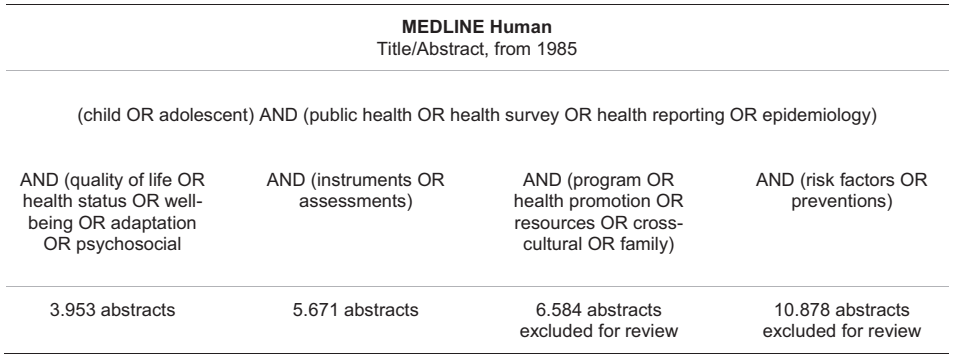


Figure 3:
Criteria for the MEDLINE search

2.2 Delphi Study

A Delphi exercise was conducted in order to identify the conceptualisation and operationalisation of HRQoL in children and adolescents from an expert perspective. The Delphi Method is an iterative technique used to achieve group consensus regarding an issue under investigation. It consists of a series of repeated interviews, usually by means of questionnaires, of a group of individuals whose opinions or judgements are of interest. After the initial questioning of each individual, each subsequent interview is accompanied by information regarding the preceding round of replies, presented anonymously. The individual is thus encouraged to reconsider and, if appropriate, to change her or his previous reply in light of the replies of other members of the group. After three to five rounds the group position is determined by averaging.
The Delphi process for the KIDSCREEN project consisted of three rounds of questionnaires administered to a multidisciplinary group of 24 experts from 7 European countries. The first Delphi round consisted primarily of open questions; later versions of the questionnaire were based on expert responses to this round. The questionnaire was divided into three broad sections dealing with conceptualisation and operationalisation of HRQoL, as well as questionnaire construction and content. In the first round, the questionnaire was sent to 24 participants and replies were received from 17 of them. Analysis of first round responses was largely qualitative. In the second round, answers were received from 19 respondents. In the second and third rounds, consensus was considered to be reached when at least 90% of experts either agreed or disagreed on a given item, or where median scores were over 6 on a scale of 1-10, and score dispersion was within predetermined limits. Responses were received from 20 respondents in the three rounds.
It was agreed that the new instrument should be a multidimensional profile measure with 30-49 items covering 5 to 8 dimensions, and taking 10-15 minutes to complete. Agreement was also reached on 8 specific dimensions to be included in the questionnaire: psychological (well-being, self-esteem, body image, cognitive functioning), physical (mobility, energy/vitality), social (social relations, family/home function) and other possible dimensions, such as environment. A more detailed description of the KIDSCREEN Delphi procedure and its results can be found in the publication of Herdman et al. (2002).

2.3 Focus Groups

To include the opinion of children/adolescents and their families about what constitutes HRQoL, focus groups were conducted. In each country, six focus groups were organised, with four to six participants in each group. The groups were divided into separate gender and age groups. Parents' opinions were obtained by questionnaires. One aim of the focus groups was to identify dimensions and items by exploring the meaning of quality of life and well-being for the participants. A further aim was to estimate the impact of health problems and to evaluate the layout and answer categories of available generic quality of life questionnaires for children and adolescents. A manual of focus group guidelines was written to guarantee consistent procedures for the focus group studies in each participating country.
The content of the focus group was divided into four parts. The first part was aimed at collecting issues spontaneously brought up by the subjects themselves in response to

open questions such as, "In your opinion, what is important for you in your everyday life to make you feel well?" The second part was slightly more directive; here the child was asked to express physical, psychological and social aspects related to health status, based on the results of the literature review (see 2.1) and Delphi procedure (see 2.2). In the third and fourth parts, participating children/adolescents were asked to complete a list of items from existing generic quality of life questionnaires for children and adolescents. The different answer categories, time frames and example items from generic QoL questionnaires were evaluated to test their feasibility. Two experienced moderators guided the sessions. All sessions were audio-taped, transcribed and content-analysed by the responsible centre.
The focus group work identified the children/adolescents and family perspective on health-related quality of life, functioning, well-being and diseases of children/adolescents reflecting the situation in participating European countries. Conducting focus groups proved to be useful for exploring children's views of HRQoL and resulted in issues that are relevant for children and adolescents. The documentation of the focus group study resulted in a total of 26 dimensions and 2505 statements. A more detailed description of the KIDSCREEN focus group approach and its results can be found in the publication of Detmar, et al. (2006).

2.4 First Item Reduction Procedure

The 2505 statements formulated by the focus groups underwent a reduction process involving a redundancy rating performed by three centres and a card sorting procedure. The whole process of item reduction is presented in **Table 1**. The first step involved the removal of redundant and inappropriate items using guidelines from the EUROHIS study (Nosikov & Gudex, 2003) and was performed by three centres (NL, DE, UK). In the second data reduction step, all participating centres were asked to rate the remaining 1070 items for applicability, clarity and importance. As a framework, the card sort technique, common in cognitive psychology, was used. This technique reduced the items while taking into account the dimensions of quality of life that children/adolescents and families deemed to be important by sorting the items into categories within dimensions. In each dimension the cards were divided into a number of categories according to certain common features and sub-standard items were rejected. In each category, the items were ranked according to how well they represented the dimension. A list of categories within dimensions was made. Categories that were very similar or that contained only a few items were combined with other categories, and dimensions that were very similar or contained only a few items were merged with other dimensions. Using this technique, 18 categories remained and the best items from each category were selected. The card sort technique identified 185 suitable items for the KIDSCREEN pilot measure.
To transform the questions into final items for a questionnaire format, an item writing panel was assembled by the participating centres. The criteria set by the panel was that items should:

- give rise to answers that inform on respondents' state or behaviour;
- be amenable to a rating scale;
- reflect the meaning conveyed in the domain definition;
- be applicable to people with a wide range of conditions;
- be framed as a question instead of a statement;

Stages	Number of Items and dimensions	Examples of Spanish surviving items	Examples of deleted items
Literature review + Delphi study	≅ 30-49 items and 8 dimensions (Psychological Well-being, Self-esteem, Body-image, Cognitive Functioning, Mobility, Energy/vitality, Social Relations, Family)		
Focus groups	863 items (2.505 in total) in 8 dimensions (Psychological Well-being, Self-esteem, Cognitive Functioning, Mobility, Vitality, Social Relations, Family Functioning, Environment)	Item 75 (Dimension: Psychological well-being) Tengo la sensación de que hago todo mal *I have the feeling I do everything badly*	
Item reduction and selection (EUROHIS)	360 items for children and adolescents (1.070 in total)	Item remained	Item 60 deleted for redundancy: A veces estoy vago/a porque no duermo *Sometimes I am lazy because I don't sleep*
Item reduction and selection (Card sort)	185 items in 7 dimensions (24 categories): Psychological Well-being (emotions, worried, optimism), Self-perception (self-esteem, achievement, appearance), Social Relations (parents, friends, girlfriend¬boyfriend), Social Functioning (autonomy, opportunity, quality), Cognitive/school Function (concentration, performance, teachers), Physical (mobility, energy, relaxation, wellness, sleep, appetite), Environment (home, neighbourhood, finances)	Item remained	
Translation Backtranslation Harmonisation	185 items	English: Do you feel that you do everything badly? Forward 1: ¿Crees que lo haces todo mal? Forward 2: ¿Piensas que lo haces todo mal? Reconciled: ¿Tienes la sensación de hacerlo todo mal? Backward: *Do you have the feeling that you do everything wrong?* Harmonisation: Change of the Verbal Tense	Item 2471 deleted in the harmonisation: too large and complicated: Do you find a way to go on even when things do not work out the way you want them to?
Pre-test (*cognitive interview*)	177 items	There were no problems with the item	Item 1483 deleted in Pre-Test: deemed too complex for children: ¿Te has sentido desesperado/a e impotente? *Have you felt hopeless and powerless?*
Pilot Version KIDSCREEN	159 items for children version and 167 items for adolescent version in 8 dimensions	Final English: *Have you felt that you do everything badly?* Final Item:¿Has tenido la sensación de hacerlo todo mal?	
Pilot Study KIDSCREEN	52 items for children and adolescent version in 10 dimensions (Physical Well-being, Psychological Well-being, Moods & Emotions, Self-perception, Autonomy, Parent Relations & Home Life, Peers and Social Support, School Environment, Bullying, Financial Resources)	Final Dimension: Moods & Emotions	

Table 1:
Generation of items and item reduction steps of the KIDSCREEN questionnaire

– reflect the discussion that took place in focus groups; and
– make use of wording suggested by focus group participants.

A decision to have a five point response scale for frequency and intensity was reached. A decision was also made on answer categories referring to frequency of occurrence and intensity of statement. In the Delphi study, experts were asked about the preferred time frame. 63.1 % favoured the time frame "last week", while only 26.3 % preferred the "one month" time frame. In addition, results of the focus group study of the KIDSCREEN project supported the one week time frame. Young children especially preferred the "last week" as a time frame and stated that it would be difficult for them to remember a longer time period precisely. In adolescents, votes for time frames were not so clear cut, but the "last week" as well as the "in general" time frame were mainly preferred. In the literature the "one week" time frame is found to be the most appropriate for children as well (Eiser & Morse, 2001; Fallowfield, 1994; French & Christie, 1996). Further, it was discussed that a time frame of one week allows examining changes and variations over time better than a longer time frame. Based on the Delphi study and on the focus groups results the time frame used was "one week" and in some cases "in general." Consensus was achieved on an English pilot draft version.

2.5 Translation Procedure

Each participating centre translated the items into the language of the target population, using a standardised translation methodology according to international cross-cultural translation guidelines to ensure cross-cultural harmonisation (WHOQol Group, 1993; IQOLA, 1991). The first step employed a forward-backward-forward translation technique. Within each country, the original English pilot draft was translated twice into the respective language by two translators working independently of each other (national forward translations). All items of the two independent versions were then compared in order to generate for each item a single corrected reconciled version (national reconciled forward translations). The items of these national reconciled forward translations were then back-translated (national backward translation) in order to be subsequently compared with the items of the original English pilot draft. This comparison was designed to provide the final versions for the national questionnaires (national final forward translation). Thereafter, the degree of conceptual equivalence amongst the respective national final forward translations was checked on an international basis to reach cross-cultural harmonisation. A telephone conference was held to resolve inadequate concepts of translation as well as discrepancies between alternative versions. A pre-test followed by cognitive interviews took place in the respective countries to ensure the feasibility of the pilot questionnaire. It was shown that children younger than eight years old could read, understand, and answer all the items without problems. After that, agreement on final item formulation was made in a meeting in which all countries participated.

2.6 Pilot Study: Final Item Reduction

2.6.1 Study Design

The aim of the international pilot study analysis was the reduction of the item pool received from the previous project work. The pilot questionnaire contained the preliminary KIDSCREEN version with 159 items for the children and 167 items for the adolescents (8 additional items). Furthermore, a general health item was applied. Within an elaborated card-sorting process, these items had been previously clustered into seven dimensions which constituted the theoretical KIDSCREEN Quality of Life model (see **Table 2**).

The KIDSCREEN pilot questionnaire was applied together with items covering socio-demographic information and health, selected on the base of international studies, recommendations and existing questionnaires. Adolescents also completed the Youth Quality of Life Instrument (YQOL, Patrick et al., 2002) and health care system utilisation questions. It was agreed to administer the sections of the questionnaire in the same sequence in all countries.

The pilot study was carried out in a convenience sample of schools (with the exception of NL where the respondents were contacted directly by post). Children and adolescents between 8 and 18 years of age and their parents from different regions (urban vs. rural) and different socio-economic environments were included. In every country the study was conducted with the consent of the responsible data protection ethical committee.

The centres, apart from NL, contacted schools in their country and asked the head teachers to cooperate in the pilot study. The procedure during the pilot study in school classes was similar for children and adolescents. Both groups had to fill in the questionnaire independently. In school classes with 8-10 year old pupils, two interviewers conducted the study and answered questions of the children, while in classes of 11-18 year old students only one interviewer was required. All centres arranged two school hours for each class to answer the KIDSCREEN pilot questionnaire. In NL a representative sample was drawn from the database of the Regional Health Authorities in Leiden (GGD). Questionnaires were sent to a child and his/her parents asking them to fill in the questionnaire independently from each other.

KIDSCREEN domains	Content of items
Physical Well-being	– mobility, energy and relaxation, health and complaints
Self-Perception	– body-image, self-assurance, and self-esteem
Psychological Well-being	– positive and negative emotions, worries and stress, life-satisfaction and optimism
Social Functioning	– autonomy, opportunity to finance and to participate in activities
Social Relations	– home life and parents, friends, group participation and social support
Cognitive & School Functioning	– concentration and learning, achievement and teachers
Personal Environment	– physical and home conditions

Table 2:
KIDSCREEN Quality of Life model for pilot study

Younger school pupils took, on average, more than one school hour to complete the questionnaire, and older pupils took about one school hour. The distribution of the parental questionnaire differed somewhat by country, but in most countries the children were asked to give their parent(s) the parental questionnaire together with the stamped addressed envelope. The parents completed the questionnaire at home and returned it cost-free to the respective centre. At each participating centre the child-parent set of questionnaires were matched by special codes.

2.6.2 Sample

The multinational KIDSCREEN pilot study sample used for the item reduction analysis included the data of 3977 children and adolescents (see **Table 3**). Between 48.1% and 89.3% of the contacted families (informed by an information sheet together with a written consent form) agreed to participate in the study. Most of the children and adolescents of these families were assessed and between 23.6% and 99.4% of their parents sent back the questionnaire. There were 1460 (36.6%) children between 8 and 11 years and 2470 (61.9%) adolescents aged between 12 and 19 years (the age of 47 respondents was unknown). The average age of all children and adolescents was 12.7 years (SD=2.6 years). 1942 (48.8%) of the children and adolescents were male, 2005 (50.3%) were female (the gender of 30 respondents was unknown). Distributions by age and gender are fairly good and comparable across countries. The largest sub-sample was the German sample providing 1326 of the children and adolescents, 491 were from Switzerland, 491 from Spain, 450 from France, 445 from the United Kingdom, 412 from Austria, and 362 from the Netherlands. For the purpose of analysis the German sample was randomly reduced, because of its overweight.
Despite the similar procedures of data collection in countries, the cooperation rates for families were quite different and ranged between 48.1% (Germany) and 89.3% (Switzerland). The overall response rate was 56.7%. The response rates for children and adolescents ranged between 99.8% and 100%. Related to the responding children and adolescents, the response rates of parents were even more different and range between 23.6% (United Kingdom) and 99.4% (Netherlands).

2.6.3 Data Analysis

For the item-reduction analyses, some cases were excluded because, for example, their age was not within the range of 8 to 18 years or was unknown, or because they had greater than 25% missing values in the KIDSCREEN measure. Furthermore, the over-representative German sub-sample was reduced randomly to 2/5 of its size. The final sample thus consisted of 3019 children and adolescents aged between 8 and 18 years. 10% of the children and adolescents were randomly selected for a cross-validation sample.
The statistical analyses using the pilot study data for the item reduction was divided into 4 major steps, as illustrated in **Figure 4**: 1) Item reduction with methods descending from Item-Response Theory (IRT); 2) Item reduction with methods rooted in the Classical Test Theory (CTT); 3) Comparison of the results of both methods including theoretical considerations and item reduction of the combined version using methods of Item Response Theory; 4) Improving the scales' predictive validity examining the item functioning

Table 3:
National Samples of the KIDSCREEN Pilot Study

Pilot Study sample No. of	**AT**	**CH**	**DE**	**ES**	**FR**	**NL**	**UK**	**Total**
Contacted families	542	550	2758	564	751	625	n.i.*	6232
Families agreed to participate (Coop. Rate)[1]	412 (76.0%)	492 (89.4%)	1326 (48.1%)	492 (87.2%)	451 (60.1%)	362 (57.9%)	n.i.*	3535 (56.7%)
Respondent children or adolescents (Resp. Rate)[2]	412 (100%)	491 (99.8%)	1326 (100%)	491 (99.8%)	451 (100%)	362 (100%)	444 (100%)	3533 (99.9%)
Responding parents (Resp. rate)[2]	181 (43.9%)	260 (53.0%)	865 (65.2%)	359 (73.1%)	396 (88.0%)	360 (99.4%)	105 (23.6%)	2526 (63.5%)
Respondent children (child/total rate)[a]	186 (45.1%)	115 (23.4%)	475[a] (35.8%)	200 (40.7%)	47 (10.4%)	188 (51.9%)	249 (56.0%)	1460 (36.1%)
Respondent adolescents (adolescent/total rate)[a]	226 (54.9%)	376 (76.6)	805[a] (60.7%)	291 (59.3%)	403 (89.6%)	174 (48.1%)	195 (43.8%)	2470 (62.1%)
Mean age (SD)	12.8 (2.8)	13.3 (2.8)	12.6 (2.4)	12.8 (2.8)	13.2 (1.3)	12.2 (3.6)	11.9 (2.4)	12.7 (2.6)
Female (female/total rate)	185[b] (44.9%)	277[c] (56.4%)	652[d] (49.2%)	244 (49.7%)	249 (55.3%)	179 (49.4%)	219[e] (49.2%)	2005 (50.3%)

* n.i.: no information

[1] Cooperation rate: number of children and parents who accepted to participate divided by the number of contacted by 100.

[2] Response rate: number of questionnaires filled in by children divided by those who accepted to participate by 100.

[a] age of 47 (3.5%) unknown

[b] gender of 3 (0.7%) children and adolescents unknown

[c] gender of 1 (0.2%) children or adolescents unknown

[d] gender of 10 (0.8%) children and adolescents unknown

[e] gender of 2 (0.5%) children and adolescents unknown

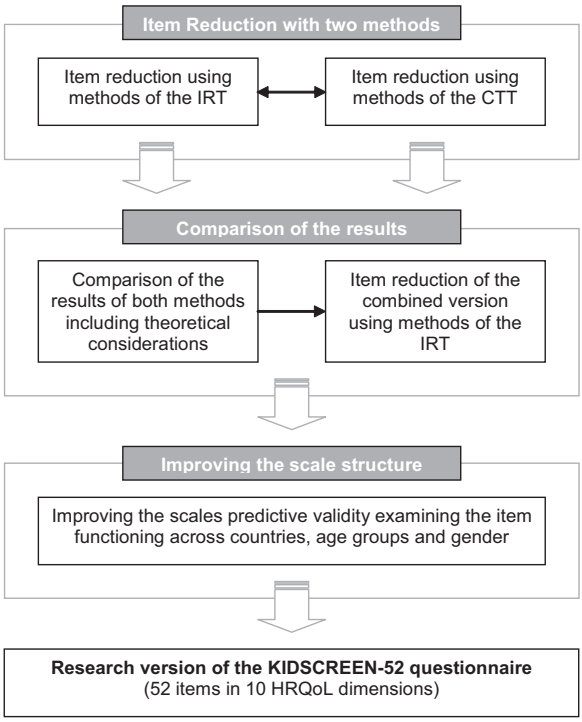


Figure 4:
Statistical analyses using the pilot study data for the item reduction

across countries, age groups and gender. The analyses were conducted using the programs SPSS 11, LISREL 8.5, Mplus 2.1, Testgraf, Parscale 3 and Winmira 2001.
This reduction process led to the construction of a multidimensional research version: The KIDSCREEN-52 questionnaire consisting of 52 items within 10 dimensions, which was then validated in national surveys (see Chapter 2.7).

2.7 Survey: Validation of the KIDSCREEN Instruments

Subsequent to the pilot study, national surveys took place in all participating countries. The aims of the survey study were to: analyse the performance of the research version of the KIDSCREEN-52 questionnaire derived from the pilot study questionnaire in a representative sample of the target population; refine the scale structure, and; assess the retest-reliability as well as the construct validity of the KIDSCREEN instrument.

2.7.1 Model of Operationalisation

The aim of the KIDSCREEN project was not only to develop an instrument to assess HRQoL in children and adolescents and their parents, but also to describe the relationship between the KIDSCREEN questionnaire and other relevant determinants. Relevant determinants of HRQoL mentioned repeatedly in the literature are, besides age and gender, the health status of children and adolescents, the children and adolescent's mental

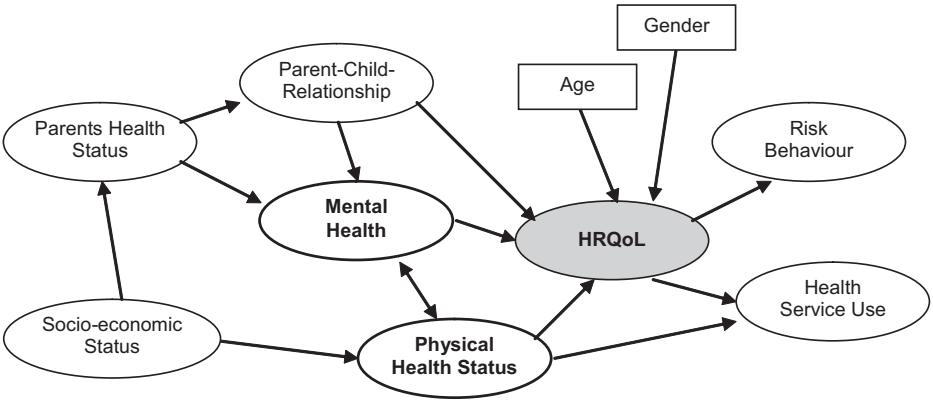


Figure 5:
KIDSCREEN model including determinants

health, the parent-child relationship and social support, the familial socio-economic status and the parent's health status. The HRQoL of children and adolescents has an impact on the children's/adolescents' risk behaviour and their health service use. In the KIDSCREEN survey, the above mentioned determinants were included to test the relationship between the determinants and the KIDSCREEN questionnaire and to validate the questionnaire. It was decided to state hypotheses choosing those expected differences on which there is strong agreement, to try to be specific in direction and magnitude, and to elaborate firm, but not too many, hypotheses. The hypotheses were based on the model presented in **Figure 5**.
Table 4 shows how the determinants are operationalised (which questionnaire was used or from which source the items originate). In the following columns the number of items per variable is listed for children, adolescents, and parents separately.

2.7.2 Data Requirements Medical Ethics Committee

Before carrying out national representative surveys, the researchers addressed all data protection requirements concerning disclosure of participants addresses for mailing the extended questionnaires in participating countries. The parents' consent was received to participate in the Mail Survey (Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. The data protection requirements were checked by the European Commission and by the national Data Protection Commissions). Each participating country was asked to respect ethical and legal aspects in their country and to obtain informed consent. A detailed description of the study proposal and informed consent forms were provided to the ethics committees in each country. The protection of data privacy was addressed and each participating centre was asked to comply with their national standards. For instance, in Ireland consent was requested and granted by the Ethics Committee of the Faculty of Public Health Medicine, Royal College of Physicians, Ireland. In The Netherlands the research protocol was approved by the Medical Ethical Committee TNO.

Table 4:
Operationalisation of determinants and number of items in the KIDSCREEN survey for children, adolescents and parents

Variable / Instrument or Item Source	Children No. of items	Adolescents No. of items	Parents No. of items
SES (socio-demographic and socio-economic status) (ISSP, 2001, Braun et al., 2003; ISCED 1997; HBSC, Currie et al., 1997)	12	12	17
BMI (weight, height) (Kromeyer-Hauschild et al., 2001)	2	2	2
Health status (CSHCN screener; Bethell et al. 2002b)	4	6	20
Psychosomatic complaints (HBSC, Currie et al., 1998)	8	8	-
Mental health (SDQ Strength and Difficulties Questionnaire, Goodman, 1997)	-	25+5	25+5
Risk behaviour (Smoking, Alcohol) (CAGE, Ewing, 1984; ESPAD, Hibell, 2000; HBSC, Currie et al., 1998)	1	4	5
Health services utilisation (Eurohis, Nosikov et al., 2003)	-	2	7
Relationship parent/child (Social support) (SAS-Social Support Scale, Weissman, 1996; Oslo 3-item Social Support Scale, Dalgard, 1996)	3	3	5
Emotional Well-being (Items from the CHQ, KINDL, SF-36; Ellert et al., 2001)	9	8	-
DISABKIDS chronic generic items (Bullinger et al., 2002)	19	19	-
YQOL (Youth Quality of Life Instrument, Patrick et al., 2002)	-	13	-
CHIP (Childhood Health and Illness Profile, Starfield, 1993, 1995, 2000)	-	11	-
Generic Questionnaire1 (country specific)	25 +	25 +	25+
Parental health (SF12 Short Form 12 Health Survey, Ware et al., 1996)	-	-	12
CHQ PF 28 (Child Health Questionnaire Parent Form, Landgraf et al., 1998)	-	-	28
Total	**82**	**141**	**151**

[1] Generic Questionnaires: KINDL Questionnaire for Measuring Health-Related Quality of Life in Children and Adolescents (Ravens-Sieberer et al., 2001, 2003) included in **AT, DE, CH** (only Children), **EL, ES**; BFW Berner Well being questionnaire (Grob et al., 1991) included in **CH** (only adolescents); VSP-A Perceived Health of Adolescents (Siméoni et al., 2000) included in **FR**; TACQOL Children's Quality of Life (Vogels et al., 1998) included in **NL**; Cantril's Ladder (Cantril,1965) included in **CZ, HU, PL**; Huebner's Students Life Satisfaction Scale (Huebner,1991a, b) included in **CZ, HU, PL**; PedsQoL Pediatric Quality of Life Inventory (Varni et al., 2001) included in **IE, UK**

2.7.3 Sampling and Administration

In the survey phase of the KIDSCREEN project, national representative surveys were conducted in order to obtain reference scores of health-related quality of life for each participating country. The KIDSCREEN study used two methods of sample selection to obtain responses: six countries (AT, CH, DE, ES, FR, NL) centrally organised the sampling, monitoring and evaluation through phone contacts, and six countries (CZ, EL, HU, IE, PL, SE) did it through schools or households. UK combined both telephone and school sampling methods. In both sampling methods, the combination of telephone and mail survey and school sampling, a second administration of the questionnaire to a subsample was carried out within two to four weeks of the first survey in order to check test-retest reliability. The sampling and administration is described in detail in Rajmil et al. (submitted).

Telephone Sampling and Mail Survey
Modus Research Institute, a private institute located in Bamberg, Germany, carried out the sampling by telephone using a Computer Assisted Telephone Interview (CATI) in order to avoid distortions of the survey and to control the realisation of the quota sample. This method included a supported random-digital-dialling management system (RDD, RLD). The sampling frame included households having a fixed phone. Before the sampling, each participating centre was asked to provide more information to support the Modus Research Institute in their work about favourable calling times and spoken dialects. In the sampling phase, Modus centrally contacted families via telephone call until a sample of 2400 children per country was achieved. A short standardised interview was carried out to contact families with children and adolescents between 8 and 18 years of age. In families with more than one child the "next birthday method" was used to select the child to be included in the KIDSCREEN survey. Families were asked whether they were willing to answer a more comprehensive and extended questionnaire. If they consented to participate, the questionnaire and information material were sent to the families by each national participating centre. Only home addresses of consenting families were collected. The database, which included the addresses of participants, was sent to the centres under high security norms. The NL used the service of another independent company, DIDOC, which bought 6000 addresses from a panel of families with children, in addition to the addresses of participating families recruited by Modus. In the UK, the largest part of the sample was collected in schools (see below).
In the survey phase, the participating centres sent packages with questionnaires for parents and children and a postage-paid return envelope to every family, as well as a letter with information about the KIDSCREEN survey and the consent to participate, which was signed and returned together with the questionnaires. In addition, the telephone number of a hotline was provided where parents and children/adolescents could seek more detailed information about the survey. Two reminders were sent by centres via post-mail in order to increase the response rate.

School Sampling and School or Post Survey
In the second approach, the survey was conducted mainly in schools (except in CZ), and questionnaires were also administrated in schools (except in CZ and PL). In general, schools were randomly selected in each geographical or administrative region. Also, in

EL students were selected at random. In most of the countries, the consent to participate was obtained before survey administration. Children whose parents agreed to participate filled in the questionnaires in the schools, and brought the completed parents' questionnaires some days afterwards.
In CZ, sites from communities were randomly selected from all regions of the country. The second step combined a random selection of households in the given communities using a local telephone register, with a "random walk" method. In the selected sites trained research assistants (interviewers) contacted families with children of the requested age, giving the standard information, and leaving the questionnaires in the selected families. They returned back to collect the filled questionnaires after 2–5 days.
In EL, questionnaires were accompanied by the parents' information letter, an informed-consent form, and the information letter for the students. During a 2nd visit in schools after 3-7 days, the questionnaires were collected from the students who had acquired the informed consent form signed by their parents, while a non-response questionnaire was administered to those who declined participation.
In PL, meetings were arranged in order to inform parents about the study, and ask for consent to participate as well as their mail addresses to send them the questionnaires. During these meetings, a short questionnaire was also administrated to parents to collect socio-demographic variables.

2.7.4 Cooperation and Response

The main indicators used to evaluate the sampling and administration procedures were the cooperation rate and the response rate. Cooperation was defined as the willingness of children and parents to participate in the study. The cooperation rate was computed as the number of children and parents who agreed to participate divided by the number of eligible children contacted, multiplied by 100; the eligible contacted children were defined as all children aged between 8 and 18 (and their parents) who were asked to participate. The response rate was computed as the number of questionnaires filled in by children and adolescents divided by the selected cases or addresses, multiplied by 100. Since selected cases could be reduced by wrong addresses when administration was done by mail, in countries that carried out the questionnaire administration by this way, valid addresses were used as the denominator of the response rate.
Cooperation was higher in countries where sampling was made by schools than those made by CATI (**Table 5**). The cooperation rate was 69% or higher in the former, and it varied between 42.8 % (UK) and 76.5 % (NL) in the latter. The response rate was very high when administration was conducted in schools, with small variations depending on some particularities of administration. In the case of mailed surveys, the response rate differed between countries: the lowest rates were found in UK (43.8 %) and in FR (44.9 %), whereas the highest rates were found in the NL (97.4%) and in Germany (73.5 %).

2.7.5 Representativeness of the national Results

Despite the sophisticated sampling method, it was to be anticipated that samples could be somewhat biased regarding age and gender of the children and adolescents. In order to assess the representativeness of each national survey, KIDSCREEN respondents were

Table 5:
Sampling and data collection: procedures and results

	Sampling				Data collection				
	Method	ECC[a]	Coop.[a]	Coop.	Mode[a]	VA[a]	Ref.[a]	Q back	Resp.
		n	n	%		N	n	n	%
AT Austria	CATI	4433	2425	54.7	mail	2395		1544	64.5
CH Switzerland	CATI	4349	2423	55.7	mail	2423		1746	72.1
CZ Czech Republic	households	2283	1632	71.5	households	1632		1632	100
DE Germany	CATI	4642	2430	52.3	mail	2413		1873	77.6
EL Greece	schools	1656	1192	72.0	schools	1192		1192	100
ES Spain	CATI	4009	2052	51.2	mail	1956	205	924	47.2
FR France	CATI	4222	2459	58.2	mail	2382	5	1079	45.3
HU Hungary	schools	3622	3560	97.2	schools	3560		3297	92.6
IE Ireland	schools	80	38	47.25	schools	1265		1265	47.3
NL The Netherlands	CATI	866	426	49.2	mail	1961		1919	97.8
	DIDOC	2549	1949	76.5					
PL Poland	schools	2915	2411	82.7	mail	2378		1715	72.1
SE. Sweden	schools	3650	3354	91.2	schools	3354		3354	100
UK United Kingdom	CATI	2517	1079	42.8	mail	1062		468	44.1
	schools	2210	1526	69.0	schools	1526		1526	100

[a] ECC: elegible children contacted; Coop.: cooperation; Mode: Mode of administration; VA: valid addresses; Ref.: refusals confirmed during the questionnaire administration; Q back: questionnaires sent back; CATI: computer assisted telephone interview; DIDOC: large data services institute in the Netherlands.

compared not only with the reference population but also with eligible contacted people who did not agree to participate (refusers).

The sex and age distribution of children and adolescents included were compared with data provided from Eurostat (European Statistics) on the distribution of children aged 8-18 years old by sex and age. Eurostat data were used as the population reference. One survey binomial test was used to test whether the proportion of successes on a two-level categorical dependent variable significantly differed from a hypothesized population value. For example, in Spain, where 48.6% (Eurostat data) of the children and adolescents between 8 and 18 years old are girls, it was tested whether the proportion of females in the KIDSCREEN survey (49.1%; n=876) differed significantly from the population value, but the difference was small.

The highest educational level of the parents who responded to the KIDSCREEN survey was compared with the same variable for women and men with at least one child from 8-18 years old in the household, from data provided for Eurostat. The highest educational qualification was collected and codified according to ISCED categories (International Standard Classification of Education, ISCED 1997) as follows: Low: at most lower secondary (ISCED 0-2); Medium: upper secondary (ISCED 3-4); and High: tertiary (ISCED 5-6). A chi-square goodness of fit was used in order to test whether the observed proportions from the survey differed significantly from the expected proportions in the reference population.

Information from people who did not agree to participate (refusers) was collected in most of the countries. In AT, CH, DE, ES, FR, and NL, the Modus Institute responsible for the telephone sampling also carried out telephone interviews with refusers. In CZ and PL, data were collected in schools and households, respectively. The variables collected in all the countries were the child and responder's general perceived health, the responder's marital status and the highest educational level achieved (except for PL, where it was replaced with the mother's highest educational level) and their house's location according to the respondent's description. A chi-square test was carried out to test the distributions' differences.

The distribution of sex and age groups compared with the Eurostat reference population in each country is shown in **Table 6**. Most of the national surveys achieved proportions quite similar to the reference population, even though some groups had 3 or 4 points of difference regarding their proportion in the reference. The proportion of some groups in EL and HU exceeded their distribution in the reference population by more than 10 points. Regarding the distributions by age groups (data not shown), most of the countries had a proportion of children a little higher than the population values from Eurostat, while the proportion of adolescents was lower in most of countries of the KIDSCREEN study. UK had 13.7 points of difference regarding the reference population, HU showed 7.3 point of difference, PL 4.1, and the rest of countries showed differences lower than 3 points. Girls participated more frequently than boys in almost all countries. The most unbalanced surveys were those from HU and EL, with 9 to 11 points of difference regarding the reference population (data not shown).

The proportion of women and men with low educational level was lower among the KIDSCREEN's mothers and fathers than in the reference population, whereas in almost all countries, the proportion with high educational level was higher among the participants in the KIDSCREEN study (**Table 7**).

Table 6:
Sampling and data collection: procedures and results[a]

	Female children (8-11)			Male children (8-11)			Female adolescents (12-18)			Male adolescents (12-18)			Total	
	KIDSCREEN	Eurostat	dif	KIDSCREEN	Eurostat	dif	KIDSCREEN	Eurostat	dif	KIDSCREEN	Eurostat	dif	KIDSCREEN	Eurostat
AT	277 (18.8)	188229 (18.0)	0.8	241 (16.3)	194634 (18.6)	-2.3	516 (35.0)	323829 (31.0)	4.0	441 (29.9)	337896 (32.3)	-2.4	1475	1044588
CH[b]	304 (17.9)	121856 (18.0)	-0.2	276 (16.2)	127615 (18.9)	-2.7	608 (35.7)	206451 (30.6)	5.2	513 (30.2)	219405 (32.5)	-2.3	1701	675327
CZ	281 (17.7)	242408 (17.0)	0.7	275 (17.3)	256975 (18.0)	-0.7	507 (31.8)	449882 (31.5)	0.3	529 (33.2)	477293 (33.5)	-0.2	1592	1426558
DE	305 (17.7)	1696738 (16.9)	0.8	305 (17.7)	1786698 (17.8)	-0.1	579 (33.6)	3193940 (31.8)	1.8	534 (31.0)	3370710 (33.5)	-2.6	1723	10048086
EL	-	-	-	-	-	-	701 (59.7)	439095 (48.6)	11.1	473 (40.3)	464010 (51.4)	-11.1	1174	903105
ES	148 (16.9)	776614 (16.4)	0.4	173 (19.7)	826828 (17.5)	2.2	282 (32.2)	1517999 (32.1)	0.0	273 (31.2)	1601026 (33.9)	-2.7	876	4722467
FR	198 (18.9)	1438885 (17.3)	1.6	196 (18.7)	1510692 (18.1)	0.6	346 (33.0)	2634937 (31.6)	1.4	309 (29.5)	2750578 (33.0)	-3.5	1049	8335092
HU	760 (23.5)	236865 (17.2)	6.2	618 (19.1)	247573 (18.0)	1.1	1130 (34.9)	436452 (31.8)	3.2	729 (22.5)	453518 (33.0)	-10.5	3237	1374408
NL	334 (17.7)	394936 (18.4)	-0.6	344 (18.2)	413929 (19.2)	-1.0	630 (33.4)	654550 (30.4)	3.0	577 (30.6)	687005 (31.9)	-1.3	1885	2150420
PL	301 (17.6)	1004776 (15.6)	1.9	264 (15.4)	1056656 (16.5)	-1.1	638 (37.2)	2131715 (33.2)	4.0	512 (29.9)	2228712 (34.7)	-4.9	1715	6421859
SE	-	-	-	-	-	-	1609 (49.0)	373929 (48.6)	0.4	1674 (51.0)	395628 (51.4)	-0.4	3283	769557
UK	455 (24.2)	1542332 (18.3)	6.0	506 (27.0)	1621856 (19.2)	7.7	455 (24.2)	2561631 (30.4)	-6.1	461 (24.6)	2708149 (32.1)	-7.5	1877	8433968

[a] IE was excluded from the representativeness analysis because this was not the aim of the sampling.
[b] Census data for Switzerland in the year 2000, in 19 out of 26 cantons where sampling was carried out.

Table 7:
Educational level of mothers and fathers answering KIDSCREEN compared with reference data (Eurostat) for women and men

	Mothers					Fathers				
	KIDSCREEN		Eurostat		Difference	KIDSCREEN		Eurostat		Difference
	n	%	n	%	p	n	%	n	%	p
AT Austria										
Low	167	11.2	144.9	24.3	105.378	112	7.8	72.3	13.8	37.428
Medium	1110	74.5	351.6	59.1	60.336	1081	75.5	343.4	65.7	21.030
High	212	14.2	98.7	16.6	4.946	239	16.7	107.2	20.5	10.126
Total	*1489*		*595.2*		*170.660**	*1432*		*523.0*		*68.584**
CH Switzerland										
Low	217	13.6	70	15.7	4.459	122	8.2	42	11.6	15.071
Medium	1110	69.6	333	74.7	5.570	726	48.7	245	67.3	77.031
High	268	16.8	43	9.6	86.190	644	43.2	77	21.2	339.498
Total	*1595*		*446*		*96.219**	*1492*		*364*		*431.601**
CZ Czech Republic										
Low	58	3.7	99.6	11.0%	1853.702	40	2.7	50.6	6.1	29.058
Medium	1170	75.1	717.9	79.1%	108791.983	1093	73.1	656.5	79.4	7.642
High	330	21.2	90.4	10.0%	69532.057	363	24.3	119.4	14.4	99.825
Total	*1558*		*908.0*		*180177.741**	*1496*		*826.5*		*136.524**
DE Germany										
Low	396	23.3	1208.5	20.9	4.749	475	29.4	709.5	13.6	297.455
Medium	1018	59.9	3526.5	60.9	0.303	729	45.2	3039.5	58.3	47.488
High	286	16.8	1053.2	18.2	1.761	410	25.4	1468.2	28.1	4.301
Total	*1700*		*5788.3*		*6.813* [a]	*1614*		*5217.2*		*349.244**
EL Greece										
Low	369	36.9	479	59.6	86.826	377	38.7	233	53.3	38.919
Medium	365	36.5	253	31.5	7.829	287	29.5	127	29.0	0.073
High	267	26.7	72	9.0	347.399	310	31.8	77	17.6	112.022
Total	*1001*		*803.0*		*442.087**	*974*		*437.0*		*151.014**

ES Spain										
Low	478	56.6	2042.4	63.9	6.918	434	55.4	1811.2	60.7	3.631
Medium	155	18.4	579.5	18.1	0.027	141	18.0	527.4	17.7	0.046
High	211	25.0	575.8	18.0	22.925	209	26.7	647.4	21.7	8.957
Total	*844*		*3197.8*		*29.870**	*784*		*2986.0*		*12.635* [b]
FR France										
Low	326	32.0	1838.0	37.6	8.633	370	38.2	1452.9	34.0	4.923
Medium	219	21.5	2011.1	41.2	95.937	186	19.2	1940.8	45.5	146.984
High	474	46.5	1034.2	21.2	308.896	413	42.6	876.2	20.5	230.615
Total	*1019*		*4883.3*		*413.466**	*969*		*4269.9*		*382.522**
HU Hungary										
Low	564	29.7	234.7	27.3	60095.861	763	44.0	136.4	18.3	629.202
Medium	837	44.0	497.0	57.9	61998.531	548	31.6	509.4	68.2	340.352
High	500	26.3	126.9	14.8	87991.445	423	24.4	101.2	13.6	150.424
Total	*1901*		*858.6*		*210085.836**	*1734*		*747.0*		*1119.977**
NL Netherlands										
Low	358	20.0	367.9	35.5	120.019	439	25.1	276.8	29.8%	36084.684
Medium	1035	57.9	465.3	44.9	67.960	760	43.5	386.6	41.7%	77787.626
High	394	22.0	204.1	19.7	5.114	548	31.4	263.9	28.5%	59312.514
Total	*1787*		*1037.2*		*193.093**	*1747*		*927.3*		*173184.824**
PL Poland										
Low	538	32.2	308	50.1	107.500	734	50.4	286	61.7	30.068
Medium	821	49.1	234	38.1	52.877	521	35.8	120	25.9	54.908
High	314	18.8	73	11.9	66.328	242	16.6	58	12.5	19.780
Total	*1673*		*615.0*		*226.705**	*1456*		*464.0*		*104.756**
UK United Kingdom										
Low	167	13.6	847.6	20.4	27.210	200	17.9	490.7	14.6	8.244
Medium	471	38.4	2351.4	56.5	70.473	319	28.5	1911.1	56.8	158.063
High	587	47.9	964.7	23.2	323.845	600	53.6	960.3	28.6	245.982
Total	*1225*		*4163.8*		*421.528**	*1119*		*3362.1*		*412.289**

* $p<0.001$; [a] 0.0332; [b] 0.0018

Participants in the KIDSCREEN study were more likely to declare good perceived health regarding the target child and themselves, to be married, to have higher educational level, and to live in big cities (**Table 8**), compared to people who refused to participate in the study.

In spite of the different sampling procedures, the data looked promising at the national level. The distribution of children by sex and age was quite similar to the reference population, except for EL and HU where some differences within countries were found. When compared to the reference population from Eurostat, the KIDSCREEN's mothers and fathers had higher levels of educational attainment. Similarly, when compared with refusers, participants more frequently declared a high educational level, better general perceived health, to be married and to live in cities. These results coincide with other European studies.

The use of post-stratification weights attempts to remove bias in the sample due to non-response and non-coverage errors. Since gender, age and parents' educational level are associated with HRQoL, those variables were used as post-stratification weight in order to match more precisely the true population distribution. After weighting using several techniques (basically survey and re-sampling methods), there were not significant differences in mean scores for KIDSCREEN scales (data not shown). Nevertheless, the use of the weight variable taking into account gender and age for the national representative scores might be recommended.

Table 8:
Characteristics of participants and people who refused to participate in the KIDSCREEN study

Country		Refusals	KIDSCREEN study	Total	p	n
AT Austria						
Child's health: good, very good or excellent		83.1	98.8	96.0	0.000	1858
Responder's health: good, very good or excellent		82.9	95.5	93.3	0.000	1845
Responder's marital status: married		64.3	87.7	83.7	0.000	1854
Responder's educational level:	high	33.8	14.9	18.0	0.000	1813
	medium	63.5	74.5	72.8		
Home in big city or suburbs		18.2	18.9	18.8	0.753	1825
CH Switzerland						
Child's health: good, very good or excellent		98.0	99.0	98.8	0.065	2219
Responder's health: good, very good or excellent		90.5	95.4	94.3	0.000	2216
Responder's marital status: married		85.8	85.2	85.4	0.748	2216
Responder's educational level:	high	6.0	22.1	18.4	0.000	2111
	medium	50.2	66.1	62.5		
Home in big city or suburbs		12.1	16.5	15.5	0.018	2197
CZ Czech Republic						
Child's health: good, very good or excellent		89.5	94.9	94.0	0.000	1947
Responder's health: good, very good or excellent			88.6	88.6		1602
Responder's marital status: married		63.7	84.0	80.5	0.000	1939
Responder's educational level:	high	19.5	23.1	22.5	0.000	1941
	medium	67.7	73.8	72.7		
Home in big city or suburbs		23.0	21.3	21.6	0.489	1947
DE Germany						
Child's health: good, very good or excellent		98.1	97.4	97.5	0.442	2112
Responder's health: good, very good or excellent		90.1	90.3	90.2	0.911	2106
Responder's marital status: married		74.9	84.2	82.6	0.000	2114
Responder's educational level:	high	29.3	19.1	20.7		2074
	medium	65.9	58.7	59.9		
Home in big city or suburbs		41.6	22.8	26.0	0.000	2103
ES Spain						
Child's health: good, very good or excellent		96.7	98.2	97.8	0.084	1272
Responder's health: good, very good or excellent		82.9	91.3	89.0	0.000	1261
Responder's marital status: married		89.8	90.6	90.4	0.646	1269
Responder's educational level:	high	20.1	25.7	24.2	0.114	1245
	medium	20.7	20.0	20.2		
Home in big city or suburbs		49.4	29.0	34.8	0.000	1253
FR France						
Child's health: good, very good or excellent		84.8	97.5	94.4	0.000	1388
Responder's health: good, very good or excellent		82.2	94.1	91.2	0.000	1388
Responder's marital status: married		75.4	85.7	83.2	0.000	1389
Responder's educational level:	high	22.0	45.4	39.7	0.000	1392
	medium					
Home in big city or suburbs		43.2	37.5	38.9	0.066	1375
NL Netherlands						
Child's health: good, very good or excellent		95.0	96.8	96.6	0.128	2171
Responder's health: good, very good or excellent		93.8	90.4	90.8	0.074	2167
Responder's marital status: married		90.4	89.8	89.9	0.824	2081
Responder's educational level:	high	1.4	24.3	22.0	0.000	2022
	medium	41.0	56.0	54.4		
Home in big city or suburbs		49.2	46.7	47.0	0.441	2167
PL Poland						
Child's health: good, very good or excellent		91.2	94.3	93.8	0.029	2066
Responder's health: good, very good or excellent		80.1	78.7	78.9	0.056	2058
Responder's marital status: married		90.3	88.0	88.4	0.221	2062
Responder's educational level:	high	17.1	18.8	18.5	0.000	2019
	medium	25.1	49.1	45.0		
Home in big city or suburbs		44.1	40.8	41.3	0.246	2056

3 Psychometric Analyses and Properties of the KIDSCREEN Instruments

The statistical analyses of the KIDSCREEN survey included three different issues. The first issue was to confirm and test the KIDSCREEN-52. Each scale was tested to determine if the items fulfilled the assumptions of the Rasch model (item fit) and displayed no differential item functioning (DIF) across countries, age-groups and gender. Furthermore, an analysis determined how well the structure of the instrument fit the data: confirmatory factor analysis (CFA) as well as the multitrait analysis (MAP) was conducted to explore if the inter-item correlation could be reasonably explained by the specified 10-dimensional questionnaire structure. For each scale the internal consistency reliability (Cronbach's alpha) and the test-retest reliability was calculated. Scale mean, standard deviation, floor and ceiling effect were calculated as well. The second issue of the statistical analyses was the reduction of the KIDSCREEN-52 to a shorter instrument using the first half of the data set. The parallel application of two different item-reduction strategies led to the development of two different short versions which were compared, combined, and further reduced to benefit from both methods' advantages.

The first strategy included exploratory factor analysis, nonparametric IRT analyses followed by Rasch measurement analyses and examination of DIF aimed to develop a short health profile. The second strategy started with Rasch measurement analyses, accompanied by nonparametric IRT analyses and the analysis of DIF, aimed to develop a general index of HRQoL. The combined instrument was further reduced due to the results of new Rasch measurement and DIF analyses per dimension. These analyses resulted in the 5-dimensional KIDSCREEN-27 questionnaire. In a further step, the KIDSCREEN-27 short health profile was reduced using Rasch measurement analyses, accompanied by nonparametric IRT analyses and the analysis of DIF, aimed to develop a general index of HRQoL, the KIDSCREEN-10 HRQoL Index. These two new KIDSCREEN versions were then confirmed and tested in the same way as the KIDSCREEN-52 using the second half as well as the entire dataset.

The third issue of the statistical analyses included the validation of the three KIDSCREEN versions. Construct validity was assessed by examining the correlation with other generic measures of HRQoL and measures of psychosomatic health complaints. Furthermore, it was tested whether groups with theoretically expected different HRQoL displayed different average KIDSCREEN scores in the theoretically expected manner. Comparisons included groups with different socioeconomic status, different physical and mental health status, different social support and different quality of relationships with parents, etc. The results of these analyses will be summarized in the following chapters.

3.1 Reliability

3.1.1 Scale Description and Internal Consistency

The internal consistency of the KIDSCREEN dimensions was calculated using Cronbach's alpha. Alpha coefficients of 0.7 or higher were considered to be acceptable. **Table 9** shows the scale descriptives and the internal consistency of the KIDSCREEN-52, the KIDSCREEN-27 and KIDSCREEN-10 index instruments for children and adolescents and their parents.

For the KIDSCREEN-52, mean scores varied around 50 (SD=10) due to T-value standardisation. A ceiling and floor effect was defined as the percentage of individuals with the best and worst results respectively. No major floor effect was found, except for Financial Resources (floor effect = 1.83%). A ceiling effect was observed in Parent Relation & Home Life and Financial Resources, as around 15% and 25%, respectively, of the children and adolescents had the highest score. A more severe ceiling effect was observed in the Social Acceptance (Bullying) dimension (ceiling effect = 49.10%). The percentage of missing cases was very low, ranging from 1.37 to 2.85%. The internal consistency reliability was good-to-excellent for all the domains, ranging from 0.77 to 0.89.

For the KIDSCREEN-27, mean scores varied around 50 (SD = 10) due to T-value standardization. No major floor effect was found, regardless of the dimension. However, ceiling effect was observed in the Peers & Social Support, as around 15% of the children and adolescents had the highest score. The percentage of missing cases was very low, ranging from 1.72 to 3.83%. The internal consistency reliability was good-to-excellent for all the domains, ranging from 0.80 to 0.84.

No major floor or ceiling effect was found for the KIDSCREEN-10 index. The percentage of missing cases was low (4.5%). The internal consistency reliability was good-to-excellent (0.82).

The KIDSCREEN-52 parent version presented similar results to the KIDSCREEN-52 child and adolescent version (data not shown). No major floor effect was found, except for Financial Resources (floor effect = 1.58%). However, ceiling effect was observed for the Social Acceptance (Bullying) dimension (ceiling effect = 45.39%). The percentage of missing cases was moderate, ranging from 1.23 to 3.80%. The internal consistency reliability was good-to-excellent for all the domains, ranging from 0.77 to 0.90.

3.1.2 Test-Retest Reliability

The test-retest reliability of the KIDSCREEN questionnaires was assessed in a sub-sample of 559 children and adolescents on two separate occasions approximately two weeks apart (**Table 10**). Their health status was declared unchanged from both the point of view of children and adolescents and their parents between the two assessments. Intraclass Correlation Coefficients (ICC) were computed between scale scores for the two assessments, and paired comparisons of KIDSCREEN dimension scores of these two assessments were also performed. A coefficient of 0.6 or higher was considered as evidence of adequate test-retest stability.

The ICC between scale scores for the two assessments ranged from 0.56 to 0.77 for the KIDSCREEN-52, from 0.61 to 0.74 for the KIDSCREEN-27 and achieved the value of 0.55 for the KIDSCREEN-10 index. The scores of all scales increased between the two

Table 9:
Scale description and internal consistency of KIDSCREEN child and adolescent version

	items	n	Mean T-value	SD	% Missing	% Floor	% Ceiling	Cronbach's alpha
KIDSCREEN-52 Dimensions								
Physical Well-being	5	21266	49.94	9.88	2.47	0.06	5.24	0.80
Psychological Well-being	6	21488	49.92	9.87	1.45	0.08	9.64	0.89
Moods & Emotions	7	21386	49.83	9.70	1.92	0.04	8.24	0.86
Self-Perception	5	21484	50.17	10.18	1.47	0.10	11.59	0.79
Autonomy	5	21505	50.11	10.14	1.37	0.18	11.29	0.84
Parent Relation & Home Life	6	21328	50.13	10.16	2.18	0.13	15.45	0.89
Financial Resources	3	21183	50.19	10.21	2.85	1.83	24.46	0.89
Social Support & Peers	6	21283	49.88	9.95	2.39	0.29	7.45	0.85
School Environment	6	21299	50.05	10.14	2.63	0.19	4.90	0.87
Social Acceptance (Bullying)	3	21496	50.13	10.16	1.41	0.32	49.10	0.77
KIDSCREEN-27 Dimensions								
Physical Well-being	5	21266	49.94	9.88	2.47	0.06	5.24	0.80
Psychological Well-being	7	21374	49.77	9.56	1.97	0.01	5.63	0.84
Autonomy & Parent relation	7	20969	49.99	9.94	3.83	0.02	6.36	0.81
Social Support & Peers	4	21430	49.94	10.02	1.72	0.37	14.87	0.81
School Environment	4	21340	50.01	10.06	2.13	0.22	7.65	0.81
KIDSCREEN-10 index								
General HRQoL index	10	20823	49.85	9.58	4.50	0	1.97	0.82

Table 10:
Test-Retest reliability of the KIDSCREEN child and adolescent version (approx. 2 weeks)

	n	T1	M (SD)	T2	M (SD)	Δ	Effect size	Pearson's r	ICC
KIDSCREEN-52									
Physical Well-being	532	52.1	9.8	53.5	9.9	2.95	0.14	0.66	0.65
Psychological Well-being	540	50.8	9.1	52.3	9.2	2.27	0.16	0.62	0.62
Moods & Emotions	536	50.4	9.1	53.9	10.0	4.67	0.38	0.62	0.58
Self-Perception	543	50.9	10.1	53.2	10.8	3.82	0.23	0.71	0.69
Autonomy	538	51.0	9.7	53.4	10.2	4.33	0.25	0.58	0.56
Parent Relation & Home Life	535	49.7	9.4	50.9	9.9	1.48	0.13	0.72	0.72
Financial Resources	533	50.1	9.8	51.2	10.3	2.42	0.11	0.69	0.68
Social Support & Peers	536	49.7	9.3	51	10.4	1.43	0.14	0.62	0.61
School Environment	507	51.0	10.2	52.6	10.8	2.63	0.16	0.78	0.77
Social Acceptance (Bullying)	522	49.6	10.0	51.5	10.0	2.12	0.19	0.58	0.57
KIDSCREEN-27									
Physical Well-being	532	52.1	9.8	53.5	9.9	2.81	0.14	0.66	0.65
Psychological Well-being	531	50.9	9.1	52.8	9.5	2.90	0.21	0.65	0.64
Autonomy & Parent relation	524	50.3	9.2	51.9	10.2	2.36	0.17	0.67	0.66
Social Support & Peers	539	49.5	9.4	50.3	9.9	0.94	0.09	0.61	0.61
School Environment	511	50.7	9.9	52.2	10.4	2.56	0.15	0.74	0.74
KIDSCREEN-10 index									
General HRQoL	491	50.8	9.1	53.2	10.6	2.85	0.26	0.68	0.55

M (SD): Mean (Standard Deviation), Δ : Paired mean difference, Effect-size, Pearson's correlation and Intra Class Correlation coefficient (ICC).

assessments with the questionnaire, especially for the dimensions Moods & Emotions, Self-Perception, Autonomy (in the KIDSCREEN-52), and Psychological Well-being (in the KIDSCREEN-27 and KIDSCREEN-10 indices).

3.1.3 Discriminatory Power

The discriminatory power of a scale deals with the ability of a scale to discriminate among people and spread them out as much as possible along a continuum. To be most effective in this regard, the entire range of the scale should be used, with an equal number of people at each level. One index of discriminating ability is Ferguson's δ (Ferguson, 1949). The value ranges between 0, when all subjects get the same score, and 1.0, when the subjects are equally divided among all possible scores. A score of 0.70 is reported to be acceptable.
The results for the KIDSCREEN instruments are satisfactory on whole sample and by country (**Table 11**). For the KIDSCREEN-52, δ ranged between 0.84 and 0.99 on international data and across countries except for the dimension Social Acceptance (Bullying), where δ ranged from 0.57 to 0.86. The results are good for the KIDSCREEN-27 (δ: 0.81 to 0.99) and the KIDSCREEN-10 indices (δ: 0.96 to 0.98).

3.2 Structure: CFA and IRT, DIF

3.2.1 Rasch Measurement Analysis

The development of the KIDSCREEN was based on the probabilistic partial credit model which belongs to the family of Rasch models. The partial credit model (PCM) tries to explain the actual behaviour of the responders in the testing situation by the estimated person parameter and the location of the item-answer-category-thresholds. The PCM assumes all items of a scale to be the indicators of a single unidimensional latent trait. It furthermore assumes the item-answer-characteristic curves (which describe how changes in the latent trait level relate to changes in the probability of a specific response) to resemble a logistic-function with equal slopes. These assumptions were tested for every item by calculating the infit mean square, an itemfit statistic which is based on the residuals between the theoretical expected item-response and the actual response. An item is well functioning if the infit mean-square is between 0.80 and 1.20.
All items except one displayed an infit mean square between 0.80 and 1.20 and thus fulfilled the strong assumptions of the partial credit model (see **Table 12**). The actual response to the items could be reasonably explained by the estimated features of the items and the estimated person parameter values. The sum score gives sufficient information about the response to the single items. Only one item displayed an infit mean square slightly above 1.20 but apart from this, it showed reasonable psychometric properties.

3.2.2 Differential Item Functioning

Comparable assessment of HRQoL across different cultural and sociodemographic groups demands that the items of an instrument function in the same way regardless of

Table 11:
Discriminatory power on whole sample and by country

	Total	AT	CH	CZ	DE	EL	ES	FR	HU	IE	NL	PL	SE	UK
KIDSCREEN-52														
Physical Well-being	0.97	0.96	0.95	0.97	0.95	0.97	0.97	0.98	0.97	0.97	0.96	0.97	0.97	0.97
Psychological Well-being	0.96	0.93	0.93	0.96	0.93	0.97	0.95	0.97	0.97	0.94	0.94	0.98	0.96	0.97
Moods & Emotions	0.96	0.95	0.95	0.96	0.96	0.97	0.96	0.92	0.97	0.95	0.95	0.96	0.96	0.97
Self-Perception	0.97	0.95	0.94	0.97	0.96	0.98	0.96	0.97	0.98	0.91	0.95	0.97	0.97	0.97
Autonomy	0.97	0.94	0.94	0.96	0.94	0.99	0.95	0.98	0.98	0.97	0.93	0.98	0.96	0.97
Parent Relation & Home Life	0.95	0.94	0.93	0.97	0.95	0.98	0.94	0.98	0.96	0.90	0.91	0.97	0.92	0.96
Financial Resources	0.94	0.84	0.87	0.97	0.86	0.95	0.93	0.99	0.96	0.89	0.89	0.98	0.89	0.94
Social Support & Peers	0.97	0.96	0.96	0.97	0.96	0.98	0.94	0.99	0.97	0.96	0.95	0.98	0.96	0.97
School Environment	0.98	0.98	0.97	0.98	0.98	0.97	0.98	0.98	0.99	0.98	0.97	0.98	0.97	0.98
Social Acc. (Bullying)	0.73	0.76	0.75	0.79	0.72	0.57	0.76	0.67	0.57	0.77	0.77	0.76	0.58	0.86
KIDSCREEN-27														
Physical Well-being	0.97	0.96	0.95	0.97	0.95	0.97	0.97	0.98	0.97	0.97	0.96	0.97	0.97	0.97
Psychological Well-being	0.98	0.94	0.94	0.96	0.95	0.97	0.96	0.97	0.97	0.95	0.95	0.97	0.97	0.97
Autonomy & Parent relation	0.98	0.96	0.95	0.98	0.96	0.98	0.96	0.99	0.98	0.97	0.95	0.98	0.96	0.98
Social Support & Peers	0.95	0.88	0.88	0.93	0.90	0.94	0.90	0.96	0.96	0.92	0.81	0.95	0.92	0.95
School Environment	0.95	0.96	0.94	0.97	0.96	0.96	0.96	0.97	0.98	0.96	0.95	0.98	0.96	0.97
KIDSCREEN-10 index														
General HRQoL index	0.97	0.97	0.96	0.97	0.96	0.98	0.97	0.98	0.98	0.97	0.96	0.98	0.97	0.98

N=21183-21505

Table 12:
Scaling success, Rasch measurement itemfit, DIF, and CFA

	Scaling success	Rasch itemfit	country DIF	age DIF	gender DIF	CFA goodness of fit	
	Converge.> discrim.*	infit mean square min-max**	Δ - R^2 min-max	Δ - R^2 min-max	Δ - R^2 min-max	RMSEA	CFI
KIDSCREEN-52						**0.049**	**0.979**
Physical Well-being	100%	0.887-1.126	0.006-0.041	0.001-0.004	0.001-0.001		
Psychological Well-being	100%	0.946-1.138	0.013-0.030	0.001-0.005	0.001-0.002		
Moods & Emotions	100%	0.813-1.225	0.005-0.027	0.001-0.011	0.001-0.007		
Self-Perception	97.8%	0.885-1.070	0.011-0.038	0.002-0.005	0.001-0.003		
Autonomy	100%	0.896-1.084	0.005-0.015	0.001-0.017	0.001-0.002		
Parent Relation & Home Life	100%	0.885-1.084	0.007-0.029	0.001-0.009	0.001-0.002		
Financial Resources	100%	0.965-1.021	0.003-0.006	0.001-0.002	0.001-0.001		
Social Support & Peers	100%	0.801-1.264	0.014-0.042	0.001-0.004	0.001-0.004		
School Environment	100%	0.900-1.136	0.006-0.018	0.001-0.012	0.001-0.002		
Social Accept. (Bullying)	100%	0.924-1.100	0.025-0.025	0.001-0.008	0.001-0.001		
KIDSCREEN-27						**0.065**	**0.962**
Physical Well-being	100%	0.887-1.126	0.006-0.041	0.001-0.004	0.001-0.001		
Psychological Well-being	100%	0.917-1.078	0.015-0.034	0.002-0.008	0.001-0.007		
Autonomy & Parent relation	100%	0.892-1.137	0.011-0.029	0.001-0.025	0.001-0.008		
Social Support & Peers	100%	0.860-1.091	0.016-0.037	0.001-0.004	0.001-0.003		
School Environment	100%	0.937-1.038	0.006-0.018	0.001-0.005	0.001-0.002		
KIDSCREEN-10 index						-	-
General HRQoL index	-	0.950-1.057	0.012-0.067	0.002-0.008	0.001-0.012		

Range of N=18533-21326; * corrected item-scale correlation higher than correlation of item with other scale, **0.8 -1.2 = good fit

the culture, age, or gender of the respondents. In recent years, test developers, researchers and the public have increasingly been confronted with the problem that tests or test-items actually function differently for different groups of people (Differential Item Functioning, DIF). The logistic regression approach for DIF-detection was applied to identify items displaying DIF across countries, age and gender groups (8-11 years vs. 12-18 years). This model-based approach is designed to identify both uniform and non-uniform DIF. In this approach, every item serves as the dependent variable in ordinal regression models. At first, the goodness of fit of a logistic regression model, with the total score being the only covariate, was compared with the goodness of fit of a model where the total score, the group-membership and the group-membership * total score interaction were the covariates. The significance of the chi^2-differences as well as the difference in the pseudo-R^2 were investigated. While the first value indicates significant uniform (different locations on the latent trait) and nonuniform (different slopes) DIF, the second statistic gives an impression about the DIF-effect size. The total DIF-effect should be less than Δ-$R^2 = 0.020$ respective Δ-$R^2 = 0.035$. Most items displayed negligible DIF (**Table 12**). Only a few items displayed sizeable DIF, which from theoretical considerations can be attributed to the fact that they measure secondary aspects which are relevant for the trait to be measured but vary across the groups to be compared.

3.2.3 Confirmatory Factor Analysis and MAP Analysis

The structure of an instrument should be reasonable in terms of presenting the theoretical expected dimensions of the construct to be measured. Furthermore, the model of the questionnaire should be confirmed in empirical investigations. Confirmatory factor analyses were conducted by specifying a structural equation model according to the scale-structure of the instrument. The goodness of fit of the specified model was tested using the RMSEA statistic (Root Mean Square Error of Approximation) and the CFI-statistic (Comparative Fit Index). Both measures can tell how well the observed inter-item-correlation can be explained by the specified model. A Multitrait Analysis Program (MAP) analysis was conducted to assess if the items of a particular scale display higher correlation with their own scale (corrected for overlap) than their correlations with other scales. The results of the MAP analysis as well as the confirmatory factor analysis confirmed the structure of the multi-scale KIDSCREEN instruments.

3.2.4 Inter-Scale Correlation

The scales of an instrument should assess separate concepts, and therefore should avoid redundancy. However, the scales of the KIDSCREEN HRQoL instrument should not be totally unrelated, otherwise it is questionable if they all assess aspects of the construct HRQoL or aspects not belonging to that construct. The examination of the inter-scale correlation reveals redundancy between the scales and furthermore explores the internal structure of a test-battery. A scale is considered to be redundant if the shared variance with another scale exceeds 50% (Pearson $r>0.71$). Inter-scale correlation ranged from $r=0.10$ to $r=0.62$ for the KIDSCREEN-52 (**Table 13**) and from $r=0.36$ to $r=0.59$ for the KIDSCREEN-27 (**Table 14**). The scales thus measure separate aspects of the HRQoL construct. From the results of these analyses, none of the KIDSCREEN scales could be considered as being either redundant or unrelated to HRQoL.

Table 13:
Inter-scale correlation for KIDSCREEN-52

KIDSCREEN-52	Physical Well-being	Psychological Well-being	Moods & Emotions	Self-Perception	Autonomy	Parent Relation & Home Life	Financial Resources	Social Support & Peers	School Environment	Social Acc. (Bullying)
Physical Well-being										
Psychological Well-being	0.57									
Moods & Emotions	0.44	0.62								
Self-Perception	0.46	0.52	0.55							
Autonomy	0.40	0.52	0.45	0.43						
Parent Relation & Home Life	0.40	0.58	0.50	0.50	0.50					
Financial Resources	0.26	0.33	0.29	0.29	0.39	0.40				
Social Support & Peers	0.38	0.51	0.35	0.30	0.47	0.40	0.31			
School Environment	0.42	0.55	0.46	0.47	0.39	0.52	0.32	0.35		
Social Acc. (Bullying)	0.10	0.17	0.31	0.21	0.14	0.18	0.20	0.23	0.13	

Range of N=20729-21196

Table 14:
Inter-scale-correlation for KIDSCREEN-27

KIDSCREEN-27	Physical Well-being	Psychological Well-being	Autonomy & Parent relation	Social Support & Peers	School Environment
Physical Well-being					
Psychological Well-being	0.57				
Autonomy & Parent relation	0.42	0.59			
Social Support & Peers	0.36	0.50	0.44		
School Environment	0.43	0.57	0.53	0.37	

Range of N=20491-20993

3.3 Validity

3.3.1 Construct Validity

Construct validity was evaluated based on previously developed hypotheses. These were based on existing literature, the authors' experience, and the results of pilot testing. For example, it was expected that adolescents would have poorer HRQoL than children, particularly in terms of physical well-being, where moderate to high differences were expected, and in the Moods & Emotions dimension, where moderate to low differences were expected. Girls were also expected to score worse on most dimensions than boys, except for the School dimension. Large differences were expected in the Moods, Psychological Well-being and Self-Perception dimensions between those whose parents reported presence of 'Mental Distress' compared to those who did not.
Construct validity was assessed by calculating Cohen's effect sizes (ES; Cohen, 1988). ES of 0.2–0.5 were considered small; those between 0.51-0.8 moderate and those over 0.8 were considered large. To be sure that any differences among those with reported health problems were not the result of the effect of socio-demographic characteristics, such as age, gender or country, and socio-economic characteristics, such as educational level, a multivariate analysis of variance was also performed, controlling for these variables.

Socio-demographic and Socio-economic Variables
Children and adolescents in the low SES category were expected to report lower HRQoL than those in higher categories. To asses SES, the Family Affluence Scale (FAS, Currie et al., 2001) was administered to children and adolescents. The FAS, a socio-economic indicator addressed to children and adolescent population includes family car ownership, having their own unshared bedroom, the number of computers at home, and times family and the child spent on holidays in the past 12 months. The FAS was collected in eight categories (from 0, the lowest, to 7, the highest FAS category). It was re-coded into 3 groups in the analysis (low FAS level [0-3], intermediate [4-5], and high FAS level [6-7]).
Mothers' and fathers' educational level was collected using the International Standard Classification of Education (ISCED; OECD, 1997). The original 7 educational levels were codified in the analysis into 3 categories: primary school (categories 0, 1 and 2), secondary school (categories 3 and 4) and university degree (categories 5 and 6). Then, in the analysis, the highest parent's level of education was used to test differences in KIDSCREEN scales.
Results in **Table 15** show a gradient in all the KIDSCREEN dimensions for the three KIDSCREEN versions when the FAS is used to assess the SES category of the family. The effect size was higher for Financial Resources in the KIDSCREEN-52 (ES = 0.74; between High and Low level), and Parents & Autonomy in the KIDSCREEN-27 (ES = 0.54; between High and Low level). Children scored lower when the highest parent's level of education was classified in the low ISCED level, but the effect size was small (**Table 16**).

Table 15:
Differences in KIDSCREEN dimension scores by family affluence

Family Affluence[a]	Low		Medium		High		Effect size[c] Low vs. Medium	Effect size[c] Low vs. High
	Mean T-value	(SD)	Mean T-value	(SD)	Mean T-value	(SD)		
KIDSCREEN-52								
Physical Well-being	48.1	(10.08)	50.29	(9.71)	51.68	(9.74)	0.22	0.36
Psychological Well-being	47.6	(10.13)	50.12	(9.69)	51.39	(9.54)	0.26	0.39
Moods & Emotions	47.85	(9.55)	49.83	(9.42)	50.95	(9.39)	0.21	0.33
Self-Perception	48.09	(10.07)	50.28	(9.99)	51.49	(9.91)	0.22	0.34
Autonomy	47.99	(10.49)	50.07	(10.14)	51.13	(9.82)	0.21	0.31
Parent Relation & Home Life	47.48	(10.37)	50.03	(10.03)	50.91	(9.61)	0.25	0.34
Financial Resources	45.21	(10.34)	49.88	(9.92)	52.86	(9.56)	0.45	**0.74**
Social Support & Peers	47.83	(10.19)	49.67	(9.79)	50.79	(9.87)	0.18	0.30
School Environment	47.71	(10.13)	50.06	(10.17)	51.06	(10.12)	0.23	0.33
Social Acceptance (Bullying)	49.01	(10.57)	49.75	(10.16)	50.01	(10.02)	0.07	0.10
KIDSCREEN-27								
Physical Well-being	48.1	(10.08)	50.29	(9.71)	51.68	(9.74)	0.22	0.36
Psychological Well-being	47.25	(9.29)	49.86	(9.43)	51.29	(9.27)	0.28	0.43
Autonomy & Parent relation	46.35	(9.54)	49.86	(9.75)	51.7)	(9.78	0.35	0.54
Social Support & Peers	47.95	(10.44)	49.77	(9.92)	50.8	(9.76)	0.18	0.28
School Environment	47.51	(10.01)	50.01	(10.02)	51.05	(10.07)	0.25	0.35
KIDSCREEN-10 index								
General HRQoL index	47.15	(8.92)	49.93	(9.51)	51.37	(9.7)	0.29	0.44

[a] Range of N 17919 - 17370; [c] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the means difference by the overall standard deviation.

Table 16:
Differences in KIDSCREEN dimension scores by highest parent's level of education

Highest parents level of education[b]	Low Mean T-value (SD)		Medium Mean T-value (SD)		High Mean T-value (SD)		Effect size[c] Low vs. Medium	Effect size[c] Low vs. High
KIDSCREEN-52								
Physical Well-being	48.71	(9.68)	51.38	(9.86)	50.38	(9.81)	0.27	0.17
Psychological Well-being	49.32	(9.9)	50.87	(9.59)	49.84	(9.64)	0.16	0.05
Moods & Emotions	49.07	(9.46)	50.15	(9.5)	50.14	(9.3)	0.11	0.11
Self-Perception	49.13	(9.89)	50.68	(10.15)	50.46	(9.83)	0.16	0.13
Autonomy	49.79	(10.46)	51.22	(9.74)	49.22	(10.14)	0.14	-0.06
Parent Relation & Home Life	49.12	(10.45)	49.97	(9.82)	49.88	(9.77)	0.09	0.08
Financial Resources	47.49	(10.46)	49.87	(10.19)	50.53	(10.06)	0.23	0.30
Social Support & Peers	49.23	(10.26)	49.7	(9.59)	49.42	(10.03)	0.05	0.02
School Environment	49.08	(10.12)	50.19	(10.04)	50.36	(10.09)	0.11	0.13
Social Acceptance (Bullying)	49.32	(10.48)	49.12	(10.25)	50.35	(9.63)	-0.02	0.10
KIDSCREEN-27								
Physical Well-being	48.71	(9.68)	51.38	(9.86)	50.38	(9.81)	0.27	0.17
Psychological Well-being	49.13	(9.53)	50.43	(9.36)	49.85	(9.19)	0.14	0.08
Autonomy & Parent relation	48.62	(10.25)	50.18	(9.62)	49.73	(9.71)	0.16	0.11
Social Support & Peers	49.39	(10.45)	49.5	(9.6)	49.56	(10.12)	0.01	0.02
School Environment	48.76	(10.04)	50.12	(9.96)	50.35	(9.95)	0.14	0.16
KIDSCREEN-10 index								
General HRQoL index	48.8	(9.5)	50.48	(9.41)	49.93	(9.69)	0.18	0.12

[b] Range of N 15444 - 14933; [c] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the means difference by the overall standard deviation.

Health Status

Children and adolescents with special health care needs were expected to show lower HRQoL especially in domains like Physical and Psychological Well-being and in Moods & Emotions (Bruil, 1999; Verrips et al, 1998).

To assess special health care needs, the Children with Special Health Care Needs Screener (CSHCN, Bethell et al., 2002a,b) was included in all participating countries as a valid measure of physical chronic health status. The CSHCN screener has been field-tested in several studies and 12-20% children in population-based samples were identified as having special health care needs (Bethell et al., 2002a, 2002b, Davidoff, 2004). The CSHCN contains five question sequences: Each question is followed by two additional questions, asking about the presence and duration of any health conditions. The five questions address the use or need of prescription medication; the use or need of medical, mental health or educational services; functional limitations; use and need of specialized therapies (Occupational Therapy, Physiotherapy, Speech Therapy, etc.); and treatment or counselling for emotional or developmental problems. This list of questions indicates that the CSHCN is health consequence-based rather than using diagnosis-specific criteria. If parents agree that their child meets one of the five conditions, they are asked two follow-up questions to determine if the consequence is attributable to a medical, behavioural, or other health condition lasting or expected to last at least 12 months.

In **Table 17**, results (means, standard deviations, and effect sizes) are shown for the three KIDSCREEN questionnaires. It illustrates that children with special health care needs

Table 17:
Differences in KIDSCREEN dimension scores by health care needs (CSHCN)

CSHCN	Healthy		CSHCN (+)		
	Mean T-value (SD)		Mean T-value (SD)		Effect size[a]
KIDSCREEN-52					
Physical Well-being	51.01	(9.77)	46.96	(10.02)	0.41
Psychological Well-being	50.54	(9.63)	47.67	(9.84)	0.30
Moods & Emotions	50.27	(9.40	47.78	(9.46)	0.26
Self-Perception	50.57	(10.01)	48.84	(10.00)	0.17
Autonomy	50.33	(10.08	48.80	(9.87)	0.15
Parent Relation & Home Life	50.05	(9.89)	47.92	(9.94)	0.21
Financial Resources	49.98	(10.19)	48.06	(10.55)	0.19
Social Support & Peers	49.85	(9.83)	47.06	(10.06)	0.28
School Environment	50.33	(10.07)	48.32	(10.19)	0.20
Social Acceptance (Bullying)	49.93	(9.91)	47.22	(11.10)	0.27
KIDSCREEN-27					
Physical Well-being	51.01	(9.77)	46.96	(10.02)	0.41
Psychological Well-being	50.29	(9.30)	47.59	(9.24)	0.29
Autonomy & Parent relation	49.98	(9.80)	47.87	(9.44)	0.22
Social Support & Peers	49.83	(9.88)	47.11	(10.29)	0.27
School Environment	50.30	(9.96)	47.86	(10.03)	0.24
KIDSCREEN-10 index					
General HRQoL index	50.33	(9.58)	47.38	(8.84)	0.31

Range of N 15400 - 15967

[a] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the adjusted means difference by the overall standard deviation. Multivariate analysis included age

reported a lower Physical and Psychological Well-being in comparison to healthy children. The differences between both groups were significant with small to moderate effect sizes.

Psychosomatic Complaints

Psychosomatic health complaints, like headache, stomachache, backache, dizziness, irritability/bad temper, feeling nervous, feeling low or having sleeping difficulties, are a serious health problem not only for adults but also in adolescents and children. From theoretical considerations it was hypothesized that children and adolescents suffering from psychosomatic health complaints display decreased HRQoL values, especially in the KIDSCREEN dimensions of Psychological Well-being and Moods & Emotions. The impact of psychosomatic health complaints on the other HRQoL aspects should be lower but still considerable. The Health Behaviour in School-aged Children (HBSC) psychosomatic complaints symptom checklist (Currie et al., 2001) is a self-administered brief screening instrument which asks children and adolescents about the frequency of occurrence of eight psychosomatic health complaints. Items are added together to generate an index of psychosomatic health complaints score. The symptom checklist was included as a screening instrument in all countries. The correlation between the KIDSCREEN scales and the psychosomatic health complaints index is presented in **Table 18**.

Table 18 shows that the more frequently children and adolescents suffer from psychosomatic health complaints, the lower their HRQoL scores in the KIDSCREEN-52, -27 and

Table 18:
Correlation between KIDSCREEN scales and the Psychosomatic Health Complaints Index

	Psychosomatic Health Complaints index
	r
KIDSCREEN-52	
Physical Well-being	-0.42
Psychological Well-being	-0.47
Moods & Emotions	**-0.53**
Self-Perception	-0.45
Autonomy	-0.37
Parent Relation & Home Life	-0.41
Financial Resources	-0.23
Social Support & Peers	-0.25
School Environment	-0.38
Social Acceptance (Bullying)	-0.20
KIDSCREEN-27	
Physical Well-being	-0.42
Psychological Well-being	**-0.52**
Autonomy & Parent relation	-0.40
Social Support & Peers	-0.25
School Environment	-0.39
KIDSCREEN-10 index	
General HRQoL index	**-0.52**

Range of N=20503-21008. All correlations are significant at $p<0.001$; the highest correlations coefficients are marked in **bold**.

-10 index versions. The correlations were highest for the KIDSCREEN dimensions Moods & Emotions and Psychological Well-being and for the HRQoL index. The strength of these correlations can be classified as a large effect size. Sizeable correlations can be observed for the other dimensions.

Mental Health and Behaviour Problems

From theoretical considerations it was hypothesized that children and adolescents with mental health problems display decreased HRQoL values, especially in the KIDSCREEN dimensions Psychological Well-being and Moods & Emotions. The impact of mental health status on the other HRQoL aspects should be lower but still considerable.

The Strength and Difficulties Questionnaire (SDQ, Goodman, 1997) is a brief behavioural screening questionnaire for 3-16 year-old children and teenagers that asks about their symptoms and positive attitudes. Several validated versions for researchers, clinicians, and educationalists are available. Positive or negative attributes are assessed with the help of 25 items concerning the following dimensions: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and prosocial behaviour. Items are added to generate a total difficulties score. The SDQ was included as a screening instrument of mental health in all countries. The results (means, standard deviation, effect sizes) for the parents SDQ assessment of their children are presented in **Table 19**. **Table 19** shows that children and adolescents with mental health problems displayed significant and sizeable lower HRQoL values in all scales of the KIDSCREEN-52, -27 and -10 index versions. As hypothesised, the effect was highest for the KIDSCREEN dimensions Psychological Well-being and Moods & Emotions. The effect can be classified as moderate / large. Similar large effects can be found for the Social Acceptance (Bullying) dimension of the KIDSCREEN-52 and the General HRQoL-index.

Health Care Utilisation

Some factors are known to determine the use of health care services, such as age, gender, characteristics of the health care system and health insurance status, family composition, and the need for services. The use of health care services was collected to check the relationship between HRQoL and the curative use of services. Two variables were collected from parents and adapted according to the European group recommendations addressed to develop common instruments for health interview surveys (Eurohis; Nosikov, 2003): visits to a health professional in the past 4 weeks (yes/no) and hospitalisation in the past 12 months (yes/no). An answer was considered “yes” when the visit was due to accidents or injuries, acute illness, or long-term disabilities. Visits due to a check-up were excluded. The main hypothesis was that those children reporting the worst status on physical and emotional symptoms and on functioning use more curative health care services. **Table 20** shows the mean standardised differences comparing the dimensions of who reported at least one visit to a health care professional in the past 4 weeks. **Table 21** presents the mean standardised differences comparing the dimensions of children who were hospitalised in the past 12 months with children who were not.

Children who used healthcare services scored lower in all the KIDSCREEN dimensions and the KIDSCREEN-10 index, although the effect size was low.

Table 19:
Differences in KIDSCREEN dimension scores by mental health status (SDQ)

SDQ Parents	Healthy (n=13678)		Borderline (n=1170)		Noticeable (n=1055)		
	Mean T-value	(SD)	Mean T-value	(SD)	Mean T-value	(SD)	Effect size[a]
KIDSCREEN-52							
Physical Well-being	51.10	(9.75)	48.06	(9.50)	46.95	(10.74)	0.42
Psychological Well-being	50.95	(9.43)	46.80	(9.97)	45.19	(10.26)	**0.59**
Moods & Emotions	50.84	(9.28)	45.82	(8.61)	43.92	(9.15)	**0.73**
Self-Perception	50.92	(9.93)	47.39	(9.56)	46.83	(10.13)	0.41
Autonomy	50.63	(9.98)	47.79	(10.14)	47.42	(10.11)	0.32
Parent Relation & Home Life	50.51	(9.69)	46.17	(9.80)	44.96	(10.41)	**0.56**
Financial Resources	50.46	(10.03)	46.32	(10.14)	44.71	(11.10)	**0.56**
Social Support & Peers	50.17	(9.69)	46.52	(9.74)	44.79	(10.83)	**0.54**
School Environment	50.83	(9.98)	46.42	(9.81)	45.19	(10.04)	**0.56**
Social Acceptance (Bullying)	50.42	(9.62)	46.11	(11.03)	43.31	(11.91)	**0.70**
KIDSCREEN-27							
Physical Well-being	51.10	(9.75)	48.06	(9.50)	46.95	(10.74)	0.42
Psychological Well-being	50.77	(9.18)	46.10	(8.79)	44.46	(8.94)	**0.68**
Autonomy & Parent relation	50.44	(9.71)	46.15	(8.95)	44.94	(9.00)	**0.56**
Social Support & Peers	50.18	(9.70)	46.41	(10.11)	44.68	(11.12)	**0.55**
School Environment	50.79	(9.85)	46.09	(9.59)	44.63	(9.79)	**0.62**
KIDSCREEN-10 index							
General HRQoL index	50.77	(9.49)	45.98	(8.39)	44.38	(8.36)	**0.67**

Range of N=15371-15973; [a] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the adjusted means difference by the overall standard deviation. Effect sizes in the SDQ column are for comparisons between the highest and lowest categories. Effect sizes of "moderate" or greater are shown in **bold**.

Table 20:
Differences in KIDSCREEN dimension scores by a visit to a health care professional

Visits to a health care professional during the past 4 weeks?	No Mean T-value (SD)		Yes Mean T-value (SD)		Effect size[a]
KIDSCREEN-52					
Physical Well-being	51.14	(9.69)	47.27	(10.33)	0.39
Psychological Well-being	50.50	(9.57)	48.62	(10.13)	0.19
Moods & Emotions	50.28	(9.41)	48.35	(9.41)	0.20
Self-Perception	50.58	(9.97)	49.17	(10.17)	0.14
Autonomy	50.33	(10.01)	49.18	(10.23)	0.11
Parent Relation & Home Life	49.99	(9.84)	48.69	(10.14)	0.13
Financial Resources	49.91	(10.19)	49.11	(10.44)	0.08
Social Support & Peers	49.73	(9.77)	48.42	(10.44)	0.13
School Environment	50.31	(10.07)	49.12	(10.15)	0.12
Social Accept. (Bullying)	49.75	(10)	48.85	(10.5)	0.09
KIDSCREEN-27					
Physical Well-being	51.14	(9.69)	47.27	(10.33)	0.39
Psychological Well-being	50.28	(9.24)	48.35	(9.61)	0.21
Autonomy & Parent relation	49.94	(9.74)	48.68	(9.84)	0.13
Social Support & Peers	49.72	(9.83)	48.27	(10.56)	0.15
School Environment	50.25	(9.96)	48.85	(10.05)	0.14
KIDSCREEN-10					
General HRQoL index	50.34	(9.53)	47.95	(9.28)	0.25

Range of N 12992 -15452; [a] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the means difference by the overall standard deviation.

Table 21:
Differences in KIDSCREEN dimension scores by hospitalisation during the past 12 months

Hospitalisation during the past 12 months	No Mean T-value (SD)		Yes Mean T-value (SD)		Effect size[a]
KIDSCREEN-52					
Physical Well-being	50.76	(9.79)	47.44	(10.89)	0.34
Psychological Well-being	50.35	(9.63)	48.3	(10.34)	0.21
Moods & Emotions	50.11	(9.43)	48.15	(9.38)	0.21
Self-Perception	50.43	(9.98)	48.98	(10.23)	0.15
Autonomy	50.25	(10.06)	49.06	(9.91)	0.12
Parent Relation & Home Life	49.93	(9.87)	48.1	(10.36)	0.18
Financial Resources	49.88	(10.21)	48.19	(10.64)	0.16
Social Support & Peers	49.62	(9.83)	48.14	(10.72)	0.15
School Environment	50.23	(10.09)	48.36	(10.37)	0.18
Social Accept. (Bullying)	49.68	(10.05)	49.02	(10.62)	0.07
KIDSCREEN-27					
Physical Well-being	50.76	(9.79)	47.44	(10.89)	0.34
Psychological Well-being	50.12	(9.28)	48.1	(9.75)	0.22
Autonomy & Parent relation	49.87	(9.75)	48.03	(10.09)	0.19
Social Support & Peers	49.63	(9.9)	48.04	(10.84)	0.16
School Environment	50.14	(9.97)	48.36	(10.54)	0.18
KIDSCREEN-10					
General HRQoL index	50.14	(9.52)	47.87	(9.6)	0.24

Range of N 15617 - 15100; [a] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the means difference by the overall standard deviation.

Social Support and Family

Social support refers to any process through which a social relationship might promote health and well-being (Cohen, 2000; Helgeson, 2003). Children and adolescents with poor social support were expected to show lower HRQoL especially in domains like Peers & Social Support, Parent Relation & Home Life, and Psychological Well-being. These first two dimensions include social support aspects and relationships between perceived social support in their definition. Psychological Well-being (both positive and negative emotions) was described in recent research (Helsen, 2000).

To assess the level of social support, the Oslo 3-Item Social Support Scale was adapted (Brevik & Dalgard, 1996; ECHI project). This scale contains one question about the number of people who can provide a sense of security and support to the child and two questions about emotional and instrumental support from those people. The total score calculated by summarising those three items ranged from 0 to 11. Values less than 6 are recognised in the literature as "poor social support" (Dowrick, 1998). Comparable data about social support were collected in ten participating KIDSCREEN countries, where 7.3% of children and adolescents reported poor social support (from 3.6% to 11.0% in different countries), with more boys than girls and more adolescents than younger children reporting this.

In **Table 22**, results are shown (means, standard deviations, and effect sizes) for the three KIDSCREEN questionnaires.

Table 22:
Differences in KIDSCREEN dimension scores by level of social support

Social Support Scale	Moderate or strong social support		Poor social support		
	Mean T-value (SD)		Mean T-value (SD)		Effect size[a]
KIDSCREEN-52					
Physical Well-being	50.73	(9.85)	45.25	(9.53)	0.57
Psychological Well-being	50.66	(9.56)	41.91	(10.23)	**0.88**
Moods & Emotions	50.01	(9.27)	42.07	(9.04)	**0.87**
Self-Perception	50.61	(9.98)	44.34	(9.87)	0.63
Autonomy	50.61	(9.99)	43.03	(10.13)	0.75
Parent Relation & Home Life	50.64	(9.62)	40.04	(10.02)	**1.08**
Financial Resources	50.57	(9.91)	41.90	(10.63)	0.84
Social Support & Peers	50.46	(9.63)	41.72	(9.61)	**0.91**
School Environment	50.42	(10.10)	43.12	(9.89)	0.73
Social Accept. (Bullying)	50.08	(10.00)	43.25	(12.12)	0.62
KIDSCREEN-27					
Physical Well-being	50.73	(9.85)	45.25	(9.53)	0.57
Psychological Well-being	50.29	(9.22)	41.60	(8.99)	**0.95**
Autonomy & Parent relation	50.54	(9.64)	40.67	(8.30)	**1.10**
Social Support & Peers	50.54	(9.66)	41.60	(10.05)	**0.91**
School Environment	50.36	(9.98)	42.81	(9.60)	0.77
KIDSCREEN-10 index					
General HRQoL index	50.43	(9.40)	41.60	(7.44)	**1.04**

Range of N=16549 to 17162 for combined sample of 10 countries (FR, IE, SE excluded)

[a] Effect size (convention): 0.20=small; 0.50=medium; 0.80=large; effect size is calculated dividing the adjusted means difference by the overall standard deviation. An effect size of moderate or greater is indicated in **bold**.

Children with poor social support reported much lower scores in all dimensions related to family and social relations as well as lower psychological well-being in comparison to strongly supported children. The differences between both groups were significant with mostly large effect sizes for all questionnaires and dimensions under study.

Additionally, parent-child relations were tested from the parent's perspective. In the questionnaire for adults, five items were adapted with some extension from the Social Adjustment Scale (SAS, published in McDowell & Newell, 1996). This short unit covers parental role areas, both in feelings and performance. Time frame and response categories were adjusted to the standard KIDSCREEN form; one-week recall and five responses by frequency (3 items) or intensity (2 items). For eleven KIDSCREEN countries, an alpha internal consistency coefficient of 0.80 was reported. The total score calculated by summarising those five items ranged from 0 to 20, with values less than 12 assumed as poor family relations. In the combined international KIDSCREEN sample 5.1% of the parents reported poor relations with their child. **Table 23** shows results for the three KIDSCREEN questionnaires.

Children and adolescents whose parents reported worse relations with them had much lower scores in the Parent Relation & Home Life dimension. For Psychological Well-being and School Environment, relatively high mean differences were also observed. The differences between both groups were significant in all dimensions with large effect sizes for the dimensions related to parents and moderate effect sizes in other dimensions,

Table 23:
Differences in KIDSCREEN dimension scores by parent-child relations

Parent-child relations	Moderate or strong relations		Poor relations		
	Mean T-value (SD)		Mean T-value (SD)		Effect size[a]
KIDSCREEN-52					
Physical Well-being	50.90	(9.83)	45.36	(9.48)	0.57
Psychological Well-being	50.64	(9.58)	43.27	(9.28)	**0.78**
Moods & Emotions	50.28	(9.42)	45.22	(8.80)	0.56
Self-Perception	50.72	(9.98)	44.42	(8.88)	0.67
Autonomy	50.47	(10.01)	44.84	(9.60)	0.57
Parent Relation & Home Life	50.34	(9.68)	40.20	(9.08)	**1.08**
Financial Resources	50.05	(10.17)	44.27	(10.27)	0.57
Social Support & Peers	49.79	(9.87)	44.95	(9.54)	0.50
School Environment	50.48	(10.09)	43.71	(8.54)	**0.72**
Social Acceptance (Bullying)	49.68	(10.08)	48.67	(10.28)	0.10
KIDSCREEN-27					
Physical Well-being	50.90	(9.83)	45.36	(9.48)	0.57
Psychological Well-being	50.35	(9.29)	43.78	(8.46)	**0.74**
Autonomy & Parent Relation	50.17	(9.70)	41.98	(7.92)	**0.93**
Social Support & Peers	49.81	(9.92)	44.63	(9.81)	0.53
School Environment	50.39	(9.96)	43.53	(8.63)	**0.74**
KIDSCREEN-10 index					
General HRQoL index	50.37	(9.51)	43.08	(7.50)	**0.85**

Range of N 15312 - 15875 for 11 countries

[a] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the adjusted means difference by the overall standard deviation. An effect size of moderate or greater is indicated in **bold**.

except Social Acceptance (Bullying). For the KIDSCREEN-10 index a large effect size was also observed.

Family Health Behaviour

It was hypothesised that the parents' health behaviour (e.g. smoking and drinking) influences the children's and adolescents' HRQoL. Parental drinking problems should be associated with decreased HRQoL parameter values in the dimensions Psychological Well-being, Moods & Emotions, and the Parents Relation dimension respective to the Parents & Autonomy dimension. Parental smoking is expected to be slightly associated with decreased child and adolescent HRQoL in the dimension of Physical Well-being.

Parental smoking was assessed by questioning the parents "Do you or your wife/husband smoke at home in the presence of your children?" Answer categories ranged from never to always. Parent drinking problems within the last 12 months were assessed by asking the person filling in the questionnaire "Have people annoyed you by criticising your drinking?" Answer categories were: yes/no. A second question addressed drinking problems of the proxy's partner: "Have you criticised your wife/husband because of his/her drinking?" Answer categories were also yes/no.

Table 24 shows small effects of parental smoking in front of the child on children and adolescents HRQoL. The effect was largest in the KIDSCREEN dimensions Physical Well-being and Self-perception; however, the effect sizes can be classified as small.

Table 24:
Differences in KIDSCREEN dimension scores by parental smoking in front of the child

Smoking in front of the child	Never (n=9578) Mean T-value (SD)		Always (=1359) Mean T-value (SD)		Effect size[a]
KIDSCREEN-52					
Physical Well-being	50.97	(9.80)	47.35	(10.10)	0.24
Psychological Well-being	50.52	(9.64)	47.91	(9.90)	0.15
Moods & Emotions	50.30	(9.42)	47.50	(9.39)	0.21
Self-perception	50.58	(10.02)	49.01	(10.09)	0.23
Autonomy	50.30	(10.10)	49.08	(9.83)	0.02
Parent Relation & Home Life	50.00	(9.91)	48.33	(9.90)	0.13
Financial Resources	49.92	(10.22)	48.33	(10.54)	0.11
Social Support & Peers	49.80	(9.87)	47.39	(10.02)	-0.04
School Environment	50.33	(10.08)	48.48	(10.33)	0.20
Social Acceptance (Bullying)	49.89	(9.93)	47.06	(11.21)	-0.03
KIDSCREEN-27					
Physical Well-being	50.97	(9.80)	47.35	(10.10)	0.24
Psychological Well-being	50.26	(9.32)	47.65	(9.30)	0.18
Autonomy & Parent Relation	49.93	(9.81)	48.24	(9.48)	0.11
Social Support & Peers	49.78	(9.92)	47.40	(10.19)	-0.04
School Environment	50.29	(9.97)	48.02	(10.15)	0.21
KIDSCREEN-10 index					
General HRQoL index	50.29	(9.59)	47.61	(8.95)	0.20

[a] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the adjusted means difference by the overall standard deviation

Table 25 shows that children and adolescents who reported that both parents have problems with their drinking display significantly and sizeably lower HRQoL values in the KIDSCREEN dimensions of Moods & Emotions and Parent Relation & Home Life, and Autonomy & Parent Relation, and the KIDSCREEN-10 index. The effect sizes can be classified as moderate.

3.3.2 Convergent Validity

Convergent validity was assessed through the comparison of KIDSCREEN dimension scores to other known and validated questionnaires measuring similar concepts. Pearson correlation coefficients were computed to analyse convergent and discriminant validity between KIDSCREEN dimensions and similar dimensions or overall scores on other similar instruments. Correlation coefficients of KIDSCREEN dimensions measuring similar attributes (i.e. Psychological Well-being, Moods & Emotions) to the Satisfaction domain of the Child Health Questionnaire (CHIP-AE, Starfield et al., 1995) and dimensions measuring different attributes such as Financial Resources were calculated. Convergent validity was considered to be demonstrated when correlations between comparable dimensions were significantly higher than correlations between theoretically different dimensions. Correlation coefficients between 0.1 and 0.3 were considered low, those between 0.31 to 0.5 moderate, and those over 0.5 were considered high.

Youth Quality of Life Instrument-Surveillance Version
The Youth Quality of Life Instrument-Surveillance Version (YQOL-S, Topolski, Edwards & Patrick, 2001) is a 13-item generic quality of life questionnaire designed to assess quality of life among adolescents aged 11-18. The questionnaire is self-administered. The YQOL-S scores are transformed to a 0-100 scale for easy interpretability, with higher scores indicating better QoL. The YQOL-S was included in the adolescent questionnaire of all countries. The results of the YQOL-S Perceptual scale are shown in **Table 26**.

Child Health Questionnaire
The Child Health Questionnaire (CHQ) is a multidimensional generic instrument to assess the quality of life of children, which has been developed from the Medical Outcome Study (MOS, Landgraf et al., 1996). It aims to document the physical, emotional, and social well-being of children and adolescents, describing the impact of disease and health benefits of treatment on the child's everyday functioning. The CHQ parent form PF-28 obtains two summary scores, one for overall physical health and one for overall psychological health. The CHQ-PF28 was included in the parent questionnaire of all countries. The results are shown in **Table 26**.

Child Health and Illness Profile
The CHIP-AE (Starfield et al., 1995) is a generic measure of health status - rather than HRQoL - assessed from the perspective of adolescents, aged 11-17 years. The CHIP-AE assesses five domains of health. In this study, only the questions concerning the domain Satisfaction were administered. The CHIP-AE was included in the adolescent questionnaire of all countries. The results are shown in **Table 26**.

Table 25:
Differences in KIDSCREEN dimension scores by parental problems with alcohol

Parental problems with alcohol[b]	None (n=6509)		One parent (n=959)		Both parents (n=77)		
	Mean T-value	(SD)	Mean T-value	(SD)	Mean T-value	(SD)	Effect size[a]
KIDSCREEN-52							
Physical Well-being	51.54	(9.90)	49.66	(9.44)	47.81	(10.84)	0.38
Psychological Well-being	50.99	(9.32)	48.82	(9.62)	47.24	(9.87)	0.40
Moods & Emotions	50.76	(9.30)	48.29	(8.78)	46.36	(9.13)	**0.47**
Self-perception	51.14	(9.99)	48.52	(9.32)	47.93	(10.65)	0.32
Autonomy	50.92	(9.49)	49.54	(9.83)	49.75	(11.05)	0.12
Parent Relation & Home Life	50.15	(9.68)	47.82	(9.90)	44.70	(10.77)	**0.56**
Financial Resources	50.37	(10.03)	48.52	(10.63)	47.26	(10.71)	0.31
Social Support & Peers	49.79	(9.65)	48.31	(9.69)	49.18	(10.31)	0.06
School Environment	50.70	(10.08)	47.87	(9.67)	46.75	(9.56)	0.39
Social Acceptance (Bullying)	49.48	(9.91)	48.95	(10.23)	47.15	(10.84)	0.23
KIDSCREEN-27							
Physical Well-being	51.54	(9.90)	49.66	(9.44)	47.81	(10.84)	0.38
Psychological Well-being	50.64	(9.04)	48.26	(8.76)	46.55	(9.04)	**0.45**
Autonomy & Parent Relation	50.31	(9.46)	48.07	(9.20)	46.54	(10.67)	0.40
Social Support & Peers	49.69	(9.65)	48.17	(9.99)	49.09	(10.82)	0.06
School Environment	50.62	(9.95)	47.73	(9.55)	46.55	(9.75)	0.41
KIDSCREEN-10 index							
General HRQoL index	50.67	(9.33)	48.10	(8.64)	46.12	(9.04)	**0.49**

Range of N 15400 - 15967

[a] Effect size (convention): 0.20=small; 0.50=moderate; 0.80=large; effect size is calculated dividing the adjusted means difference by the overall standard deviation. Effect sizes in the last column are for comparisons between the 'none of the parents' and the 'both parents' categories.

[b] proxy item 'ever been annoyed by people criticising his/her drinking?'; 'proxy ever criticised partners drinking?' An effect size of moderate or greater is indicated in **bold**.

Table 26:
Convergent validity of the KIDSCREEN, Pearson correlation coefficients of the KIDSCREEN dimensions and other HRQoL instruments

	YQOL-S	CHQ scores		CHIP-AE
	Perceptual scale[1]	Physical Functioning[2]	Psychological[3] (Mental Health)	Satisfaction domain[4]
	r	r	r	r
KIDSCREEN-52				
Physical Well-being	0.41	0.25	0.25	**0.59**
Psychological Well-being	**0.61**	0.12	**0.34**	**0.58**
Moods & Emotions	0.56	0.12	**0.33**	0.52
Self-perception	0.51	0.11	0.27	**0.57**
Autonomy	0.40	0.08	0.25	0.44
Parent Relation & Home Life	**0.60**	0.09	0.31	0.48
Financial Resources	0.37	0.07	0.23	0.37
Social Support & Peers	0.37	0.11	0.24	0.40
School Environment	0.47	0.09	0.26	0.45
Social Acceptance (Bullying)	0.24	0.06	0.16	0.24
KIDSCREEN-27				
Physical Well-being	0.41	0.25	0.25	**0.59**
Psychological Well-being	**0.63**	0.13	**0.36**	**0.62**
Autonomy & Parent Relation	0.54	0.09	0.31	0.51
Social Support & Peers	0.37	0.11	0.24	0.39
School Environment	0.48	0.09	0.28	0.46
KIDSCREEN-10 index				
General HRQoL index	**0.61**	0.15	**0.35**	**0.63**

[1] Range N= 10726-10867; [2] Range N=15310-15729; [3] Range N=15403-15835; [4] Range N=11682-11831. All correlations are significant p=0.001; the highest correlations coefficients for each analysed questionnaires are marked in **bold**.

Strong correlation between the YQOL-S perceptual scale and the KIDSCREEN were observed for the dimensions Psychological Well-being, Parent Relations & Home Life, and the KIDSCREEN-10 index. Only low correlations were found between the KIDSCREEN scales and the CHQ Physical Functioning scale. Correlations between the KIDSCREEN and the CHQ Mental Health scale were highest for the KIDSCREEN dimensions Psychological Well-being, Moods & Emotions, and the KIDSCREEN-10 index; the effect sizes of these associations can be classified as moderate. The correlation between the KIDSCREEN and the CHIP Satisfaction domain was largest for the dimensions Physical Well-being, Psychological Well-being, Self-Perception and the KIDSCREEN-10 index, and can be classified as a strong association.

4 Psychometric Properties of the KIDSCREEN Proxy Instruments and Relationship to the KIDSCREEN Child and Adolescent Versions

4.1 Construction, Reliability and Validity of KIDSCREEN Proxy Instruments

The European KIDSCREEN field survey involved about 22296 children and adolescents and 16888 parents (or proxies) across 11 countries (AT, CH, CZ, DE, EL, ES, FR, HU, NL, PL, and UK). It was examined if the KIDSCREEN-52/-27 and -10 measurement models adequately accounted for the proxy test data. The multidimensional construct has been assessed with multitrait multi-item analysis (MAP) and confirmatory factor analyses (CFA, LISREL model). The goodness of fit of the specified model was tested using the root mean square error of approximation (RMSEA) and the comparative fit index (CFI) statistics. The CFI takes sample size into account and it derives from the comparison between a hypothesized model with the null model. A value greater than 0.90 indicates an acceptable fit to the data. The RMSEA is not overly sensitive to large sample size; according to Hu and Bentler (1999) values below 0.06 indicate satisfactory model fit. Non-parametric item response theory and Rasch analyses have been used to assess the scalability of each dimension. The results of the analyses led to confirm the three proxy KIDSCREEN instruments: the KIDSCREEN-52 proxy version, the KIDSCREEN-27 proxy version and the KIDSCREEN-10 index proxy version. The results concerning the three instruments are summarised in **Table 27**.

For the KIDSCREEN-52 Proxy version, MAP results showed satisfactory item internal consistency and item discriminant validity. Confirmatory factor analyses indicated satisfactory fit of the children's model to the parents' data (whole sample: RMSEA = 0.061, CFI = 0.967). The unidimensionality of every dimension has been confirmed (H Loevinger coefficient: 0.44 - 0.78, Partial Credit Model INFIT: 0.74-1.31). Reliability was good (Cronbach's alpha: 0.77 - 0.90). Agreement between youth and proxy report were satisfactory (ICC: 0.45 - 0.62).

For the KIDSCREEN-27 Proxy version, MAP results showed satisfactory item internal consistency (100%) and item discriminant validity (100% of scaling success). The unidimensionality of every dimension has been confirmed (H Loevinger coefficient: 0.38 - 0.62, Partial Credit Model INFIT: 0.81-1.34). Reliability was good (Cronbach's alpha: 0.78 - 0.83). Agreement between youth and proxy report were satisfactory (ICC: 0.51 - 0.60).

For the KIDSCREEN-10 Proxy version, MAP results showed satisfactory item internal consistency. The unidimensionality of the KIDSCREEN-10 index has been confirmed (H Loevinger coefficient for the scale: 0.30, Partial Credit Model INFIT: 0.89 - 1.05). Reliability was good (Cronbach's alpha: 0.78). Agreement between youth and proxy report was good (ICC: 0.56).

Table 27:
Psychometric properties of the KIDSCREEN Proxy versions

	Score distribution					Item Level Analysis		Reliability	Item Response Theory		Agreement
	MV (%)	M	SD	Floor (%)	Ceiling (%)	IIC	IDV	Cronbach's alpha	Rasch Model (INFIT)	npIRT (H)	ICC
KIDSCREEN-52 proxy (N=16162-16463)											
Physical Well-Being	3.6	50.7	10.0	0.0	5.4	0.47-0.67	0.05-0.58	0.82	0.76-1.18	0.53	0.62
Psychological Well-Being	2.5	50.3	9.8	0.0	5.8	0.67-0.76	0.11-0.54	0.90	0.81-1.16	0.69	0.51
Moods & Emotions	3.2	50.2	9.7	0.0	6.7	0.56-0.69	0.07-0.45	0.84	0.74-1.23	0.51	0.45
Self-Perception	2.8	50.3	9.9	0.0	9.4	0.49-0.61	0.08-0.57	0.76	0.90-1.14	0.44	0.53
Autonomy	2.7	50.0	9.9	0.0	10.8	0.59-0.72	0.02-0.51	0.86	0.81-1.17	0.59	0.48
Parent Relation & Home Life	3.5	49.7	9.8	0.0	7.9	0.62-0.70	0.11-0.57	0.87	0.88-1.31	0.61	0.50
Financial Resources	4.3	49.6	10.0	1.6	16.1	0.79-0.80	0.08-0.36	0.89	0.97-1.07	0.78	0.53
Social Support & Peers	3.7	49.7	10.0	0.1	3.7	0.67-0.75	0.12-0.46	0.87	0.81-1.15	0.61	0.48
School Environment	4.1	50.1	10.0	0.0	4.4	0.63-0.73	0.06-0.45	0.88	0.81-1.16	0.62	0.62
Social Acc. (Bullying)	2.7	49.5	9.9	0.0	45.2	0.64-0.70	0.03-0.35	0.82	0.90-1.13	0.68	0.48
KIDSCREEN-27 proxy (N=15963-16382)											
Physical Well-Being	3.6	50.7	10.0	0.0	5.4	0.47-0.67	0.22-0.56	0.80	0.85-1.34	0.53	0.61
Psychological Well-Being	3.3	50.2	9.8	0.0	2.8	0.49-0.63	0.20-0.51	0.82	0.86-1.13	0.47	0.52
Autonomy & Parent Relation	5.5	49.8	9.8	0.0	3.0	0.46-0.55	0.24-0.45	0.78	0.91-1.08	0.38	0.51
Social Support & Peers	3.0	49.6	10.0	0.2	5.4	0.63-0.73	0.21-0.44	0.84	0.81-1.13	0.62	0.44
School Environment	3.7	50.1	9.9	0.0	6.0	0.62-0.69	0.25-0.47	0.83	0.87-1.08	0.59	0.60
KIDSCREEN-10 index (N= 15840)											
Global HRQoL index	6.2	50.2	10.0	0.0	0.8	0.38-0.54	NA	0.78	0.89-1.05	0.30	0.56

Percentage of missing value (MV); Mean (M); Standard Deviation (SD); Floor effect (%); Ceiling effect (%); npIRT: Non Parametric Item Response Theory model, H: Loevinger weighted H coefficient.

These promising tools enable the exploration of the relationship between self-reported and proxy HRQoL measurements in European children and adolescents. Furthermore, they enable the study of opportunities, restrictions, and uses of proxy scores in addition to self-reports.

4.2 Relationship between Child and Parent Data

Multitrait-multimethod (MTMM) analysis of the children-proxy correlations between the different versions of the KIDSCREEN instruments was used to evaluate the degree of convergence and discrimination between children and proxy scores (Sneeuw et al, 1998). The MTMM matrices are presented in **Table 28** and **Table 29**.

The MTMM matrix showed positive correlations between the proxy instrument scores and the scale scores of the children's version in KIDSCREEN-52, and convergent validity was achieved. All correlation coefficients representing a monotrait-heteromethod were significantly different and higher than 0 for all of the ten dimensions (r ranged from 0.48 to 0.64, $p<0.001$). All coefficients representing a monotrait-heteromethod are higher than other correlations of this trait, with other coefficients measured by other methods (heterotrait-heteromethods). All heterotrait triangles presented about the same pattern. The average correlation between children and proxy scores on corresponding measures was calculated as well as the average off-diagonal correlation (i.e. correlations between children and proxy scores on different HRQoL domains). The average correlation between children and proxy scores for corresponding domains (average $r = 0.46$) was higher than that for diverging domains (average $r = 0.25$).

The MTMM matrix of the KIDSCREEN-27 showed positive correlations between the proxy instrument scores and the scale scores of the children and adolescent's version. Convergent validity was achieved. All correlation coefficients representing a monotrait-heteromethod were significantly different and higher than 0 for all of the 5 dimensions (r ranged from 0.47 to 0.61, $p<0.001$). All coefficients representing a monotrait-heteromethod were higher than other correlations of this trait, with other coefficients measured by other methods (heterotrait-heteromethods). All heterotrait triangles presented about the same pattern. The average correlation between children and proxy scores for corresponding domains (average $r = 0.55$) was higher than that for diverging domains (average $r = 0.31$).

The correlation between the self report and the proxy version of the KIDSCREEN-10 index achieved the value of 0.57.

Table 28:
MTMM Pearson correlations between the child and parent reports for the KIDSCREEN-52 version

		Children										Parents									
		Physical Well-being	Psychological Well-being	Moods & Emotions	Self-Perception	Autonomy	Parent Relation & Home Life	Financial Resources	Social Support & Peers	School Environment	Social Acceptance (Bullying)	Physical Well-being	Psychological Well-being	Moods & Emotions	Self-Perception	Autonomy	Parent Relation & Home Life	Financial Resources	Social Support & Peers	School Environment	Social Acceptance (Bullying)
Children	Physical Well-being	1.00																			
	Psychological Well-being	0.59	1.00																		
	Moods & Emotions	0.45	0.66	1.00																	
	Self-Perception	0.46	0.52	0.55	1.00																
	Autonomy	0.40	0.52	0.43	0.41	1.00															
	Parent Relation & Home Life	0.40	0.58	0.50	0.49	0.50	1.00														
	Financial Resources	0.26	0.33	0.28	0.28	0.39	0.39	1.00													
	Social Support & Peers	0.38	0.50	0.35	0.28	0.47	0.39	0.32	1.00												
	School Environment	0.42	0.55	0.45	0.44	0.39	0.51	0.32	0.34	1.00											
	Social Acceptance (Bullying)	0.11	0.17	0.32	0.22	0.13	0.16	0.19	0.22	0.12	1.00										
Parents	Physical Well-being	**0.61**	0.41	0.30	0.34	0.31	0.30	0.20	0.29	0.30	0.06	1.00									
	Psychological Well-being	0.37	**0.52**	0.38	0.34	0.35	0.41	0.26	0.33	0.36	0.12	0.58	1.00								
	Moods & Emotions	0.27	0.35	**0.46**	0.31	0.21	0.31	0.15	0.21	0.28	0.21	0.37	0.57	1.00							
	Self-Perception	0.33	0.36	0.34	**0.55**	0.26	0.33	0.20	0.20	0.29	0.13	0.41	0.47	0.48	1.00						
	Autonomy	0.23	0.30	0.21	0.20	**0.49**	0.24	0.23	0.28	0.18	0.03	0.32	0.42	0.24	0.31	1.00					
	Parent Relation & Home Life	0.25	0.35	0.28	0.29	0.29	**0.51**	0.23	0.24	0.31	0.08	0.39	0.61	0.46	0.48	0.40	1.00				
	Financial Resources	0.19	0.25	0.16	0.19	0.25	0.24	**0.53**	0.21	0.24	0.06	0.29	0.36	0.18	0.28	0.37	0.35	1.00			
	Social Support & Peers	0.24	0.33	0.21	0.17	0.31	0.24	0.21	**0.50**	0.20	0.16	0.39	0.52	0.31	0.29	0.47	0.43	0.33	1.00		
	School Environment	0.28	0.37	0.31	0.29	0.24	0.35	0.25	0.23	**0.64**	0.09	0.38	0.51	0.42	0.39	0.27	0.47	0.33	0.33	1.00	
	Social Acceptance (Bullying)	0.06	0.08	0.18	0.07	0.02	0.05	0.09	0.15	0.04	**0.48**	0.13	0.20	0.39	0.24	0.08	0.17	0.11	0.23	0.15	1.00

Range N=15630-22133. In **bold**: diagonal validity: monotrait-heteromethod.

Table 29:
MTMM Pearson correlations between the child and parent reports for the KIDSCREEN-27 version

		Children						Proxy				
		Physical Well-being	Psychological Well-being	Autonomy & Parent Rel.	Social Support & Peers	School Environment		Physical Well-being	Psychological Well-being	Autonomy & Parent Rel.	Social Support & Peers	School Environment
Children	Physical Well-being	1.00										
	Psychological Well-being	0.58	1.00									
	Autonomy & Parent Rel.	0.42	0.59	1.00								
	Social Support & Peers	0.37	0.50	0.44	1.00							
	School Environment	0.43	0.56	0.53	0.36	1.00						
Proxy	Physical Well-being	**0.61**	0.41	0.31	0.27	0.30		1.00				
	Psychological Well-being	0.38	**0.53**	0.40	0.33	0.37		0.57	1.00			
	Autonomy & Parent Rel.	0.26	0.35	**0.52**	0.27	0.31		0.40	0.55	1.00		
	Social Support & Peers	0.24	0.31	0.29	**0.47**	0.20		0.39	0.50	0.47	1.00	
	School Environment	0.27	0.35	0.34	0.23	**0.61**		0.38	0.53	0.46	0.33	1.00

Range N=15860-22395. In **bold**: diagonal validity: monotrait-heteromethod

5 Description of the KIDSCREEN instruments

5.1 General Description and Aim of the KIDSCREEN Instruments

The KIDSCREEN instruments assess relevant dimensions of health-related quality of life in children and adolescents aged 8-18 years. The KIDSCREEN instruments are a family of generic measures, are applicable in different national and cultural contexts, comply with quality standards in instrument development, and are practical (i.e. short and easy to use). The instruments result in a profile describing HRQoL (KIDSCREEN-52 and KIDSCREEN-27) and a global HRQoL score (KIDSCREEN-10 index) respectively and fulfil the assumptions of the Rasch model. The measures are available in English (British and Irish English), German (Austrian, German, and Swiss versions), Dutch, French, Spanish, Polish, Czech, Hungarian, Greek and Swedish. Other language versions are in preparation (e.g. American English, Flanders (Belgium), Italian, Korean, Norwegian, Portuguese (Portugal, Brazil), Spanish (Chile, Colombia)) and will be provided at the project website (http://www.kidscreen.org). The KIDSCREEN instruments can be used in representative mail and telephone surveys with children and parents to obtain reference data. The cross-cultural KIDSCREEN instruments can be used for research purposes in health services and health monitoring. It is expected that the instruments will contribute to a better understanding of perceived health in children and adolescents in Europe and will contribute to planning, carrying out and evaluating innovations in the health care field.

5.2 The KIDSCREEN-52 (long Version)

The KIDSCREEN-52 allows detailed profile information for the following ten Rasch-scaled HRQoL dimensions: *Physical Well-being, Psychological Well-being, Moods & Emotions, Self-Perception, Autonomy, Parent Relation & Home Life, Financial Resources, Social Support & Peers, School Environment, Social Acceptance (Bullying).* Definitions of dimensions and interpretation guidelines for low and high scores of the KIDSCREEN dimensions are given in Chapter 7 in this manual.

The KIDSCREEN-52 was constructed for research purposes and should be used if health-related quality of life is the main objective of investigation. Its use is recommended when more detailed insight is needed into how the HRQoL of children vary in the different dimensions.

Cronbach's alphas were calculated for the ten KIDSCREEN dimensions and range satisfactorily between 0.76 (Social Acceptance) and 0.89 (Financial Support). Convergent and discriminant validity were tested using information about the children's and adolescents' physical (Children with Special Health Care Needs screener for parents, CSHCN, Bethell et al., 2002b) and mental health (Strength and Difficulties Questionnaire, SDQ, Goodman et al., 2000). For example, correlations up to 0.55 were found when correlat-

ing the KIDSCREEN dimensions with the frequency of physical complaints. In addition to this, in each country the relationship between national HRQoL instruments for children and adolescents and the KIDSCREEN versions were analysed and showed overall satisfactory results.

5.3 The KIDSCREEN-27 (short Version)

The KIDSCREEN-27 was developed as a shorter version of the KIDSCREEN-52 with a minimum of information loss and with good psychometric properties. It can be used in broader epidemiological studies and also as a short screening instrument among children with a chronic illness for whom disease-specific issues are of importance. The KIDSCREEN-27 represents the original ten dimensions merged into 5 dimensions, allowing detailed profile information for *Physical Well-being, Psychological Well-being, Autonomy & Parent Relation, Social Support & Peers, School Environment*. It should be accepted for the short version that different dimensions of the longer research version measure the same constructs. Definitions of dimensions and interpretation guidelines for low and high scores of the KIDSCREEN dimensions are given in Chapter 7 in this manual.

The KIDSCREEN-27 fulfils specific validity requirements, e.g. it detects socioeconomic, mental and physical health status differences in the same way as the KIDSCREEN-52: It predicts health care utilisation and health behaviour. Gender and age differences could be also detected. An indicator for the convergent and discriminant validity is that, a correlation with the parent-child relation, but not with the parental health status, can be found. Thus the validity of the short version can be demonstrated in the same way as for the KIDSCREEN-52.

5.4 The KIDSCREEN-10 Index

For the development of the KIDSCREEN-10 index, items were derived from the 27-item version. The good internal consistency reliability (Cronbach's alpha = 0.82) and the good test-retest reliability/stability (r = 0.73; ICC = 0.72) enable a precise and stable HRQoL measurement. Additional statistical analyses show that the KIDSCREEN-10 index is able to differentiate between groups. Children and adolescents with a low score on the family affluence scale (FAS, effect size d = 0.47), with behavioural problems (SDQ, effect size d = 1.30) and with a high number of psychosomatic complaints (d = 1.69) displayed a significantly lower health-related quality of life in comparison to the respective comparison group. The KIDSCREEN-10 index results in one global HRQoL score and is recommended for use in large (epidemiological) surveys. Interpretation for low and high scores of the global KIDSCREEN-10 index is given in Chapter 7.

5.5 The KIDSCREEN Proxy Versions

The three different KIDSCREEN versions have led to three KIDSCREEN proxy questionnaires, in which parents or caregivers are asked to assess the degree of HRQoL in different dimensions from the perspective of the child and adolescent. The KIDSCREEN proxy versions correspond in scale structure with the child and adolescent versions. They consist of similar items, but ask the parent to answer how they think their child feels.

Proxy measures of HRQoL are in general a useful and practical alternative for assessing a youth's HRQoL, especially if a self-report can be considered to be unreliable or impossible to obtain in certain situations: for example when the child or adolescent lacks the linguistic and cognitive skills required to complete a questionnaire or he/she has a dramatic clinical condition. In such cases, proxy ratings can be the only information available and should be considered a substitute for children's HRQoL measure. However, when children's self-report and proxy ratings are both available, the proxy report should be considered as complementary information. In this case, the relationships between self and proxy report should be explored further and can give valuable information about different points of view.

5.6 The KIDSCREEN Computer Version

To improve health-related quality of life assessment of children and adolescents is a major goal of the KIDSCREEN project. The KIDSCREEN computer version emerged from the desire to develop a computer-assisted, child-friendly and economical method for measuring health-related quality of life in children and adolescents, and one which was adapted to the particular stage of development and age of the respondents.
The KIDSCREEN computer program is based on the paper-and-pencil versions of the KIDSCREEN health questionnaires. All three KIDSCREEN child and adolescent versions (KIDSCREEN-52, KIDSCREEN-27 and KIDSCREEN-10 Index) can be administered in 13 several European languages: Czech, Dutch, English (UK, IRL), French, German (D, CH, A), Greek, Hungarian, Spanish, Polish and Swedish.

Time required
The time required for completing the KIDSCREEN computer program ranges between 10 and 20 minutes, depending on the age of the child or adolescent. There is no time limit for completing the questionnaire. The questionnaire is designed such that all questions have to be answered before the questionnaire can be closed and the data analysed.

Data analysis
The data analysis in the KIDSCREEN computer program is presented as a profile. Items are automatically recoded by the program. The scores on the various sub-scales are displayed as a diagram. Reference values for the profile are graphically displayed for the individual items. In addition the child's answers to the questions are automatically stored as text files and can therefore be opened using virtually any word or data processing program. An SPSS syntax can be provided upon written request.

System requirements
The KIDSCREEN computer program is suitable for the operating systems Windows 95 or higher, as well as for MacOS 8 or higher. If these requirements are fulfilled, the program will start automatically when the disc of the KIDSCREEN computer version is placed in the computer's CD-ROM drive. For the completion of the KIDSCREEN questionnaires a keyboard and mouse are required.

The KIDSCREEN computer version software is distributed via the KIDSCREEN web page: www.kidscreen.org. This page consists of general information and a user section

where registered users are allowed to download the computer version and new developments (adapted norm data, improvements to the program or new software) using a password.
Figure 6 to **Figure 8** give examples of screen-pictures from the KIDSCREEN computer version.

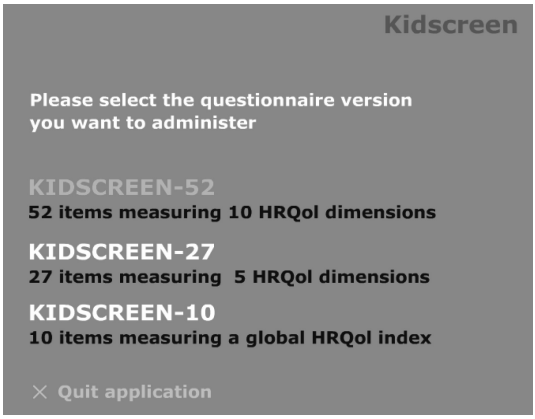


Figure 6:
Selection of the KIDSCREEN questionnaire version

Figure 7:
Selection of national norm data

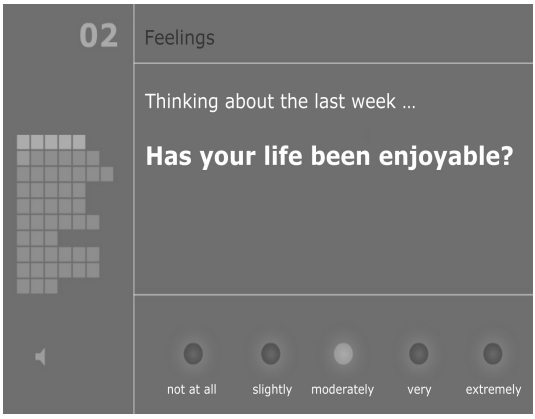


Figure 8:
Example of a displayed KIDSCREEN question

6 Administration of the KIDSCREEN versions

The KIDSCREEN instruments were developed to gain information about children's and adolescents' well-being and health-related quality of life. In the development phase, it was of great importance to include items of relevance and importance for children and adolescents that reflect their reality, environment, and language. In addition, it was important to use answer categories with time frames which are understandable, manageable, and easy to answer for the wide age range of children (8-18 years of age). The three different versions are designed to be administered to children and adolescents and to a parent or caregiver who has day-to-day contact with the child in question.
The questionnaires can be completed at home, in a classroom, and in other settings. The KIDSCREEN instruments can also be administered by telephone, face-to-face interviews, mailed questionnaires or via internet. However one should bear in mind that the reference data provided with this manual are sampled via mailed questionnaires.

6.1 Suggestions for Administration

An administrator of the KIDSCREEN instrument should be experienced in administering questionnaires to children and adolescents. In the case of questionnaires administered by an interviewer, the willingness of children and adolescents to answer the questionnaire honestly should be encouraged (Bortz & Döring, 2002).
National ethical aspects and safety regulations (e.g. data protection) should be followed when administering the KIDSCREEN instruments. Families must be informed about the aims of the study and have to be given information about the questionnaire either in written form or by telephone. In many countries, an informed written consent by parents and their child is obligatory. In addition, the families have to be assured that their data will be handled confidentially. If possible, anonymity of data should be guaranteed; otherwise, for example, in clinical studies one should be aware that observed differences with the reference group might occur solely because of answering the questions not anonymously. In addition, the child should be able to read (primary school level) and write adequately in order to be able to fill in the questionnaire themselves, without discussion with others. If both the self-assessment and the parent/proxy version are administered, the importance of answering the questionnaire independently from each other should be pointed out.
Children and adolescents should be informed that the questionnaire is not an exam and that there are no wrong answers. Children and adolescents should be assured that their subjective opinion of their state of health is important. They should be encouraged to answer each question and multiple responses should be discouraged. They should also be assured that the answers they provide will not be known by their parents, caregivers, or other significant individuals. The children and adolescents should feel safe and relaxed while completing the KIDSCREEN questionnaire.

6.2 Time to Complete

The three KIDSCREEN versions require different amounts of time to be completed by children and adolescents. Overall, for younger children or children and adolescents with reduced reading abilities, it will take longer to complete the questionnaire. There should be no time restriction for completion of the questionnaire.

- The KIDSCREEN-52 requires 15-20 minutes to be filled in.
- The KIDSCREEN-27 requires 10-15 minutes to be filled in.
- The KIDSCREEN-10 index version requires approximately 5 minutes to be completed.
- The proxy versions require approximately the same amount of time to be completed.

6.3 Technical Issues

For researchers who decide to use the KIDSCREEN instrument or to include it in their study, the subsequent requirements apply:

- The whole KIDSCREEN instrument (KIDSCREEN-52, KIDSCREEN-27, or KIDSCREEN-10 index) should be used as opposed to selecting certain items. The use of single dimensions or scales is permitted.
- The items should appear in the same order as in this manual and on the standard forms.
- No other items e.g. taken from other instruments should be inserted between the KIDSCREEN items.
- The KIDSCREEN versions and items shall not be modified, shortened, condensed, adapted, or transformed in any manner or form, including but not limited to any minor or significant change in wordings, without the prior written agreement of the KIDSCREEN group.
- The answer categories have to contain the same wording and number of answer boxes; for children, larger answer boxes may be used.
- The original layout of the questionnaire should be used (for example, use 12 pt font).
- Additional graphics should not be included.

The national reference data of this manual will not be applicable if these guidelines are not adhered to. Questionnaires can be downloaded after registration from the “Members Only” area of the KIDSCREEN website (http://www.kidscreen.org).

7 Scoring and Interpretation of the KIDSCREEN Questionnaires

7.1 Scoring of the KIDSCREEN Questionnaires

The items of the KIDSCREEN versions fulfil the assumptions of the Rasch model (unidimensionality, homogeneity of items and persons, sufficiency of the sum score). Thus, they can be scored as Rasch scales (see excursus below). To make the interpretation more applicable, the scores of the Rasch scales are translated into T-values.
Two methods for scoring the KIDSCREEN items are provided:

- The first way can be chosen if data have to be handled "by hand" or with any appropriate software.
- The second possibility is applicable if the statistical software package SPSS is available.

For both alternatives, the first step is to recode negatively formulated items. Most of the items are formulated positively and in concordance is the scoring, which means a higher score reflects a higher HRQoL. However, some items are formulated negatively and as a consequence the scoring has to be recoded. A list of the items to be recoded is given in **Table 30**.

Steps for scoring "by hand":

1. Code the response choices according to the rules specified in the file "item variable names KIDSCREEN-xx.pdf"
2. Recode the negatively formulated items (see **Table 30**) to have scorings from 1 to 5 with higher values indicating a higher HRQoL.
3. Sum up the item scores of the respective scale (scale raw scores). Note: Only values from persons with complete data, with every item of the scale answered, can be summed up.
4. Search and display/print out the corresponding SPSS syntax stored in Appendix A9 (on the disc; also stored as pdf and txt documents) and transform the scale raw score by hand (using the information stored in the corresponding SPSS syntax respectively word document) into Rasch person parameter estimates [e.g. "(15 = 0.134)"] and T-values [e.g. "(((…**0.134**…- 1.2203) / 1.45408) * 10 + 50)" = 42.53]

Steps for scoring with the use of the SPSS program (for SPSS syntax, see Appendix A9 on the disc):

1. Code the response choices according to the rules specified in the file "item variable names KIDSCREEN-xx.pdf" and enter them into the file "KIDSCREEN-xx data mask SELFREPORT.sav" or "KIDSCREEN-xx data mask PROXY.sav"

Table 30:
KIDSCREEN items to be recoded into values between 1-5
(higher values indicating a better HRQoL)

Instrument	Domain	No.	Item
KIDSCREEN-52	Physical Well-being	1	In general, how would you say your health is?
	Moods & Emotions	1	Have you felt that you do everything badly?
		2	Have you felt sad?
		3	Have you felt so bad that you didn't want to do anything?
		4	Have you felt that everything in your life goes wrong?
		5	Have you felt fed up?
		6	Have you felt lonely?
		7	Have you felt under pressure?
	Self-Perception	3	Have you been worried about the way you look?
		4	Have you felt jealous of the way other girls and boys look?
		5	Would you like to change something about your body?
	Social Acceptance (Bullying)	1	Have you been afraid of other girls and boys?
		2	Have other girls and boys made fun of you?
		3	Have other girls and boys bullied you?
KIDSCREEN-27	Physical Well-being	1	In general, how would you say your health is?
	Psychological Well-being	4	Have you felt sad?
		5	Have you felt so bad that you didn't want to do anything?
		6	Have you felt lonely?
KIDSCREEN-10 index		3	Have you felt sad?
		4	Have you felt lonely?

2. Recode the negatively formulated items to have scorings from 1 to 5 with higher values indicating a higher HRQoL using the SPSS syntax "transform_KIDSCREEN-xx_rawdata.SPS".
3. Sum up the items of the respective scale using the SPSS syntax "SELFREPORT international T-values RASCH KIDSCREEN-xx.SPS" respectively "PROXY international T-values RASCH KIDSCREEN-xx.SPS". Note: Only for cases without missing data the item-scores can be summed up (for scoring despite missing values see below).
4. Exchange the resulting scale values for the provided Rasch person parameter estimates using the SPSS syntax.
5. Transform the resulting Rasch person parameter estimates into z-values and then into T-values using the SPSS syntax. The values are based on data from the *international* survey sample from twelve European countries.

Either of these methods leads to T-values with scale means around 50 and standard deviations around 10 with higher values indicating higher HRQoL.

Excursus: The Rasch model assumes that both persons and items can be ordered on the same continuum (unidimensional latent trait). The location of a person is specified by one parameter, the person location (e.g. individual HRQoL parameter value). The location of an item is specified by one or more parameters, usually called threshold parameters. Both types of parameters

are estimated using Rasch analysis applied to a reference data set. If the Rasch model fits, the differences between the person estimates can be interpreted on an interval scale. The item threshold parameters define how the probability on each response category of the item varies with the continuum. The mean of the continuum is usually set to 0 and its standard deviation to 1. Under the Rasch model, the person-parameter value is a non-linear transformation of the sum score. In the middle area of the continuum, the person parameter values and the sum score have an almost linear relation, but at the extremes the person parameter value varies faster than the person's sum score.

It is possible to score the KIDSCREEN scales despite the occurrence of missing values. If one item per scale (except the 3-item scales KIDSCREEN-52 Social Acceptance and Financial Resources) is left unanswered, the psychometric information issued from the remaining items can be used to estimate the respondent's trait parameter value. Remember that this can only be done by using the SPSS program. If more than one item per scale is left unanswered, the calculation of scores is not possible at all.

Steps for scoring the self-reports despite missing values with the use of the SPSS program (for SPSS syntax, see Appendix A9 on the disc):

1. Code the response choices according to the rules specified in the file "item variable names KIDSCREEN-xx.pdf" and enter them into the file "KIDSCREEN-xx data mask SELFREPORT.sav" or "KIDSCREEN-xx data mask PROXY.sav"
2. Recode the negative formulated items to have scorings from 1 to 5 with higher values indicating a higher HRQoL using the SPSS syntax "transform_KIDSCREEN-xx_rawdata.SPS".
3. Sum up the items of the respective scale using the SPSS syntax "Missing Value SELFREPORT KIDSCREEN-xx.SPS". Note: The syntax does this automatically if only one item per scale is left unanswered.
4. Exchange the resulting scale values for the provided Rasch person parameter estimates using the SPSS syntax for missing values.
5. Transform the resulting Rasch person parameter estimates into z-values and then into T-values using the SPSS syntax for missing values. The values are based on data from the *international* survey sample from twelve European countries.

These steps lead to T-values with scale means of 50 and a standard deviation of 10 with higher values indicating higher HRQoL.

Excursus: If a given set of items fulfil the Rasch model assumptions, the estimation of the item's location on the unidimensional latent trait is independent from the actual sample. Additionally, the estimation of the person's location on the latent trait is independent of the actual selection of items (specific objectivity [Rasch, 1977]). This desirable feature of the Rasch model allows for score estimation despite missing values and leads to results superior to other procedures treating missing values (Huisman & Goudriaan, 2001).

Note: Although it is possible to calculate a scale score if at least all but one items of the scale are answered, regardless of how many items have been left unanswered in other scales, it is strongly recommended to check for the reasons of high missing answer rates. If there are doubts about the reliability of any answers, none of the scores should be calculated. As a general rule,

no values should be calculated if the responder has left more than 25% of all KIDSCREEN items unanswered.

7.2 Interpretation of KIDSCREEN Dimensions

For the interpretation of the KIDSCREEN scores, the content of the scales has to be considered. The basic information about the scales is given by their definitions. In addition to the scale definitions, interpretations for very low or very high scores of every scale are provided in **Table 31**. These characteristics specify the range of the dimension by its extreme ends.
Rasch model person parameter estimates (see excursus above) offer a further possibility for interpreting KIDSCREEN scores: The particular person parameter is interpreted in relation to the location of the answer categories of the items on the latent trait continuum.

7.3 Interpretation of Differences in Scores

The KIDSCREEN scores can be interpreted in three basic ways:
- Comparison between group scores on KIDSCREEN scales and the reference population
- Interpretation of the person parameter estimates using the Rasch model
- Interpretation of the KIDSCREEN profile

The first possibility for interpretation can be convenient for many purposes. The group score on a particular KIDSCREEN scale can be compared with the average score of the adequate reference population on that scale. Specific reference populations are available by country, gender and two age groups in the reference tables in the Appendices (e.g. KIDSCREEN scores of a group of 10 to 11 year old girls can be compared with the scores of the female children in the reference tables). Scores in a defined range around the mean can be judged as average scores. Groups with scores below this threshold have to be rated as groups with low HRQoL in the specific aspect of the respective scale. A group with such results would require special attention to detect the reasons for this low mean. The HRQoL of a group with a higher value than the given threshold can be rated as high.
Thresholds for classifying test-values as e.g. “normal” or “noticeable” have to be considered which may be dependent on the context of a study. As a guiding principle, the suggested thresholds can be recommended to be fixed at a value of the mean, plus or minus half a standard deviation. For the whole international survey sample the resulting range would be 45 to 55 (50 +/- 0.5*10). For age groups, gender and/or country specific groups, the range can be computed by applying the provided values in the Appendices. The rationale for this recommendation lies in statistical considerations. A group with a mean of the defined threshold shows a difference of medium effect size relative to the population mean. Such a difference reaches statistical significance if a sample size of 50 is exceeded. In the range from mean minus half a standard deviation to mean plus half a standard deviation, 38% of persons of a normal distributed sample are included. Below this threshold, 31% of the persons with the lowest values can be found, above this threshold the 31% highest values are located. As a rule of thumb the sample is divided in three

Table 31:
Interpretation of KIDSCREEN dimensions

KIDSCREEN-52 dimensions	Definition	Low Score	High Score
Physical Well-being	This dimension explores the level of the child's/adolescent's physical activity, energy and fitness. Level of physical activity is examined with reference to the child's/adolescent's ability to get around the home and school, and to play or do physically demanding activities such as sports, since a child's/adolescent's impairment does also affect physical activity. The dimension also looks at the child's/adolescent's capacity for lively or energetic play. In addition, the extent to which a child or adolescent feels unwell and complains of poor health is examined.	Physically exhausted, physically unwell, feeling unfit, having low energy	Physically fit, active, healthy, energetic
Psychological Well-being	This dimension examines the psychological well-being of the child/adolescent including positive emotions and satisfaction with life. It specifically reveals the positive perceptions and emotions experienced by the individual. The questions look at how much a child/adolescent experiences positive feelings such as happiness, joy, and cheerfulness. It also reflects the person's view of their satisfaction with life so far.	No pleasure in life, dissatisfaction with life	Happy, views life positively, satisfied with life, pleased, cheerful
Moods & Emotions	This dimension covers how much the child/adolescent experiences depressive moods and emotions and stressful feelings. It specifically reveals feelings such as loneliness, sadness, sufficiency/insufficiency and resignation. Furthermore, this dimension takes into account how distressing these feelings are perceived to be. This dimension shows a high score in QoL if these negative feelings are rare.	Feels depressed, unhappy, in a bad mood	Feeling good, feeling in a good mood
Self-Perception	This dimension explores the child's/adolescent's perception of self. It includes whether the appearance of the body is viewed positively or negatively. Body image is explored by questions concerning satisfaction with looks as well as with clothes and other personal accessories. The dimension examines how secure and satisfied the child/adolescent feels about him/herself as well as his/her appearance. This dimension reflects the value somebody assigns to him/herself and the perception of how positively others value him/her.	Negative body image, self-rejection, unhappy/dissatisfied with self, having low self-esteem, feeling uncomfortable with his/her appearance	Self-confident, satisfied with him/herself, positive body image, happy with him/herself, having good self-esteem, comfortable with his/her appearance

continued...

KIDSCREEN-52 dimensions	Definition	Low Score	High Score
Autonomy	This dimension looks at the opportunity given to a child or adolescent to create his/her social and leisure time. It examines the child's/adolescent's level of autonomy, seen as an important developmental issue for creating an individual identity. This refers to the child's/adolescent's freedom of choice, self-sufficiency and independence. In particular, the extent to which the child/adolescent feels able to shape his/her own life as well as being able to make decisions about day-to-day activities is considered. The dimension also examines if the child/adolescent feels sufficiently provided with opportunities to participate in social activities, particularly in leisure activities and pastimes.	Restricted, oppressed, dependent	Feeling free to decide, independent, autonomous
Parent Relation & Home Life	This dimension examines the relationship with the parents and the atmosphere in the child's/adolescent's home. It explores the quality of the interaction between the child/adolescent and parent or carer, and the child's/adolescent's feelings towards parents/carers. Particular importance is attached to whether the child/adolescent feels loved and supported by the family, whether the atmosphere at home is comfortable or not and also if the child/adolescent feels treated fairly.	Feeling alone, overlooked, not appreciated, perceives parents as unavailable/unfair	Feeling secure, supported and loved, feeling well understood/ well cared-for, perceives parents as available/fair
Financial Resources	The perceived quality of the financial resources of the child/adolescent is assessed. The dimension explores whether the child/adolescent feels that he/she has enough financial resources to allow him/her to live a lifestyle which is comparable to other children/adolescents and provides the opportunity to do things together with peers.	Feeling finances are restricting life style, feeling financially disadvantaged	Feeling satisfied with financial resources, feeling well-off, enjoying financial resources
Social Support & Peers	This dimension examines the nature of the child's/adolescent's relationships with other children/adolescents. Social relations with friends and peers are considered. The dimension explores the quality of the interaction between the child/adolescent and peers as well as their perceived support. The questions examine the extent to which the child/adolescent feels accepted and supported by friends and the child's/adolescent's ability to form and maintain friendships. In particular, aspects concerning communication with others are considered. It also explores the extent to which the person	Feeling excluded, not accepted by peers, not supported by peers, not able to rely on peers	Feeling accepted, supported and included in peer group, able to rely on peers

	experiences positive group feelings and how much he/she feels part of a group and respected by peers and friends.		
School Environment	This dimension explores a child's/adolescent's perception of his/her cognitive capacity, learning and concentration, and his/her feelings about school. It includes the child's/adolescent's satisfaction with his/her ability and performance at school. General feelings about school, such as whether school is an enjoyable place to be, are also considered. In addition, the dimension explores the child's view of the relationship with his/her teachers. For example, questions include whether the child/adolescent gets along well with his/her teachers and whether the teachers are perceived as being interested in the student as a person.	Disliking school and/or teachers, negative feelings about school, not doing well	Feeling happy at school and doing well, enjoying school life
Social Acceptance (Bullying)	This dimension covers the aspect of feeling rejected by peers in school. It explores both the feeling of being rejected by others as well as the feeling of anxiety towards peers. A student is being bullied when another student or a group of students say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she doesn't like. But it is not bullying when two students of about the same strength quarrel or fight. This definition is fairly standard and has been used over a number of years in the HBSC studies (Curie et al., 1998, 2001). This dimension shows a high score in QoL if these negative feelings are rare.	Feeling tormented by peers, bullied, feeling rejected by peers	Not feeling bullied, feeling respected and accepted by peers

KIDSCREEN-27 dimensions	**Definition**	**Low Score**	**High Score**
Physical Well-being	This dimension explores the level of the child's/adolescent's physical activity, energy and fitness as well as the extent to which a child or adolescent feels unwell and complains of poor health.	Physically exhausted, physically unwell, feeling unfit, having low energy	Physically fit, active, healthy, energetic
Psychological Well-being	This dimension examines the psychological well-being of the child/adolescent including positive emotions and satisfaction with life as well as the absence of feelings such as loneliness and sadness.	No pleasure in life, feeling depressed, feeling unhappy, having a low self-esteem	Happy, viewing life positively, satisfied with life, emotionally balanced

continued...

KIDSCREEN-27 dimensions	Definition	Low Score	High Score
Autonomy & Parent Relation	This dimension explores the quality of the interaction between child/adolescent and parent or carer as well as whether the child/adolescent feels loved and supported by the family. It also examines the child's/adolescent's perceived level of autonomy as well as the perceived quality of the financial resources of the child/adolescent.	Feeling restricted, feeling overlooked, not appreciated, feeling finances are restricting life style	Feeling positive about the relationship with parents and having enough age-appropriate freedom to choose (things for yourself in the relationship, good balance between parents), feeling satisfied with financial resources, feeling well-off
Social Support & Peers	Social relations with friends and peers are considered. The dimension explores the quality of the interaction between the child/adolescents and peers as well as their perceived support.	Feeling excluded, not accepted by peers	Feeling accepted, supported and included in peer group
School	This dimension explores a child's/adolescent's perception of his/her cognitive capacity, learning and concentration and his/her feelings about school. In addition, the dimension explores the child's view of the relationship with his/her teachers.	Disliking school, negative feelings about school, not doing well	Feeling happy at school and doing well
KIDSCREEN-10 index			
	This unidimensional measure represents a global score for the dimensions of the longer KIDSCREEN versions.	Feeling unhappy, unfit and dissatisfied with regards to family life, peers and school life	Feeling happy, fit and satisfied with regards to family life, peers and school life

groups of approximately the same size. (Example: A mean of 49.3 for a group of European boys aged between 8 and 11 years according to the international T-value in the Self-Perception scale is situated lower than the threshold of the mean of the reference group (55.5) minus half a standard deviation of this group (9.7 / 2 = 4.9). Therefore, such a group has a low health-related quality of life regarding this aspect with a negative body image and feelings of self rejection (see table A-1 in Appendix A7_A (on disc) and **Table 31** above).

For individual diagnostic each raw scale score (item scores summed up) observed in a particular KIDSCREEN scale can be interpreted as percentage ranks and T-values choosing the appropriate table from Appendix A7_D and A7_E.

The second and third propositions suggest more sophisticated possibilities for working with KIDSCREEN scales and can be recommended for special requirements. Of course, experienced researchers may choose to apply additional methods as convenient for their purposes.

The second way to interpret KIDSCREEN scores uses the strength of the Rasch model using person parameter estimates. As mentioned previously, the particular person parameter, that is their position on the latent trait continuum, is interpreted in relation to the

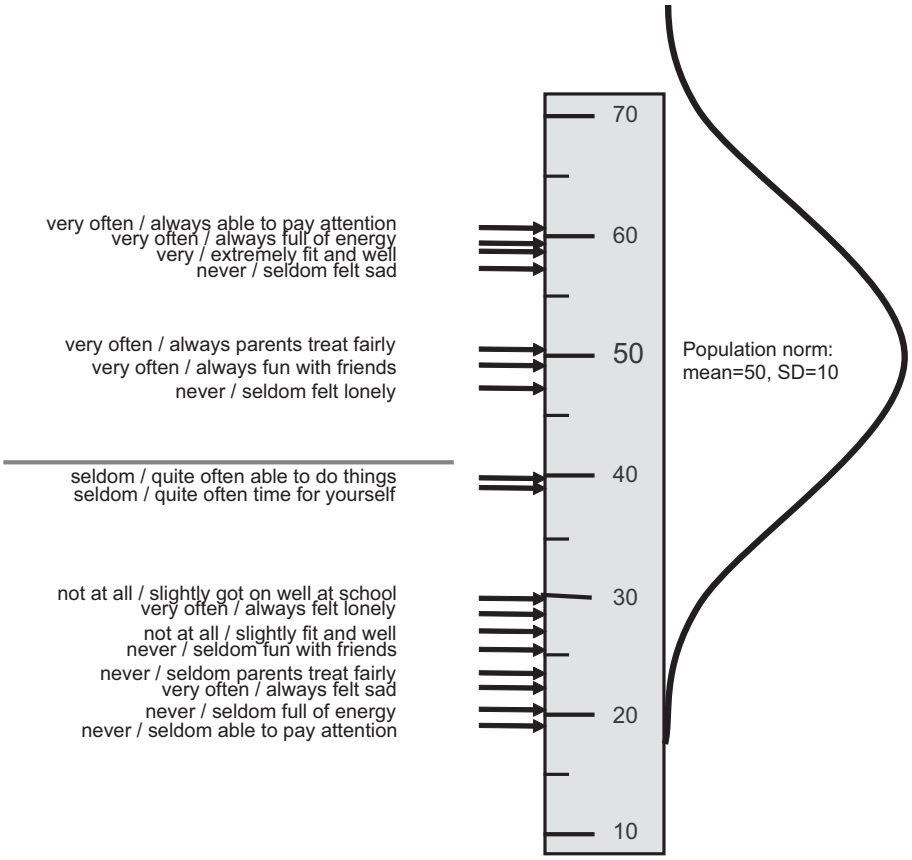


Figure 9:
Ruler with response category thresholds and the t-value distribution

location of the answer categories of the items on the latent trait continuum. Thus a particular person parameter value, for example a T-value of 58 in the KIDSCREEN-10 index (see **Figure 6**), can be interpreted that the child or adolescent is most likely "feeling extremely fit and well" and "always full of energy". A low T-value of 25 would mean that the child or adolescent feels "not at all fit and well" and had "never had fun with friends" in the last week. For the interpretation of KIDSCREEN values based upon the Rasch model, the latent trait continua of the KIDSCREEN scales with the threshold marks of the answer categories are provided in the Appendix A8 (on disc).

A third possibility for working with KIDSCREEN scales is to interpret a responder's profile over all KIDSCREEN-52 or KIDSCREEN-27 subscales instead of looking at single scale scores. This enables clinicians and researchers to gain a concise summary of a responder's individual HRQoL. This method is facilitated by the use of T-values and percentiles. The individual profiles can be described in terms of their average level, in terms of the dispersion across the different dimensions (in relation of the average dispersion) and concerning the shape of the profile. Furthermore, the individual profile can be compared with the profiles of specific populations (e.g. diagnosis groups) if such data are available. Or the individual profile can be compared with a taxonomy of empirically identified profile types (e.g. Cluster-analysis; Latent-class-analysis; Topological Artificial neural network) to be developed in the future. In the Appendices, both tables with reference data for the European data set are provided as well as tables with references which are calculated on the basis of the country data.

8 Copyright and Collaboration agreement

The KIDSCREEN Group holds the copyright for all KIDSCREEN instruments: KIDSCREEN-52, KIDSCREEN-27 and KIDSCREEN-10 index child and adolescent versions as well as parent/proxy versions.
Researchers using KIDSCREEN instruments shall not modify, abridge, condense, adapt, recast or transform the KIDSCREEN instruments in any manner or form without the prior written agreement of the KIDSCREEN Group. This includes but is not limited to any minor or significant change in wordings or organisation in the KIDSCREEN questionnaires. Researchers interested in using one of the KIDSCREEN instruments shall not translate KIDSCREEN without the prior written agreement of the KIDSCREEN Group. Researchers shall not reproduce the KIDSCREEN instruments except for the limited purpose of generating sufficient copies for use in registered investigations and shall in no event distribute copies of the KIDSCREEN instruments to third parties by sale, rental, lease, lending, or any other means. The KIDSCREEN Group will decide whether or not to institute legal proceedings against the infringing party.
In case of publication of study results, the potential user shall cite:

(1) Ravens-Sieberer, U., Gosch, A., Rajmil, L., Erhart, M., Bruil, J., Duer, W., Auquier, P., Power, M., Abel, T., Czemy, L., Mazur, J., Czimbalmos, A., Tountas, Y., Hagquist, C., Kilroe, J. and the European KIDSCREEN Group. (2005). KIDSCREEN-52 quality-of-life measure for children and adolescents. Expert Review of Pharmacoeconomics & Outcomes Research, 5 (3), 353-364.

(2) The KIDSCREEN Group Europe. (2006). The KIDSCREEN Questionnaires – Quality of life questionnaires for children and adolescents. Handbook. Lengerich: Pabst Science Publishers.

in the reference section of the publication (new publications may be added and older ones deleted).

Researchers and other potential users interested in using and/or translating one of the KIDSCREEN instruments are asked to fill in the collaboration form (see below), sign it and send it back to the German study centre per post or fax. After registration, the interested party will receive practical information (e.g. payment of fees, available translations) and a password to login to the "Members only" folder of the KIDSCREEN website (www.kidscreen.org). On the website, the potential user will find downloads such as the International KIDSCREEN Manual, the KIDSCREEN questionnaires and reference scores.
Contact person for copyright and collaboration agreement is

Prof. Dr. Ulrike Ravens-Sieberer
Project Coordinator
www.kidscreen.org

I. COLLABORATION between the KIDSCREEN Group and

Name (Title): _____

Institution: _____ Dept: _____

Street Address: _____

City: _____ State: _____ Zip (Postal) Code: _____

Country _____

Phone Number: (___) _____ Fax: _____

E-mail: _____

SUMMARY of the STUDY

_____

Title of the study:

_____

Type of Research:

_____

Objectives/ Design:

_____

Study population: (including the number of cases, age, illnesses/diseases)

_____

Measurement points:

_____

Other Instruments:

_____

Name of funder:

_____

Timeframe: Beginning of Study:
Expected end of Study:

_____

Questionnaire Version(s) *planned to be included:*

❑ KIDSCREEN-52 child & adolescent version
❑ KIDSCREEN-27 child & adolescent version
❑ KIDSCREEN-10 index child & adolescent version
❑ KIDSCREEN-52 parent version
❑ KIDSCREEN-27 parent version
❑ KIDSCREEN-10 index parent version

Language Version(s) planned to be included: _____

KIDSCREEN USER AGREEMENT

IMPORTANT REMARK: THE KIDSCREEN INSTRUMENTS MAY BE USED IN THE ABOVE MENTIONED INVESTIGATIONS WHEN THE FOLLOWING AGREEMENT IS COMPLETED AND SIGNED BY "USER".

The KIDSCREEN Group distributes the KIDSCREEN instruments and translations are so far available in Czech, Dutch, English (UK), French, German (AT, CH, DE), Greek, Hungarian, Polish, Spanish, Swedish language.

The User (Include name) _____ wishes to use the KIDSCREEN instruments.
Therefore, User and KIDSCREEN group agree as follows:

1. KIDSCREEN obligations

The KIDSCREEN Group shall deliver the original KIDSCREEN instruments and/or the translations requested by "User" subject to the following conditions:
The translations requested are available, the present agreement is duly completed and signed by "User", and payment of fee for the KIDSCREEN Manual Questionnaires is received.

2. "User"'s obligations

2.1 No modification
"User" shall not modify, abridge, condense, adapt, recast or transform the KIDSCREEN instruments in any manner or form, including but not limited to any minor or significant change in wordings or organisation in KIDSCREEN, without the prior written agreement of KIDSCREEN Group

2.2 No translation
"User" shall not translate KIDSCREEN, without the prior written agreement of the KIDSCREEN Group.

2.3 No reproduction
"User" shall not reproduce the KIDSCREEN instruments except for the limited purpose of generating sufficient copies for use in investigations stated hereunder and shall in no event distribute copies of the DISABKIDS instruments to third parties by sale, rental, lease, lending, or any others means.

2.4 Publication
In case of publication of study results, "User" shall cite
(1) Ravens-Sieberer, U., Gosch, A., Rajmil, L., Erhart, M., Bruil, J., Duer, W., Auquier, P., Power, M., Abel, T., Czemy, L., Mazur, J., Czimbalmos, A., Tountas, Y., Hagquist, C., Kilroe, J. and the European KIDSCREEN Group. (2005). KIDSCREEN-52 quality-of-life measure for children and adolescents. Expert Review of Pharmacoeconomics & Outcomes Research, 5 (3), 353-364,
(2) The KIDSCREEN Group Europe. (2006). The KIDSCREEN Questionnaires - Quality of life questionnaires for children and adolescents. Handbook. Lengerich: Pabst Science Publishers.
in reference section of the publication. (New publications may be added and older ones deleted).

2.5 Provision of data
All data, results and reports obtained by, or prepared in connection with the KIDSCREEN instruments shall remain the User's property. However, KIDSCREEN Group may request the User to share data, results and reports obtained through the use of the KIDSCREEN. KIDSCREEN Group shall ensure the anonymisation of such data at three levels, by the removal of: any patient identification, any university or company identification and any treatment information (where available). KIDSCREEN Group will classify and reorganise such anonymous data and therefore, shall hold all intellectual property rights regarding these data when and if submitted to the data pool. KIDSCREEN Group may provide such reorganised data to third parties, for analysis in education, research, consulting, and specifically for the evaluation of cross-cultural equivalence and development of reference values for this KIDSCREEN instruments or for any other similar project.

2.6 Payment

2.6.1 Royalty fees (Authors)
The use of the KIDSCREEN questionnaires is tied to obtaining the KIDSCREEN Manual. The Manual and all questionnaires in all existing languages as of January, 1, 2006 is available for 50 € (plus 10 € handling and shipping in Europe; 20 € handling and shipping elsewhere).

2.6.2 Distribution fees (KIDSCREEN Group)
The use of the KIDSCREEN instruments in studies will be subject to a distribution fee at a later timepoint, but not as long as it's development phase is formally completed.

3. Copyright Infringement

The KIDSCREEN instruments were developed by the KIDSCREEN Group (Project Co-ordination Prof. Dr. Ulrike Ravens-Sieberer MPH, Robert Koch Institute, Research Unit Psychosocial Health, Seestr. 10, 13353 Berlin, Germany *or* Prof. Dr. Ulrike Ravens-Sieberer MPH, Bielefeld University, School of Public Health, WHO-Collaborating Center for Child and Adolescent Health Promotion, 33501 Bielefeld, Germany).The KIDSCREEN Group holds copyright over the KIDSCREEN instruments and all its present and future translations. Each new translation will be made available to third parties once it is available, through KIDSCREEN Group, under the conditions described in the present document.
If, at any time during the term of this agreement, " User " learns of any infringement by a third party of any Intellectual Property Rights in connection with the KIDSCREEN instruments, " User " shall promptly notify KIDSCREEN Group. The KIDSCREEN Group will decide to institute or not proceedings against the infringing party.

4. Confidentiality

All and any information related to the KIDSCREEN instruments including but not limited to the following: information concerning clinical investigations, creations, systems, materials, software, data and know-how, translations, improvements ideas, specifications, documents, records, notebooks, drawings, and any repositories or representation of such information, whether oral or in writing or software stored, are herein referred to as confidential information. In consideration of the disclosure of any such confidential information to the other, each party agrees to hold such confidential information in confidence and not divulge it, in whole or in part, to any third party except for the purpose specified in this agreement.

5. Use of name

It is agreed that KIDSCREEN Group shall not disclose, whether by the public press or otherwise, the name of "User' or institution", to any third party to this agreement except to the copyright holder(s) of the KIDSCREEN instruments.

6. Liability

6.1 In case of breach of contract
In the event of total or partial breach by KIDSCREEN Group of any of its obligations hereunder, the KIDSCREEN Group's liability shall be limited to the direct loss or damage (excluding loss of profit and operating losses) suffered by "User" as a result of such breach and shall not include any other damages and particular consequential damages.

6.2 In the scope of the use of the "Questionnaire"
Under no circumstances may the KIDSCREEN Group be held liable for direct or consequential damage resulting from the use of the KIDSCREEN.

6.3 In the event of non-renewal of this Agreement
In the event of non-renewal of this Agreement by KIDSCREEN Group for any cause or failure by KIDSCREEN Group to conclude a new agreement with "User" upon the expiry of this Agreement, KIDSCREEN Group will have no liability for payment of any damages and/or indemnity to "User".

7. Term and termination

This agreement shall be effective as the date of its signature by "User" and shall at least or until the term of the study above mentioned in SUMMARY OF THE STUDY.
Either party may terminate this Agreement immediately upon providing written notice to the other party in the event of: (a) the other party's unexcused failure to fulfil any of its material obligations under this Agreement or (b) upon the insolvency or bankruptcy of, or the filing of a petition in bankruptcy or similar arrangement by the other party. Upon expiration or termination of this Agreement KIDSCREEN Group may retain in its possession confidential information it acquired from KIDSCREEN instruments while under contract. The obligations which by their terms survive provisions of this Agreement, shall survive termination.

8. Assignment

This Agreement and any of the rights and obligations of "User" are personal to the "User" and cannot be assigned or transferred by "User" to any third party or by operation of law, except with the written consent of KIDSCREEN Group notified to "User".

9. Separate Agreement

This Agreement holds for the above mentioned study only. The use of the KIDSCREEN instruments in any additional study of the "User" will require a separate agreement without additional fees, unless significant updates have been added to the user manual (new edition, etc.).

10. Entire Agreement, Modification, Enforceability

The entire agreement hereto is contained herein and this Agreement cancels and supersedes all prior agreements, oral or written, between the parties hereto with the respect to the subject matter hereto.
This Agreement or any of its terms may not be changed or amended except by written document and the failure by either party hereto to enforce any or all of the provision(s) of this Agreement shall not be deemed a waiver or an amendment of the same and shall not prevent future enforcement thereof.
If any one or more of the provisions or clauses of this Agreement are adjudged by a court to be invalid or unenforceable, this shall in no way prejudice or affect the binding nature of this Agreement as a whole, or the validity or enforceability of each/and every other provision of this Agreement.

11. Governing law

This Agreement shall be governed by and construed in accordance with the laws of the European Union.

9 Contact Addresses for support

DE. Germany
Prof. Dr. Ulrike Ravens-Sieberer
Robert Koch-Institute
Child and Adolescent Health
Seestraße 10
13353 Berlin
Phone: +49-30-4547-3436
Fax: +49-30-4547-3531
e-mail: Ravens-SiebererU@rki.de

AT. Austria
Dr. Wolfgang Duer
Ludwig Boltzmann-Institute for
Sociology of Health and Medicine
University of Vienna
Rooseveltplatz 2
1090 Vienna
Phone: +43-1-4277-48284
Fax: +43-1-4277-48290
e-mail: wolfgang.duer@univie.ac.at

CH. Switzerland
Prof. Dr. Thomas Abel
Social and Behavioural Health Research
Department of Social and Preventive
Medicine
University of Bern
Niesenweg 6
3012 Bern
Phone: +41-31-631-3512
Fax: +41-31-631-3430
e-mail: abel@ispm.unibe.ch

CZ. Czech Republic
Dr. Ladislav Csémy
Prague Psychiatric Centre
Ustavni 91
181 03 Praha 8
Phone: +420-2-66003-272
Fax: +420-2-66003-270
e-mail: csemy@pcp.lf3.cuni.cz

ES. Spain
Prof. Dr. Luis Rajmil
Agència d'Avaluació de Tecnologia
i Recerca Mèdiques. Recinte Parc Sanitari
Pere Virgili. Esteve Terradas 30. Edifici
Mestral. 1ª Planta 08023 Barcelona
Phone: +34 93 259 4223 or +34 93 259
4200
Fax: + 34 93 259 4201
e-mail: lrajmil@aatrm.catsalut.net

FR. France
Prof. Dr. Pascal Auquier
Department of Public Health
University Hospital of Marseille
27, Bd Jean Moulin
13385 MARSEILLE CEDEX 05
Phone: +33-49132-4474
Fax: +33-49179-7520
e-mail:
pascal.auquier@medecine.univ-mrs.fr

EL. Greece
Prof. Dr. Yannis Tountas
Institute of Social and Preventive
Medicine
25 Alexandroupoleos Street
11527 Athens
Phone: 0030 -210-74 82015
e-mail: chsr@med.uoa.gr

HU. Hungary
Dr. Agnes Czimbalmos
Health Promotion and Development Centre
Child Health Department
Andrássy 82
1062 Budapest
Phone: +36 1-428-8238
Fax: +36-1-428-8241
e-mail: agnes.czimbalmos@axelero.hu

IE. Ireland
Dr. Celia Keenaghan
Population Health Children and Young People's Team
Health Services Executive
3rd Floor, Bridgewater House
Rockwood Parade, Sligo
Phone: + 353 719174780
Fax: + 353 719138335
e-mail: celia.keenaghan@mailb.hse.ie

NL. The Netherlands
Dr. Symone Detmar
TNO Quality of Life
Child Health, Prevention and Physical Activity
P.O. Box 2215
2301 CE Leiden
Phone.: +31-71-518-1832
Fax: +31-71-518-1920
e-mail: SB.Detmar@pg.tno.nl

PL. Poland
Dr. Joanna Mazur
Department of Epidemiology
National Research Institute of Mother & Child
Ul. Kasprzaka 17a
01-211 Warsaw
Phone: + 48 22 32 77 325
Fax: + 48 22 32 77 325
e-mail: epid@imid.med.pl

SE. Sweden
Prof. Dr. Curt Hagquist
Karlstad University
SE-651 88 Karlstad
Phone: +46-54-7002536
Fax: +46-54-7002523
e-mail: curt.hagquist@kau.se

UK. United Kingdom
Prof. Dr. Mick Power
Department of Psychiatry
University of Edinburgh
Royal Edinburgh Hospital
Edinburgh EH10 5HF
Phone: +44-131-537-6578 or /79
Fax: +44-131-447-6760
e-mail: mjpower@staffmail.ed.ac.uk

10 References

Achenbach, T.M., McConaughy, S.H. & Howell, C.T. (1987). Child/adolescent behavioural and emotional problems: Implications of cross-informant correlations for situational specificity. Psychological Bulletin, 101 (2), 213-232.

Anderson, R.T., Aaronson, N.K. & Wilkin, D. (1993). Critical review of the international assessments of health-related quality of life. Quality of Life Research, 2 (6), 369-395.

Anderson, R.T., Aaronson, N.K., Leplege, A.P. & Wilkin, D. (1996). International Use and Application of Generic Health-related Quality of Life Instruments. In B. Spilker (Ed.). Quality of life and pharmacoeconomics in clinical trials. Philadelphia: Lippincott-Raven Publishers.

Bentler, P.M. (1999). Comparative fit indexes in structural models. Psychological Bulletin, 107, 238-246.

Bethell, C.D., Read, D., Neff, J., Blumberg, S.J., Stein, R.E., Sharp, V. & Newacheck, P.W. (2002a). Comparison of the children with special health care needs screener to the questionnaire for identifying children with chronic conditions-revised. Ambulatory Pediatrics, 2 (1), 49-57.

Bethell, C.D., Read, D., Stein, R.E., Blumberg, S.J., Wells, N. & Newacheck, P.W. (2002b) Identifying children with special health care needs: development and evaluation of a short screening instrument. Ambulatory Pediatrics, 2 (1), 38-48.

Braun, M. & Mohler, P.P. (2003). Background variables. In J. Harkness, F.J.R. van de Vijver & P.P. Mohler (Eds.). Cross-Cultural Survey Methods. Hoboken NJ: Wiley.

Brevik, J.I. & Dalgard, O. (1996). The Health Profile Inventory. Oslo.

Bortz, J. & Döring, N. (2002). Forschungsmethoden und Evaluation für Human- und Sozialwissenschaftler (3rd ed.). Berlin: Springer-Lehrbuch.

Browne, M.W. & Cuddeck, R. (1993). Alternative ways of assessing model fit. In K.A. Bollen & J.S. Long (Eds.). Testing structural equation models. Thousand Oaks, CA: Sage.

Bruil, J. (1999). Development of a quality of life instrument for children with a chronic illness. Doctoral dissertation University Leiden.

Bullinger, M., Power, M.J., Aaronson, N.K., Cella, D.F. & Anderson, R.T. (1996). Creating and Evaluating Cross-Cultural Instruments. In B. Spilker (Ed.). Quality of life and pharmacoeconomics in clinical trials. Philadelphia: Lippincott-Raven Publishers.

Bullinger, M. & Ravens-Sieberer, U. (1995). Health related QoL assessment in children: a review of the literature. European review of applied psychology, 45 (4), 245-254.

Bullinger, M., Schmidt, S., Petersen, C. & The-DISABKIDS-Group. (2002). Assessing quality of life of children with chronic health conditions and disabilities: A European approach. International Journal of Rehabilitation Research, 25, 197-206.

Cantril, H. (1965). The pattern of human concerns. New Brunswick, NJ: Rutgers University Press.

Center for Disease Control and Prevention. (2000). Measuring healthy days: Population assessment of health-related quality of life. Atlanta: CDC: Author.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences. (2nd ed.). Hillsdale: Lawrence Erlbaum.

Cohen, S., Underwood, L.G. & Gottlieb, B.H. (2000). Social support measurement and intervention. A guide for health and social scientists. Oxford: Oxford University Press.

Currie, C., Elton, R.A., Todd, J. & Platt, S. (1997). Indicators of socioeconomic status for adolescents: the WHO Health Behaviour in School-aged Children Survey. Health Education Research, 12 (3), 385-397.

Currie, C. et al. (1998). Health Behaviour in School-aged Children: a WHO Cross-National Survey (HBSC): Research Protocol for the 1997/98 Survey. Edingburgh: Research Unit in Health and Behavioural Change, University of Edinburgh.

Currie, C., Samdal, O., Boyce, W. & Smith, R. (eds.) (2001). Health Behaviour in School-aged Children: a WHO Cross-National Study (HBSC): Research Protocol for the 2001/2002 Survey. Child and Adolescent Health Research Unit, University of Edinburgh.

Dalgard, O. (1996). Community health profile: a tool for psychiatric prevention. In D.R. Trent & C.A. Reed (Eds.). Promotion of Mental Health (Volume 5). Aldershot: Avebury Press.

Davidoff, A.J. (2004). Identifying children with special health care needs in the National Health Interview Survey: a new resource for policy analysis. Health Services Research, 39, 53-71.

Detmar, S.B., Bruil, J., Ravens-Sieberer, U., Gosch, A., Bisegger, C., & The European Kidscreen Group (2006). A focus group approach in constructing the KIDSCREEN HRQOL questionnaire for children and adolescents. Quality of Life Research. Jan 2006, 1 - 9.

Dowrick, C., Casey, P. & Dalgard, O. (1998). The outcome of depression international network (ODIN): Background, methods and field trials. British Journal of Psychiatry, 172, 359-336.

Edwards, T.C., Huebner, C.E., Connell, F.A. & Patrickm, D.L. (2002). Adolescent quality of life, part I: conceptual and measurement model. Journal of Adolescence, 25 (3), 275-286.

Eiser, C. & Morse, R. (2001). Quality-of-life measures in chronic diseases of childhood. Health Technology Assessment, 5 (4), 1-157.

Ellert, U., Thomas, C., Ravens-Sieberer, U., Kosinksi, M., Björner, J.B., Dewey, J. & Ware, J.E. (2001). Using Item Response Theory to improve Qol Measures for Children - First Results from the Child Dynamic Assessment Project. Quality of Life Research, 10, 203.

Eurostat. European statistics. http://epp.eurostat.cec.eu.int/portal/page?_pageid=1090,1&_dad=portal&_schema=PORTAL.

Evans, D.R. (1994). Enhancing Quality of Life in the Population at Large. Social Indicators Research, 33, 47-88.

Ewing, J.A. (1984). Detecting Alcoholism: The CAGE Questionnaire. JAMA, 252,1905-1907.

Fallowfield, L. (1994). An overview of quality of life measurements. In M.R. Trimble & W.E. Dodson (eds.). Epilepsy and quality of life. New York: Raven Press.

Felder-Puig, R., Frey, E., Proksch, K., Varni, J.W., Gadner, H. & Topf, R.(2004).Validation of the German version of the Pediatric Quality of Life Inventory (PedsQL) in childhood cancer patients off treatment and children with epilepsy. Quality of Life Research, 13 (1), 223-234.

Ferguson, G.A. (1949). On the theory of test development. Psychometrika, 14, 61-68.

French, D. & Christie, M. (1996). Developing outcome measures for children: "Quality of life" assessment for pediatric asthma. In A. Huchinson, E. McColl, M. Christie & C. Riccalton (eds.). Health outcome measures in primary and out-patient care. Australia: Harwood Academic Publishers.

Goodman, R. (1997) The Strengths and Difficulties Questionnaire: a research note. Journal of Child Psychology and Psychiatry, and allied Disciplines, 38 (5), 581-586.

Goodman, R, Ford, T, Simmons, H, Getward, R, & Meltzer, H. (2000). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. Journal of Psychiatry, 177, 534-539.

Grob, A., Lüthi, R., Kaiser, F.G., Flammer, A., Mackinnon, A., & Wearing, A.J. (1991). Berner Fragebogen zum Wohlbefinden Jugendlicher (BFW). Diagnostica, 37, 66-75.

Harding, L. (2001). Children's quality of life assessment: A review of generic and health-related quality of life measures completed by children and adolescents. Clinical Psychology & Psychotherapy, 8, 79-96.

Helgeson, V.S. (2003). Social support and quality of life. Quality of Life Research, 12 (suppl. 1), 25-31.

Helsen, M., Vollebergh, W. & Meeus, W. (2000). Social Support from Parents and Friends and Emotional Problems in Adolescence. Journal of Youth and Adolescence, 29 (3), 319-335.

Herdman, M., Rajmil, L., Ravens-Sieberer, U., Bullinger, M., Power, M., Alonso, J. & The European Kidscreen and Disabkids Groups (2002). Expert consensus in the development of a European health-related quality of life measure for children and adolescents: a Delphi study. Acta Pediatrica, 91 (12), 1385-1390.

Hibell, B., Andersson, B., Ahlström, S., Balakireva, O., Bjarnason, T., Kokkevi, A. & Morgan. M. (2000). The 1999 ESPAD Report. Alcohol and Other Drug Use Among Students in 30 European Countries. The Swedish Council for Information on Alcohol and Other Drugs (CAN) and The Pompidou Group at the Council of Europe. Stockholm, Sweden. The Swedish Council for Information on Alcohol and Other Drugs (CAN). Modin Tryck AB: Stockholm (ISBN 91-7278-080-0).

Hu, L. & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling, 6 (1), 1-55.

Huebner, E.S. (1991a). Initial development of the Students' Life Satisfaction Scale. School Psychology International, 12, 231-240.

Huebner, E.S. (1991b). Further validation of the Students' Life Satisfaction Scale: The independence of satisfaction and affect ratings. Journal of Psychoeducational Assessment, 9, 363-368.

Huisman, M. & Goudriaan, H. (2001). Handling missing item responses due to item nonresponse and incomplete design. In, J. Bethlehem & S. van Buuren (Eds.): SSS'01 Symposium Statistical Software 2001. Missing values. Proceedings of a Symposium on incomplete data (pp. 57-73). Amsterdam: Section Statistical Programming, VVS/Candiesnten BV.

International Quality of Life Assessment (IQOLA) Project. http://www.iqola.org

ISCED 1997 International Standard Classification of Education. http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm

ISSP (International Social Survey Programme) www.issp.org

Koopman, H.M., Theunissen, N.C., Vogels, A.G.C., Zwinderman, K.A.H., Verloove-Vanhorick, S.P. & Wit, J.M. (1999). Health related quality of life of children with a chronic illness. Parent versus child report. Gedrag en Gezondheid, 27, 118-24.

Koopman, H.M., Bruil, J., Detmar, S.B., Baars, R.M., & Wit, J.M. (2003). Afdeling Kindergeneeskunde LUMC, J. Bruil & S. Detmar TNO Preventie en Gezondheid Afdeling Jeugd, Het meten van de Gezondheidsgerelateerde Kwaliteit van Leven van kinderen met een chronische ziekte, [Measurement of HRQOL in children with a chronic illness]. Tijdschrift voor kindergeneeskunde, 3 (71), 82-88.

Koot, R.W., de Heer, K., Oort, F.J., Hulshof, M.C., Bosch, D.A. & de Haes, J.C. (2004). Quality of life after brachytherapy in patients with glioblastoma multiforme. European Journal of Cancer, 40 (7), 1013-1020.

Koponen, P. & Aromaa, A. (2000). Survey Design and Methodology in National Health Interview and Health Examination Surveys. Review of literature, European survey experiences and recommendations. Available in: http://europa.eu.int/comm/health/ph_projects/2000/monitoring/fp_monitoring_2000_annexe14_04_en.pdf.

Kromeyer-Hauschild, K., Wabitsch, M., Kunze, D., Geller, F., Geiß, H.C., Hesse, V. et al. (2001). Perzentile für den Bodymass-Index für das Kindes- und Jugendalter unter Heranziehung verschiedener deutscher Stichproben. Monatsschrift für Kinderheilkunde, 149, 807-818.

La Greca, A. (ed). (1990). Through the eyes of the child: obtaining self-reports from children and adolescents. Boston: Allyn and Bacon.

Landgraft, J.M., Abetz, L. & Ware, J.E. (1996). The Child Health Questionnaire user's manual. First edition. Boston: The Health Institute. New England Medical Center.

Landgraf, J.M., Maunsell, E., Speechley, K.N., Bullinger, M., Campbell, S., Abetz, L. & Ware, J.E. (1998). Canadian-French, German and UK versions of the Child Health Questionnaire: methodology and preliminary item scaling results. Quality of Life Research, 7 (5), 433-445.

Loonen, H.J., Derkx, B.H., Koopman, H.M. & Heymans, H.S. (2002). Are parents able to rate the symptoms and quality of life of their offspring with IBD? Inflammatory Bowel Diseases, 8 (4), 270-276.

Marra, C.A., Levine, M., McKerrow, R. & Carleton, B.C. (1996). Overview of health-related quality-of-life measures for pediatric patients: application in the assessment of pharmacotherapeutic and pharmacoeconomic outcomes. Pharmacotherapy, 16 (5), 879-888.

Matza, L.S., Swensen, A.R., Flood, E.M., Secnik, K. & Leidy, N.K. (2004). Assessment of health-related quality of life in children: a review of conceptual, methodological, and regulatory issues. Value Health, 7 (1), 79-92.

Mazur, J. & Mierzejewska, E. (2003). Jakosc zycia zwiazana ze zdrowiem dzieci i mlodziezy - koncepcje metody badawcze i wybrane zastosowania. Medycyna Wieku Rozwojowego. (Health-related quality of life (HRQL) in children and adolescents - concepts, study methods and selected applications. Developmental Period Medicine, VII (1 Pt 2), 35-48.

McDowell, I. & Newell, C. (1996). Measuring Health. A Guide to Rating Scales and Questionnaires. Oxford University Press, New York.

Nosikov, A. & Gudex, C. (2003). EUROHIS: Developing Common Instruments for Health Surveys. Biomedical and Health Research, 57. Amsterdam: IOS Press.

Patrick, D.L., Edwards, T.C., & Topolski, T.D. (2002). Adolescent quality of life, part II: Initial validation of a new instrument. Journal of Adolescence, 25 (3), 287-300.

Raat, H., Bonsel, G.J., Essink-Bot M.L., Landgraf J.M. & Gemke R.J. (2002). Reliability and validity of comprehensive health status measures in children: The Child Health Questionnaire in relation to the Health Utilities Index. Journal of Clinical Epidemiology, 55, 67 - 76.

Rajmil, L., Berra, S., Erhart, M., Tebe, C., Bisegger, C., Duer, W., von Rueden, U., Alonso, J., Ravens-Sieberer, U. & The Kidscreen Group. Survey methods and representativeness of European national surveys of the KIDSCREEN study. Submitted to Value in Health.

Rajmil, L., Herdman, M., Fernández de Sanmamed, M.J., Detmar, S., Bruil, J., Ravens-Sieberer, U., Bullinger, M., Simeoni, M.-C., Auquier, P., & The Kidscreen Group (2004). Generic Health-related Quality of Life Instruments in Children and Adolescents: A Qualitative Analysis of Content. Journal of Adolescent Health, 34, 37-45.

Rasch, G. (1977). On specific objectivity: An attempt at formalizing the request for generality and validity of scientific statements. Danish Yearbook of Philosophy, 14, 58-94.

Ravens-Sieberer, U., & Bullinger, M. (1998). Assessing health-related quality of life in chronically ill children with the German KINDL: first psychometric and content analytical results. Quality of Life Research, 7, 399-407.

Ravens-Sieberer, U., Gosch, A., Abel, T., Auquier, P., Bellach, B.-M., Dür, W., Rajmil, L. & The European Kidscreen Group (2001). Quality of life in children and adolescents: a European public health perspective. Social and Preventive Medicine, 46, 297-302.

Ravens-Sieberer, U. (2001). The revised KINDL-R: Final results on reliability, validity and responsiveness of a modular HRQOL instrument for children and adolescents. 8. Conference of the International Society for Quality of Life Research (ISOQOL). Quality of Life Research, 10 (3), 199.

Ravens-Sieberer, U. (2003). Der Kindl-R Fragebogen zur Erfassung der gesundheitsbezogenen Lebensqualität bei Kindern und Jugendlichen - Revidierte Form. In: J. Schumacher, A. Klaiberg, & E. Brähler (Hrsg.), Diagnostische Verfahren zu Lebensqualität und Wohlbefinden (S. 184-188). Göttingen: Hogrefe.

Rigby, M. & Köhler, L. (Eds.) (2002). Child Health Indicators of Life and Development (CHILD) Report to the European Commission. Luxembourg: European Commission. http://europa.eu.int/comm/health/ph_projects/2000/monitoring/fp_monitoring_2000_exs_08_en.pdf.

Riley, A.W. (2004). Evidence that school-age children can self-report on their health. Ambulatory Pediatrics, 4 (4 Suppl), 371-376.

Rebok, G., Riley, A., Forrest, C., Starfield, B., Green, B., Robertson, J. & Tambor, E. (2001). Elementary school-aged children's report of their health: a cognitive testing study. Quality of Life Research, 10 (1), 59-70.

Reichenberg, K. & Broberg, A.G. (2000). Quality of life in childhood asthma: use of the Paediatric Asthma Quality of Life Questionnaire in a Swedish sample of children 7 to 9 years old. Acta Paediatrica, 89 (8), 989-995.

Rosenbaum, P.L. & Saigal, S. (1996). Measuring health-related quality of life in pediatric populations: conceptual issues. In B. Spilker (Ed.). Quality of life and pharmacoeconomics in clinical trials. Philadelphia: Lippincott-Raven Publishers.

Simeoni, M.C., Auquier, P., Antoniotti, S., Sapin, C. & San Marco, J.L. (2000). Validation of a French health-related quality of life instrument for adolescents: the VSP-A. Quality of Life Research, 9 (4), 393-403.

Smith, R.M., Schumaker, R.E. & Bush, M.J. (1998). Using item mean squares to evaluate fit to the Rasch model. Journal of Outcome Measurement, 2, 66-78.

Sneeuw, K.C.A., Aaronson, N.K., Sprangers, M.A.G., Detmar, S.B., Wever, L.D.V. & Schornage, J.H. (1998). Comparison of Patient and Proxy EORTC QLQ-C30 Ratings in Assessing the Quality of Life of Cancer Patients. Journal of Clinical Epidemiology, 51 (7), 617-631.

Spieth, L.E. & Harris, C. V. (1996). Assessment of health-related quality of life in children and adolescents: an integrative review. Journal of Pediatric Psychology, 21 (2), 175-193.

Starfield, B., Bergner, M., Ensminger, M., Riley, A., Ryan, S., Green, B., Skinner, A. & Kim, S. (1993). Adolescent health status measurement: The development of CHIP. Pediatrics, 91, 430-435.

Starfield, B., Riley, A.W., Green, B.F., Ensminger, M.E., Ryan, S.A., Kelleher, K., Kim-Harris, S., Johnston, D. & Vogel-Crawford, K. (1995). The adolescent CHIP: A population-based measure of health. Medical Care, 33, 553-566.

Starfield, B., Riley, A., Ensminger, M., Green, B., Ryan, S., Kim-Harris, S., Johnston, D. & Vogel, K. (1994/1997/2000). Manual for the Child Health and Illness Profile-Adolescent Edition (CHIP-AETM). Baltimore, MD: The Johns Hopkins University.

Theunissen, N.C., Vogels, T.G., Koopman, H.M., Verrips, G.H., Zwinderman, K.A., Verloove-Vanhorick, S.P. & Wit, J.M. (1998). The proxy problem: child report versus parent report in health-related quality of life research. Quality of Life Research, 7 (5), 387-397.

Topolski T, Edwards T.C. & Patrick D.L. (2004). Toward Youth Self-Report of Health and Quality of Life in Population Monitoring. Ambulatory Pediatrics (Supplement), 4 (4 Suppl), 387-394.

Varni, J.W., Seid, M. & Rode, C.A. (1999). The PedsQL: measurement model for the pediatric quality of life inventory. Medical Care, 37 (2), 126-139.

Varni, J.W., Seid, M. & Kurtin, P.S. (2001). PedsQL 4.0: reliability and validity of the Pediatric Quality of Life Inventory version 4.0 generic core scales in healthy and patient populations. Medical Care, 39 (8), 800-12.

Verrips, G.H., Vogels, A.G.C., Verloove-Vanhorick, S.P., Fekkes, M., Koopman, H.M., Kamphuis, R.P., Theunissen, N.C.M. & Wit, J.M. (1998). Health-Related Quality of Life Measure for Children - the TACQOL. J Applied Therapeutics, 1, 357-360.

Verrips, G.H.W., Vogels, A.G.C., den Ouden, A.L., Paneth, N. & Verloove-Vanhorick, S.P. (2000). Measuring health-related quality of life in adolescents: agreement between raters and between methods of administration. Child: Care, Health and Development, 26 (6), 457-469.

Vogels, T., Verrips, G.H., Verloove-Vanhorick, S.P., Fekkes, M., Kamphuis, R.P., Koopman, H.M., Theunissen, N.C. & Wit, J.M. (1998). Measuring health-related quality of life in children: the development of the TACQOL parent form. Quality of Life Research, 7 (5), 457-465.

Wallander, J.L., Schmitt, M. & Koot, H.M. (2004). Quality of life measurement in children and adolescents: issues, instruments, and applications. Journal of Clinical Psychology, 57 (4), 571-585.

Ware, J.E., Harris, W.J., Gandek, B., Rogers, B.W. & Reese, P.R. (1997). MAP-R for Windows: Multitrait/Multi-item Analysis Program - Revised User's Guide. Boston, MA: Health Assessment Lab.

Ware, J.E., Kosinski, M. & Keller, S.D. (1996). A 12-Item Short-Form Health Survey: Construction of scales and preliminary tests of reliability and validity. Medical Care, 34 (3), 220-233.

Weissman, M.M. (1996). SAS-Social Support Scale. In: I. McDowell & C. Newell (eds.).Measuring Health. A Guide to Rating Scales and Questionnaires. New York: Oxford University Press.

Whiteman, D. & Green, A. (1997). Wherein lies the truth? Assessment of agreement between parent proxy and child respondents. International Journal of Epidemiology, 26 (4), 855-859.

WHO, Constitution of the World Health Organization. 1948, Genf: WHO.

WHOQOL Group (1993). Study protocol for the World Health Organisation project to develop a quality of life assessment instrument (WHOQOL). Quality of Life Research, 2, 153-159.

List of Figures

List of Tables

The KIDSCREEN Health Related Quality of Life Questionnaires

Appendix A0

On the following pages, the KIDSCREEN questionnaires are printed using the English version. All language versions are available on the CD-ROM that is included in this manual and/or via internet: www.kidscreen.org

The questionnaires are presented in the following sequence:

KIDSCREEN-52
Health Questionnaire for Children and Young People

Child and Adolescent Version
8 to 18 Years
English (UK)

 www.kidscreen.org

Date: _____ _____
Month *Year*

Hello,

How are you? How do you feel? This is what we would like you to tell us.

Please read every question carefully. What answer comes to your mind first? Choose the box that fits your answer best and cross it.

Remember: This is not a test so there are no wrong answers. It is important that you answer all the questions and also that we can see your marks clearly. When you think of your answer please try to remember the last week.

You do not have to show your answers to anybody. Also, nobody who knows you will look at your questionnaire once you have finished it.

KIDSCREEN-52, Child and Adolescent Version
Page 1 of 7

1. Physical Activities and Health

1. **In general, how would you say your health is?**

- ○ excellent
- ○ very good
- ○ good
- ○ fair
- ○ poor

Thinking about the last week ...

	not at all	slightly	moderately	very	extremely
2. Have you felt fit and well?	○	○	○	○	○
3. Have you been physically active (e.g. running, climbing, biking)?	○	○	○	○	○
4. Have you been able to run well?	○	○	○	○	○

Thinking about the last week ...

	never	seldom	quite often	very often	always
5. Have you felt full of energy?	○	○	○	○	○

2. Feelings

Thinking about the last week ...

	not at all	slightly	moderately	very	extremely
1. Has your life been enjoyable?	○	○	○	○	○
2. Have you felt pleased that you are alive?	○	○	○	○	○
3. Have you felt satisfied with your life?	○	○	○	○	○

Thinking about the last week ...	never	seldom	quite often	very often	always
4. Have you been in a good mood?	○	○	○	○	○
5. Have you felt cheerful?	○	○	○	○	○
6. Have you had fun?	○	○	○	○	○

3. General Mood

Thinking about the last week ...	never	seldom	quite often	very often	always
1. Have you felt that you do everything badly?	○	○	○	○	○
2. Have you felt sad?	○	○	○	○	○
3. Have you felt so bad that you didn't want to do anything?	○	○	○	○	○
4. Have you felt that everything in your life goes wrong?	○	○	○	○	○
5. Have you felt fed up?	○	○	○	○	○
6. Have you felt lonely?	○	○	○	○	○
7. Have you felt under pressure?	○	○	○	○	○

4. About Yourself

	Thinking about the last week ...	never	seldom	quite often	very often	always
1.	Have you been happy with the way you are?	○	○	○	○	○
2.	Have you been happy with your clothes?	○	○	○	○	○
3.	Have you been worried about the way you look?	○	○	○	○	○
4.	Have you felt jealous of the way other girls and boys look?	○	○	○	○	○
5.	Would you like to change something about your body?	○	○	○	○	○

5. Free Time

	Thinking about the last week ...	never	seldom	quite often	very often	always
1.	Have you had enough time for yourself?	○	○	○	○	○
2.	Have you been able to do the things that you want to do in your free time?	○	○	○	○	○
3.	Have you had enough opportunity to be outside?	○	○	○	○	○
4.	Have you had enough time to meet friends?	○	○	○	○	○
5.	Have you been able to choose what to do in your free time?	○	○	○	○	○

6. Family and Home Life

Thinking about the last week ...

		not at all	slightly	moderately	very	extremely
1.	Have your parent(s) understood you?	○	○	○	○	○
2.	Have you felt loved by your parent(s)?	○	○	○	○	○

Thinking about the last week ...

		never	seldom	quite often	very often	always
3.	Have you been happy at home?	○	○	○	○	○
4.	Have your parent(s) had enough time for you?	○	○	○	○	○
5.	Have your parent(s) treated you fairly?	○	○	○	○	○
6.	Have you been able talk to your parent(s) when you wanted to?	○	○	○	○	○

7. Money Matters

Thinking about the last week ...

		never	seldom	quite often	very often	always
1.	Have you had enough money to do the same things as your friends?	○	○	○	○	○
2.	Have you had enough money for your expenses?	○	○	○	○	○

Thinking about the last week ...

		not at all	slightly	moderately	very	extremely
3.	Do you have enough money to do things with your friends?	○	○	○	○	○

8. Friends

Thinking about the last week ...

		never	seldom	quite often	very often	always
1.	Have you spent time with your friends?	○	○	○	○	○
2.	Have you done things with other girls and boys?	○	○	○	○	○
3.	Have you had fun with your friends?	○	○	○	○	○
4.	Have you and your friends helped each other?	○	○	○	○	○
5.	Have you been able to talk about everything with your friends?	○	○	○	○	○
6.	Have you been able to rely on your friends?	○	○	○	○	○

9. School and Learning

Thinking about the last week ...

		not at all	slightly	moderately	very	extremely
1.	Have you been happy at school?	○	○	○	○	○
2.	Have you got on well at school?	○	○	○	○	○
3.	Have you been satisfied with your teachers?	○	○	○	○	○

	Thinking about the last week ...	never	seldom	quite often	very often	always
4.	Have you been able to pay attention?	never ○	seldom ○	quite often ○	very often ○	always ○
5.	Have you enjoyed going to school?	never ○	seldom ○	quite often ○	very often ○	always ○
6.	Have you got along well with your teachers?	never ○	seldom ○	quite often ○	very often ○	always ○

10. Bullying

	Thinking about the last week ...	never	seldom	quite often	very often	always
1.	Have you been afraid of other girls and boys?	never ○	seldom ○	quite often ○	very often ○	always ○
2.	Have other girls and boys made fun of you?	never ○	seldom ○	quite often ○	very often ○	always ○
3.	Have other girls and boys bullied you?	never ○	seldom ○	quite often ○	very often ○	always ○

KIDSCREEN-27
Health Questionnaire for Children and Young People

Child and Adolescent Version
8 to 18 Years
English (UK)

 www.kidscreen.org

Date: _____ _____
Month *Year*

Hello,

How are you? How do you feel? This is what we would like you to tell us.

Please read every question carefully. What answer comes to your mind first? Choose the box that fits your answer best and cross it.

Remember: This is not a test so there are no wrong answers. It is important that you answer all the questions and also that we can see your marks clearly. When you think of your answer please try to remember the last week.

You do not have to show your answers to anybody. Also, nobody who knows you will look at your questionnaire once you have finished it.

KIDSCREEN-27, Child and Adolescent Version
Page 1 of 4

1. Physical Activities and Health

In general, how would you say your health is?

1. ○ excellent
   ○ very good
   ○ good
   ○ fair
   ○ poor

Thinking about the last week...

	not at all	slightly	moderately	very	extremely
2. Have you felt fit and well?	○	○	○	○	○
3. Have you been physically active (e. g. running, climbing, biking)?	○	○	○	○	○
4. Have you been able to run well?	○	○	○	○	○

Thinking about the last week...

	never	seldom	quite often	very often	always
5. Have you felt full of energy?	○	○	○	○	○

2. General Mood and Feelings about Yourself

Thinking about the last week...

	not at all	slightly	moderately	very	extremely
1. Has your life been enjoyable?	○	○	○	○	○

Thinking about the last week...

	never	seldom	quite often	very often	always
2. Have you been in a good mood?	○	○	○	○	○
3. Have you had fun?	○	○	○	○	○

	Thinking about the last week...	never	seldom	quite often	very often	always
4.	Have you felt sad?	○	○	○	○	○
5.	Have you felt so bad that you didn't want to do anything?	○	○	○	○	○
6.	Have you felt lonely?	○	○	○	○	○
7.	Have you been happy with the way you are?	○	○	○	○	○

3. Family and Free Time

	Thinking about the last week...	never	seldom	quite often	very often	always
1.	Have you had enough time for yourself?	○	○	○	○	○
2.	Have you been able to do the things that you want to do in your free time?	○	○	○	○	○
3.	Have your parent(s) had enough time for you?	○	○	○	○	○
4.	Have your parent(s) treated you fairly?	○	○	○	○	○
5.	Have you been able talk to your parent(s) when you wanted to?	○	○	○	○	○
6.	Have you had enough money to do the same things as your friends?	○	○	○	○	○
7.	Have you had enough money for your expenses?	○	○	○	○	○

4. Friends

Thinking about the last week...

		never	seldom	quite often	very often	always
1.	Have you spent time with your friends?	○	○	○	○	○
2.	Have you had fun with your friends?	○	○	○	○	○
3.	Have you and your friends helped each other?	○	○	○	○	○
4.	Have you been able to rely on your friends?	○	○	○	○	○

5. School and Learning

Thinking about the last week...

		not at all	slightly	moderately	very	extremely
1.	Have you been happy at school?	○	○	○	○	○
2.	Have you got on well at school?	○	○	○	○	○

Thinking about the last week...

		never	seldom	quite often	very often	always
3.	Have you been able to pay attention?	○	○	○	○	○
4.	Have you got along well with your teachers?	○	○	○	○	○

KIDSCREEN-10 Index
Health Questionnaire for Children and Young People

Child and Adolescent Version
8 to 18 Years
English (UK)

 www.kidscreen.org

Date: _____ _____
Month *Year*

Hello,

How are you? How do you feel? This is what we would like you to tell us.

Please read every question carefully. What answer comes to your mind first? Choose the box that fits your answer best and cross it.

Remember: This is not a test so there are no wrong answers. It is important that you answer all the questions and also that we can see your marks clearly. When you think of your answer please try to remember the last week.

You do not have to show your answers to anybody. Also, nobody who knows you will look at your questionnaire once you have finished it.

KIDSCREEN-10 Index, Child and Adolescent Version
Page 1 of 2

About Your Health

Thinking about the last week...

1.	Have you felt fit and well?	not at all ○	slightly ○	moderately ○	very ○	extremely ○
2.	Have you felt full of energy?	never ○	seldom ○	quite often ○	very often ○	always ○
3.	Have you felt sad?	never ○	seldom ○	quite often ○	very often ○	always ○
4.	Have you felt lonely?	never ○	seldom ○	quite often ○	very often ○	always ○
5.	Have you had enough time for yourself?	never ○	seldom ○	quite often ○	very often ○	always ○
6.	Have you been able to do the things that you want to do in your free time?	never ○	seldom ○	quite often ○	very often ○	always ○
7.	Have your parent(s) treated you fairly?	never ○	seldom ○	quite often ○	very often ○	always ○
8.	Have you had fun with your friends?	never ○	seldom ○	quite often ○	very often ○	always ○
9.	Have you got on well at school?	not at all ○	slightly ○	moderately ○	very ○	extremely ○
10.	Have you been able to pay attention?	never ○	seldom ○	quite often ○	very often ○	always ○

In general, how would you say your health is?

- ○ excellent
- ○ very good
- ○ good
- ○ fair
- ○ poor

KIDSCREEN-52
Health Questionnaire for Children and Young People

Parent Version
English (UK)

 www.kidscreen.org

Date: _____ _____
Month *Year*

Dear Parents,

How is your child? How does she/he feel? This is what we would like to know from you.

Please answer the following questions to the best of your knowledge, ensuring that the answers you give reflect the perspective of your child. Please try to remember your child's experiences over the last week...

KIDSCREEN-52, Parent Version
Page 1 of 7

1. Physical Activities and Health

1. **In general, how would your child rate her/his health?**

- ○ excellent
- ○ very good
- ○ good
- ○ fair
- ○ poor

Thinking about the last week ...

	not at all	slightly	moderately	very	extremely
2. Has your child felt fit and well?	○	○	○	○	○
3. Has your child been physically active (e.g. running, climbing, biking)?	○	○	○	○	○
4. Has your child been able to run well?	○	○	○	○	○

Thinking about the last week ...

	never	seldom	quite often	very often	always
5. Has your child felt full of energy?	○	○	○	○	○

2. Feelings

Thinking about the last week ...

	not at all	slightly	moderately	very	extremely
1. Has your child felt that life was enjoyable?	○	○	○	○	○
2. Has your child felt pleased that he/she is alive?	○	○	○	○	○
3. Has your child felt satisfied with his/her life?	○	○	○	○	○

	Thinking about the last week ...	never	seldom	quite often	very often	always
4.	Has your child been in a good mood?	○	○	○	○	○
5.	Has your child felt cheerful?	○	○	○	○	○
6.	Has your child had fun?	○	○	○	○	○

3. General Mood

	Thinking about the last week ...	never	seldom	quite often	very often	always
1.	Has your child felt that he/she does everything badly?	○	○	○	○	○
2.	Has your child felt sad?	○	○	○	○	○
3.	Has your child felt so bad that he/she didn't want to do anything?	○	○	○	○	○
4.	Has your child felt that everything in his/her life goes wrong?	○	○	○	○	○
5.	Has your child felt fed up?	○	○	○	○	○
6.	Has your child felt lonely?	○	○	○	○	○
7.	Has your child felt under pressure?	○	○	○	○	○

4. About Your Child

	Thinking about the last week ...	never	seldom	quite often	very often	always
1.	Has your child been happy with the way he/she is?	○	○	○	○	○
2.	Has your child been happy with his/her clothes?	○	○	○	○	○
3.	Has your child been worried about the way he/she looks?	○	○	○	○	○
4.	Has your child felt jealous of the way other girls and boys look?	○	○	○	○	○
5.	Has your child wanted to change something about his/her body?	○	○	○	○	○

5. Free Time

	Thinking about the last week ...	never	seldom	quite often	very often	always
1.	Has your child had enough time for him/herself?	○	○	○	○	○
2.	Has your child been able to do the things that he/she wants to do in his/her free time?	○	○	○	○	○
3.	Has your child had enough opportunity to be outside?	○	○	○	○	○
4.	Has your child had enough time to meet friends?	○	○	○	○	○
5.	Has your child been able to choose what to do in his/her free time?	○	○	○	○	○

6. Family and Home Life

	Thinking about the last week ...	not at all	slightly	moderately	very	extremely
1.	Has your child felt understood by his/her parent(s)?	○	○	○	○	○
2.	Has your child felt loved by his/her parent(s)?	○	○	○	○	○

	Thinking about the last week ...	never	seldom	quite often	very often	always
3.	Has your child been happy at home?	○	○	○	○	○
4.	Has your child felt that his/her parent(s) had enough time for him/her?	○	○	○	○	○
5.	Has your child felt that his/her parent(s) treated him/her fairly?	○	○	○	○	○
6.	Has your child been able to talk to his/her parent(s) when he/she wanted to?	○	○	○	○	○

7. Money matters

Thinking about the last week ...

		never	seldom	quite often	very often	always
1.	Has your child had enough money to do the same things as his/her friends?	○	○	○	○	○
2.	Has your child felt that he/she had enough money for his/her expenses?	○	○	○	○	○

Thinking about the last week ...

		not at all	slightly	moderately	very	extremely
3.	Does your child feel that he/she has enough money to do things with his/her friends?	○	○	○	○	○

8. Friends

Thinking about the last week ...

		never	seldom	quite often	very often	always
1.	Has your child spent time with his/her friends?	○	○	○	○	○
2.	Has your child done things with other girls and boys?	○	○	○	○	○
3.	Has your child had fun with his/her friends?	○	○	○	○	○
4.	Have your child and his/her friends helped each other?	○	○	○	○	○
5.	Has your child been able to talk about everything with his/her friends?	○	○	○	○	○
6.	Has your child been able to rely on his/her friends?	○	○	○	○	○

9. School and Learning

Thinking about the last week ...

		not at all	slightly	moderately	very	extremely
1.	Has your child been happy at school?	○	○	○	○	○
2.	Has your child got on well at school?	○	○	○	○	○
3.	Has your child been satisfied with his/her teachers?	○	○	○	○	○

Thinking about the last week ...

		never	seldom	quite often	very often	always
4.	Has your child been able to pay attention?	○	○	○	○	○
5.	Has your child enjoyed going to school?	○	○	○	○	○
6.	Has your child got along well with his/her teachers?	○	○	○	○	○

10. Bullying

Thinking about the last week ...

		never	seldom	quite often	very often	always
1.	Has your child been afraid of other girls and boys?	○	○	○	○	○
2.	Have other girls and boys made fun of your child?	○	○	○	○	○
3.	Have other girls and boys bullied your child?	○	○	○	○	○

KIDSCREEN-27
Health Questionnaire for Children and Young People

Parent Version
English (UK)

 www.kidscreen.org

Date: _____ _____
Month *Year*

Dear Parents,

How is your child? How does she/he feel? This is what we would like to know from you.

Please answer the following questions to the best of your knowledge, ensuring that the answers you give reflect the perspective of your child. Please try to remember your child's experiences over the last week...

KIDSCREEN-27, Parent Version
Page 1 of 4

1. Physical Activities and Health

1.	**In general, how would your child rate her/his health?**	○ excellent ○ very good ○ good ○ fair ○ poor

	Thinking about the last week ...	not at all	slightly	moderately	very	extremely
2.	Has your child felt fit and well?	○	○	○	○	○
3.	Has your child been physically active (e.g. running, climbing, biking)?	○	○	○	○	○
4.	Has your child been able to run well?	○	○	○	○	○

	Thinking about the last week ...	never	seldom	quite often	very often	always
5.	Has your child felt full of energy?	○	○	○	○	○

2. General Mood and Your Child's Feelings

	Thinking about the last week...	not at all	slightly	moderately	very	extremely
1.	Has your child felt that life was enjoyable?	○	○	○	○	○

	Thinking about the last week...	never	seldom	quite often	very often	always
2.	Has your child been in a good mood?	○	○	○	○	○
3.	Has your child had fun?	○	○	○	○	○

	Thinking about the last week...	never	seldom	quite often	very often	always
4.	Has your child felt sad?	○	○	○	○	○
5.	Has your child felt so bad that he/she didn't want to do anything?	○	○	○	○	○
6.	Has your child felt lonely?	○	○	○	○	○
7.	Has your child been happy with the way he/she is?	○	○	○	○	○

3. Family and Your Child's Free Time

	Thinking about the last week...	never	seldom	quite often	very often	always
1.	Has your child had enough time for him/herself?	○	○	○	○	○
2.	Has your child been able to do the things that he/she wants to do in his/her free time?	○	○	○	○	○
3.	Has your child felt that his/her parent(s) had enough time for him/her?	○	○	○	○	○
4.	Has your child felt that his/her parent(s) treated him/her fairly?	○	○	○	○	○
5.	Has your child been able to talk to his/her parent(s) when he/she wanted to?	○	○	○	○	○
6.	Has your child had enough money to do the same things as his/her friends?	○	○	○	○	○
7.	Has your child felt that he/she had enough money for his/her expenses?	○	○	○	○	○

4. Friends

Thinking about the last week...

		never	seldom	quite often	very often	always
1.	Has your child spent time with his/her friends?	○	○	○	○	○
2.	Has your child had fun with his/her friends?	○	○	○	○	○
3.	Have your child and his/her friends helped each other?	○	○	○	○	○
4.	Has your child been able to rely on his/her friends?	○	○	○	○	○

5. School and Learning

Thinking about the last week...

		not at all	slightly	moderately	very	extremely
1.	Has your child been happy at school?	○	○	○	○	○
2.	Has your child got on well at school?	○	○	○	○	○

Thinking about the last week...

		never	seldom	quite often	very often	always
3.	Has your child been able to pay attention?	○	○	○	○	○
4.	Has your child got along well with his/her teachers?	○	○	○	○	○

KIDSCREEN-10 Index
Health Questionnaire for Children and Young People

Parent Version
English (UK)

 www.kidscreen.org

Date: _____ _____
Month *Year*

Dear Parents,

How is your child? How does she/he feel? This is what we would like to know from you.

Please answer the following questions to the best of your knowledge, ensuring that the answers you give reflect the perspective of your child. Please try to remember your child's experiences over the last week...

KIDSCREEN-10 Index, Parent Version
Page 1 of 2

About Your Child's Health

Thinking about the last week...

1.	Has your child felt fit and well?	not at all	slightly	moderately	very	extremely
2.	Has your child felt full of energy?	never	seldom	quite often	very often	always
3.	Has your child felt sad?	never	seldom	quite often	very often	always
4.	Has your child felt lonely?	never	seldom	quite often	very often	always
5.	Has your child had enough time for him/herself?	never	seldom	quite often	very often	always
6.	Has your child been able to do the things that he/she wants to do in his/her free time?	never	seldom	quite often	very often	always
7.	Has your child felt that his/her parent(s) treated him/her fairly?	never	seldom	quite often	very often	always
8.	Has your child had fun with his/her friends?	never	seldom	quite often	very often	always
9.	Has your child got on well at school?	not at all	slightly	moderately	very	extremely
10.	Has your child been able to pay attention?	never	seldom	quite often	very often	always

In general, how would your child rate her/his health?

- O excellent
- O very good
- O good
- O fair
- O poor

KIDSCREEN Health Related Quality of Life Questionnaires

Appendix A1: Provision of European Norm Data for Children, Adolescents and Their Parents for Group Level Comparison

Table A1-1:
European Normdata KIDSCREEN children 8-11

Scale		Female								Male							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	2990	53,01	9,95	40,45	47,08	52,43	59,36	64,30	2854	54,47	9,90	42,53	47,08	55,60	59,36	64,30
	S	2990	75,16	17,48	50,00	66,67	77,78	88,89	94,44	2854	77,80	17,17	55,56	66,67	83,33	88,89	94,44
Psychological Well-being	T	3034	53,50	9,46	41,53	47,12	54,49	61,55	68,49	2884	53,27	9,33	41,53	47,12	54,49	57,60	68,49
	S	3034	82,67	15,28	62,50	75,00	87,50	95,83	100,00	2884	82,45	15,24	62,50	75,00	87,50	91,67	100,00
Moods & Emotions	T	2994	51,94	9,97	40,00	45,44	51,34	57,40	70,91	2849	52,34	9,97	41,21	45,44	51,34	57,40	70,91
	S	2994	81,79	15,65	60,71	75,00	85,71	92,86	100,00	2849	82,46	15,02	64,29	75,00	85,71	92,86	100,00
Self-Perception	T	3035	53,59	9,81	41,83	46,09	52,19	60,11	69,78	2876	55,40	9,57	43,17	47,78	55,38	60,11	69,78
	S	3035	80,83	17,67	55,00	70,00	85,00	95,00	100,00	2876	84,22	15,45	60,00	75,00	90,00	95,00	100,00
Autonomy	T	3036	51,23	9,83	38,98	45,17	50,77	56,27	68,75	2886	51,94	9,48	40,54	45,17	50,77	56,27	68,75
	S	3036	75,43	20,00	45,00	65,00	80,00	90,00	100,00	2886	77,16	18,62	50,00	65,00	80,00	90,00	100,00
Parent Relation & Home Life	T	3017	52,94	9,28	41,10	47,50	51,81	58,53	65,87	2867	52,34	9,08	41,10	45,72	51,81	58,53	65,87
	S	3017	84,49	16,06	62,50	79,17	87,50	95,83	100,00	2867	83,71	15,80	62,50	75,00	87,50	95,83	100,00
Social Support & Peers	T	2999	50,94	10,25	39,49	43,60	50,24	58,14	62,66	2833	50,30	9,82	39,49	43,60	50,24	54,93	62,66
	S	2999	75,28	19,23	50,00	62,50	79,17	91,67	95,83	2833	74,41	18,76	50,00	62,50	79,17	87,50	95,83
School Environment	T	2999	55,72	10,20	42,35	48,61	56,40	61,87	73,80	2863	53,27	10,58	39,53	45,34	52,23	58,88	65,94
	S	2999	77,52	18,34	50,00	66,67	83,33	91,67	100,00	2863	72,66	20,31	41,67	58,33	75,00	87,50	95,83
Bullying	T	3044	47,53	10,65	33,13	38,29	48,07	58,85	58,85	2898	47,62	10,42	33,13	38,29	48,07	58,85	58,85
	S	3044	85,06	18,82	58,33	75,00	91,67	100,00	100,00	2898	85,35	18,07	58,33	75,00	91,67	100,00	100,00
Financial Resources	T	2898	49,13	10,42	35,12	41,92	49,28	56,35	62,86	2774	48,61	10,47	35,12	41,92	49,28	56,35	62,86
	S	2898	68,84	28,16	25,00	50,00	75,00	91,67	100,00	2774	67,51	28,44	25,00	50,00	75,00	91,67	100,00

KIDSCREEN -27																	
Physical Well-being	T	2990	53,01	9,95	40,45	47,08	52,43	59,36	64,30	2854	54,47	9,90	42,53	47,08	55,60	59,36	64,30
	S	2990	75,97	16,86	50,00	65,00	80,00	90,00	95,00	2854	78,38	16,73	55,00	70,00	80,00	90,00	95,00
Psychological	T	3015	52,70	10,07	40,39	46,53	50,61	59,51	64,35	2854	53,40	9,79	41,75	46,53	53,07	59,51	64,35
	S	3015	81,21	14,64	60,71	75,00	82,14	92,86	96,43	2854	82,44	13,71	64,29	75,00	85,71	92,86	96,43
Autonomy & Parents	T	2888	51,73	10,46	39,47	45,25	51,21	55,75	63,99	2762	51,40	10,16	40,59	44,03	49,47	55,75	63,99
	S	2888	76,95	17,93	50,00	67,86	82,14	89,29	96,43	2762	76,59	17,33	53,57	64,29	78,57	89,29	96,43
Social Support & Peers	T	3031	51,20	10,13	37,86	44,40	49,79	57,83	66,34	2866	50,78	9,92	37,86	44,40	49,79	57,83	66,34
	S	3031	79,03	19,12	50,00	68,75	81,25	93,75	100,00	2866	78,43	18,82	50,00	68,75	81,25	93,75	100,00
School Environment	T	3019	55,13	10,17	42,94	48,09	54,40	62,84	71,00	2879	52,89	10,42	40,72	45,38	51,08	58,16	71,00
	S	3019	78,72	17,87	56,25	68,75	81,25	93,75	100,00	2879	74,49	19,52	50,00	62,50	75,00	87,50	100,00
KIDSCREEN-10																	
General HRQoL Index	T	2937	53,82	10,80	41,24	46,94	53,11	59,85	66,86	2772	54,00	10,66	42,27	46,94	53,11	59,85	66,86
	S	2937	79,47	13,65	60,00	72,50	82,50	90,00	95,00	2772	79,86	13,06	62,50	72,50	82,50	90,00	95,00

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-2:
European Normdata KIDSCREEN adolescents 12-18

Scale		Female								Male							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	8077	46,83	9,15	36,55	40,45	47,08	52,43	59,36	7139	50,54	9,81	38,47	44,73	49,63	55,60	64,30
	S	8077	63,35	19,28	38,89	50,00	66,67	77,78	88,89	7139	70,67	18,62	44,44	61,11	72,22	83,33	94,44
Psychological Well-being	T	8179	47,82	10,06	35,50	41,53	47,12	54,49	61,55	7181	49,69	9,67	38,37	43,25	49,34	54,49	61,55
	S	8179	72,47	19,61	45,83	62,50	75,00	87,50	95,83	7181	76,27	17,74	54,17	66,67	79,17	87,50	95,83
Moods & Emotions	T	8156	47,59	9,73	35,65	41,21	47,15	54,02	62,06	7178	50,99	9,74	38,86	43,91	49,09	57,40	62,06
	S	8156	74,20	18,63	46,43	64,29	78,57	89,29	96,43	7178	80,42	15,93	57,14	71,43	82,14	92,86	96,43
Self-Perception	T	8176	45,70	9,00	36,43	40,52	44,58	49,76	55,38	7189	51,20	9,32	40,52	44,58	49,76	55,38	69,78
	S	8176	63,78	21,96	35,00	50,00	65,00	80,00	90,00	7189	76,70	18,19	50,00	65,00	80,00	90,00	100,00
Autonomy	T	8180	48,01	9,93	35,61	42,06	46,85	53,22	60,52	7191	50,96	9,98	38,98	43,59	50,77	56,27	68,75
	S	8180	68,47	22,02	35,00	55,00	70,00	85,00	95,00	7191	74,71	20,17	45,00	60,00	80,00	90,00	100,00
Parent Relation & Home Life	T	8104	48,36	10,38	35,66	41,10	47,50	54,65	65,87	7127	49,67	9,75	38,33	42,55	49,50	54,65	65,87
	S	8104	75,46	21,13	45,83	62,50	79,17	91,67	100,00	7127	78,53	18,71	54,17	66,67	83,33	91,67	100,00
Social Support & Peers	T	8114	50,17	9,95	38,15	43,60	50,24	54,93	62,66	7154	49,30	9,98	38,15	43,60	48,35	54,93	62,66
	S	8114	74,05	19,53	45,83	62,50	79,17	87,50	95,83	7154	72,48	19,59	45,83	62,50	75,00	87,50	95,83
School Environment	T	8063	48,40	8,95	38,15	42,35	48,61	54,22	58,88	7096	48,08	9,55	36,77	42,35	46,94	54,22	58,88
	S	8063	63,41	19,89	37,50	50,00	66,67	79,17	87,50	7096	62,54	21,04	33,33	50,00	62,50	79,17	87,50
Bullying	T	8160	51,31	9,47	38,29	42,20	58,85	58,85	58,85	7184	50,53	9,76	38,29	42,20	58,85	58,85	58,85
	S	8160	90,80	15,05	75,00	83,33	100,00	100,00	100,00	7184	89,81	15,92	75,00	83,33	100,00	100,00	100,00
Financial Resources	T	8154	50,08	9,81	37,47	41,92	49,28	56,35	62,86	7150	50,80	9,77	37,47	44,18	49,28	62,86	62,86
	S	8154	71,66	26,14	33,33	50,00	75,00	91,67	100,00	7150	73,51	25,72	33,33	58,33	75,00	100,00	100,00

KIDSCREEN -27																	
Physical Well-being	T	8077	46,83	9,15	36,55	40,45	47,08	52,43	59,36	7139	50,54	9,81	38,47	44,73	49,63	55,60	64,30
	S	8077	64,88	18,71	40,00	55,00	65,00	80,00	90,00	7139	72,05	17,96	50,00	60,00	75,00	85,00	95,00
Psychological	T	8142	47,30	9,58	35,49	40,39	46,53	53,07	59,51	7156	50,57	9,70	39,10	44,80	50,61	55,96	64,35
	S	8142	72,35	17,64	46,43	60,71	75,00	85,71	92,86	7156	78,12	15,57	57,14	71,43	82,14	89,29	96,43
Autonomy & Parents	T	8045	48,53	9,75	37,16	41,72	47,93	53,25	59,06	7067	50,40	9,79	39,47	44,03	49,47	55,75	63,99
	S	8045	71,21	19,27	42,86	57,14	75,00	85,71	92,86	7067	74,99	17,75	50,00	64,29	78,57	89,29	96,43
Social Support & Peers	T	8161	50,07	9,97	37,86	44,40	49,79	57,83	66,34	7188	49,10	9,93	37,86	42,09	49,79	57,83	66,34
	S	8161	77,06	19,66	50,00	68,75	81,25	93,75	100,00	7188	75,40	19,75	50,00	62,50	81,25	93,75	100,00
School Environment	T	8102	48,54	9,15	38,68	42,94	48,09	54,40	62,84	7130	48,32	9,68	36,74	42,94	48,09	54,40	62,84
	S	8102	66,57	19,32	43,75	56,25	68,75	81,25	93,75	7130	65,87	20,47	37,50	56,25	68,75	81,25	93,75
KIDSCREEN-10																	
General HRQoL Index	T	7938	47,21	8,98	37,42	41,24	45,67	51,36	59,85	6970	49,97	9,40	39,28	43,35	48,29	55,07	62,94
	S	7938	69,72	15,34	50,00	60,00	70,00	80,00	90,00	6970	74,43	14,09	55,00	65,00	75,00	85,00	92,50

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-3:
European Normdata KIDSCREEN females & males

Scale		Children 8-11								Adolescents 12-18							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	5848	53,72	9,96	40,45	47,08	52,43	59,36	64,30	15239	48,57	9,64	36,55	42,53	47,08	55,60	59,36
	S	5848	76,43	17,39	50,00	66,67	77,78	88,89	94,44	15239	66,79	19,32	38,89	55,56	66,67	83,33	88,89
Psychological Well-being	T	5926	53,38	9,40	41,53	47,12	54,49	61,55	68,49	15385	48,70	9,92	36,91	41,53	49,34	54,49	61,55
	S	5926	82,55	15,27	62,50	75,00	87,50	95,83	100,00	15385	74,25	18,85	50,00	62,50	79,17	87,50	95,83
Moods & Emotions	T	5850	52,15	9,97	40,00	45,44	51,34	57,40	70,91	15358	49,18	9,89	37,76	42,50	49,09	54,02	62,06
	S	5850	82,13	15,34	60,71	75,00	85,71	92,86	100,00	15358	77,11	17,70	53,57	67,86	82,14	89,29	96,43
Self-Perception	T	5918	54,48	9,74	43,17	47,78	52,19	60,11	69,78	15388	48,28	9,56	37,85	41,83	47,78	52,19	60,11
	S	5918	82,48	16,71	60,00	75,00	85,00	95,00	100,00	15388	69,82	21,29	40,00	55,00	75,00	85,00	95,00
Autonomy	T	5930	51,57	9,67	40,54	45,17	50,77	56,27	68,75	15396	49,40	10,06	37,35	42,06	48,70	56,27	68,75
	S	5930	76,27	19,37	50,00	65,00	80,00	90,00	100,00	15396	71,40	21,40	40,00	55,00	75,00	90,00	100,00
Parent Relation & Home Life	T	5892	52,65	9,18	41,10	45,72	51,81	58,53	65,87	15256	48,98	10,11	36,98	42,55	49,50	54,65	65,87
	S	5892	84,10	15,94	62,50	75,00	87,50	95,83	100,00	15256	76,90	20,09	50,00	66,67	83,33	91,67	100,00
Social Support & Peers	T	5840	50,62	10,05	39,49	43,60	50,24	54,93	62,66	15290	49,76	9,97	38,15	43,60	48,35	54,93	62,66
	S	5840	74,85	19,02	50,00	62,50	79,17	87,50	95,83	15290	73,32	19,57	45,83	62,50	75,00	87,50	95,83
School Environment	T	5869	54,52	10,46	40,92	46,94	54,22	61,87	73,80	15182	48,25	9,24	36,77	42,35	48,61	54,22	58,88
	S	5869	75,13	19,49	45,83	62,50	79,17	91,67	100,00	15182	63,01	20,45	33,33	50,00	66,67	79,17	87,50
Bullying	T	5950	47,58	10,54	33,13	38,29	48,07	58,85	58,85	15368	50,94	9,62	38,29	42,20	58,85	58,85	58,85
	S	5950	85,21	18,45	58,33	75,00	91,67	100,00	100,00	15368	90,32	15,49	75,00	83,33	100,00	100,00	100,00
Financial Resources	T	5679	48,88	10,45	35,12	41,92	49,28	56,35	62,86	15327	50,42	9,80	37,47	44,18	49,28	62,86	62,86
	S	5679	68,18	28,31	25,00	50,00	75,00	91,67	100,00	15327	72,53	25,96	33,33	58,33	75,00	100,00	100,00

KIDSCREEN -27																	
Physical Well-being	T	5848	53,72	9,96	40,45	47,08	52,43	59,36	64,30	15239	48,57	9,64	36,55	42,53	47,08	55,60	59,36
	S	5848	77,13	16,84	55,00	65,00	80,00	90,00	95,00	15239	68,24	18,71	45,00	55,00	70,00	80,00	90,00
Psychological	T	5876	53,04	9,94	41,75	46,53	53,07	59,51	64,35	15323	48,83	9,78	36,66	41,75	48,45	53,07	59,51
	S	5876	81,81	14,20	64,29	75,00	85,71	92,86	96,43	15323	75,06	16,95	50,00	64,29	78,57	85,71	92,86
Autonomy & Parents	T	5657	51,57	10,32	39,47	44,03	49,47	55,75	63,99	15135	49,41	9,81	38,33	42,86	47,93	55,75	63,99
	S	5657	76,76	17,65	50,00	64,29	78,57	89,29	96,43	15135	72,98	18,66	46,43	60,71	75,00	89,29	96,43
Social Support & Peers	T	5905	51,00	10,04	37,86	44,40	49,79	57,83	66,34	15372	49,62	9,96	37,86	42,09	49,79	57,83	66,34
	S	5905	78,74	18,99	50,00	68,75	81,25	93,75	100,00	15372	76,29	19,71	50,00	62,50	81,25	93,75	100,00
School Environment	T	5905	54,03	10,36	40,72	45,38	54,40	62,84	71,00	15255	48,44	9,41	36,74	42,94	48,09	54,40	62,84
	S	5905	76,64	18,82	50,00	62,50	81,25	93,75	100,00	15255	66,25	19,87	37,50	56,25	68,75	81,25	93,75
KIDSCREEN-10																	
General HRQoL Index	T	5715	53,90	10,73	42,27	46,94	53,11	59,85	66,86	14932	48,51	9,28	38,34	42,27	46,94	53,11	59,85
	S	5715	79,65	13,38	62,50	72,50	82,50	90,00	95,00	14932	71,93	14,95	52,50	62,50	72,50	82,50	90,00

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-4:
European Normdata KIDSCREEN children & adolescents 8-18

Scale		Female								Male							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	11067	48,50	9,77	36,55	42,53	47,08	55,60	59,36	9993	51,66	10,00	40,45	44,73	52,43	59,36	64,30
	S	11067	66,54	19,52	38,89	55,56	66,67	83,33	88,89	9993	72,71	18,50	50,00	61,11	77,78	88,89	94,44
Psychological Well-being	T	11213	49,36	10,21	36,91	43,25	49,34	54,49	61,55	10065	50,71	9,71	38,37	45,10	49,34	57,60	68,49
	S	11213	75,23	19,08	50,00	66,67	79,17	87,50	95,83	10065	78,05	17,29	54,17	70,83	79,17	91,67	100,00
Moods & Emotions	T	11150	48,76	9,99	36,70	42,50	47,15	54,02	62,06	10027	51,37	9,83	40,00	43,91	51,34	57,40	62,06
	S	11150	76,24	18,19	50,00	67,86	78,57	89,29	96,43	10027	81,00	15,70	60,71	71,43	85,71	92,86	96,43
Self-Perception	T	11211	47,84	9,87	36,43	41,83	46,09	52,19	60,11	10065	52,40	9,58	41,83	46,09	49,76	60,11	69,78
	S	11211	68,39	22,22	35,00	55,00	70,00	85,00	95,00	10065	78,85	17,78	55,00	70,00	80,00	95,00	100,00
Autonomy	T	11216	48,88	10,00	37,35	42,06	48,70	56,27	60,52	10077	51,24	9,85	38,98	45,17	50,77	56,27	68,75
	S	11216	70,36	21,71	40,00	55,00	75,00	90,00	95,00	10077	75,41	19,77	45,00	65,00	80,00	90,00	100,00
Parent Relation & Home Life	T	11121	49,60	10,30	36,98	42,55	49,50	58,53	65,87	9994	50,44	9,64	38,33	44,09	49,50	58,53	65,87
	S	11121	77,91	20,28	50,00	66,67	83,33	95,83	100,00	9994	80,02	18,08	54,17	70,83	83,33	95,83	100,00
Social Support & Peers	T	11113	50,37	10,03	38,15	43,60	50,24	54,93	62,66	9987	49,58	9,95	38,15	43,60	48,35	54,93	62,66
	S	11113	74,38	19,45	45,83	62,50	79,17	87,50	95,83	9987	73,03	19,37	45,83	62,50	75,00	87,50	95,83
School Environment	T	11062	50,38	9,86	38,15	43,82	50,37	56,40	61,87	9959	49,57	10,13	38,15	42,35	48,61	56,40	61,87
	S	11062	67,24	20,47	37,50	54,17	70,83	83,33	91,67	9959	65,45	21,33	37,50	50,00	66,67	83,33	91,67
Bullying	T	11204	50,28	9,95	35,44	42,20	58,85	58,85	58,85	10082	49,70	10,04	35,44	42,20	48,07	58,85	58,85
	S	11204	89,24	16,36	66,67	83,33	100,00	100,00	100,00	10082	88,53	16,69	66,67	83,33	91,67	100,00	100,00
Financial Resources	T	11052	49,83	9,98	37,47	41,92	49,28	56,35	62,86	9924	50,19	10,02	37,47	41,92	49,28	62,86	62,86
	S	11052	70,92	26,72	33,33	50,00	75,00	91,67	100,00	9924	71,83	26,64	33,33	50,00	75,00	100,00	100,00

KIDSCREEN -27																	
Physical Well-being	T	11067	48,50	9,77	36,55	42,53	47,08	55,60	59,36	9993	51,66	10,00	40,45	44,73	52,43	59,36	64,30
	S	11067	67,87	18,88	40,00	55,00	70,00	80,00	90,00	9993	73,86	17,85	50,00	65,00	75,00	85,00	95,00
Psychological	T	11157	48,76	10,01	36,66	41,75	48,45	55,96	64,35	10010	51,37	9,81	40,39	44,80	50,61	55,96	64,35
	S	11157	74,75	17,34	50,00	64,29	78,57	89,29	96,43	10010	79,35	15,19	60,71	71,43	82,14	89,29	96,43
Autonomy & Parents	T	10933	49,38	10,04	38,33	42,86	47,93	55,75	63,99	9829	50,68	9,91	39,47	44,03	49,47	55,75	63,99
	S	10933	72,73	19,09	46,43	60,71	75,00	89,29	96,43	9829	75,43	17,64	50,00	64,29	78,57	89,29	96,43
Social Support & Peers	T	11192	50,38	10,02	37,86	44,40	49,79	57,83	66,34	10054	49,58	9,96	37,86	44,40	49,79	57,83	66,34
	S	11192	77,59	19,53	50,00	68,75	81,25	93,75	100,00	10054	76,27	19,54	50,00	68,75	81,25	93,75	100,00
School Environment	T	11121	50,33	9,88	38,68	42,94	51,08	58,16	62,84	10009	49,63	10,11	36,74	42,94	48,09	54,40	62,84
	S	11121	69,87	19,69	43,75	56,25	75,00	87,50	93,75	10009	68,35	20,58	37,50	56,25	68,75	81,25	93,75
KIDSCREEN-10																	
General HRQoL Index	T	10875	49,00	9,95	37,42	42,27	48,29	55,07	62,94	9742	51,12	9,94	40,24	44,48	49,76	57,29	62,94
	S	10875	72,35	15,51	50,00	62,50	75,00	85,00	92,50	9742	75,98	14,02	57,50	67,50	77,50	87,50	92,50

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-5:
European Normdata KIDSCREEN females & males, children & adolescents age 8-18 (self report & proxy report).

Scale		Self report 8-18								proxy							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	21087	50,00	10,00	38,47	42,53	49,63	55,60	64,30	15696	49,98	10,01	36,70	43,66	49,54	55,89	63,68
	S	21087	69,46	19,29	44,44	55,56	72,22	83,33	94,44	15696	72,08	17,75	50,00	60,00	75,00	85,00	95,00
Psychological Well-being	T	21311	50,00	10,00	36,91	43,25	49,34	57,60	61,55	15777	49,99	10,00	36,88	43,47	48,87	58,18	61,09
	S	21311	76,56	18,31	50,00	66,67	79,17	91,67	95,83	15777	74,94	15,40	54,17	66,67	75,00	87,50	91,67
Moods & Emotions	T	21208	50,00	10,00	37,76	42,50	49,09	57,40	62,06	15723	49,99	9,99	37,97	43,87	48,57	58,00	62,68
	S	21208	78,50	17,23	53,57	67,86	82,14	92,86	96,43	15723	81,38	13,39	64,29	75,00	82,14	92,86	96,43
Self-Perception	T	21306	50,00	10,00	39,21	43,17	47,78	55,38	69,78	15816	49,99	10,00	38,88	42,28	49,11	56,18	61,43
	S	21306	73,34	20,90	45,00	60,00	75,00	90,00	100,00	15816	76,72	16,75	55,00	65,00	80,00	90,00	95,00
Autonomy	T	21326	50,00	10,00	37,35	43,59	48,70	56,27	68,75	15897	50,01	10,01	37,60	43,48	48,22	57,07	67,95
	S	21326	72,76	20,97	40,00	60,00	75,00	90,00	100,00	15897	75,32	18,01	50,00	65,00	75,00	90,00	100,00
Parent Relation & Home Life	T	21148	50,00	10,00	36,98	42,55	49,50	58,53	65,87	15709	50,00	10,01	38,16	42,33	49,38	58,45	62,45
	S	21148	78,91	19,30	50,00	66,67	83,33	95,83	100,00	15709	77,70	15,60	58,33	66,67	79,17	91,67	95,83
Social Support & Peers	T	21130	50,00	10,00	38,15	43,60	48,35	54,93	62,66	15485	49,99	10,01	38,60	44,42	50,73	55,44	63,16
	S	21130	73,74	19,43	45,83	62,50	75,00	87,50	95,83	15485	67,93	18,09	45,83	58,33	70,83	79,17	91,67
School Environment	T	21051	50,00	10,00	38,15	43,82	48,61	56,40	61,87	15697	49,99	10,00	37,40	43,31	49,75	57,01	62,47
	S	21051	66,39	20,90	37,50	54,17	66,67	83,33	91,67	15697	69,43	17,87	45,83	58,33	70,83	83,33	91,67
Bullying	T	21318	50,00	10,00	35,44	42,20	48,07	58,85	58,85	15871	50,00	9,99	34,63	44,83	50,55	58,83	58,83
	S	21318	88,90	16,53	66,67	83,33	91,67	100,00	100,00	15871	88,43	15,15	66,67	83,33	91,67	100,00	100,00
Financial Resources	T	21006	50,00	10,00	37,47	41,92	49,28	56,35	62,86	15595	50,00	10,00	35,23	43,31	51,90	59,33	65,02
	S	21006	71,35	26,69	33,33	50,00	75,00	91,67	100,00	15595	66,71	25,57	25,00	50,00	75,00	91,67	100,00

KIDSCREEN -27																	
Physical Well-being	T	21087	50,00	10,00	38,47	42,53	49,63	55,60	64,30	15696	49,98	10,01	36,70	43,66	49,54	55,89	63,68
	S	21087	70,71	18,64	45,00	60,00	75,00	85,00	95,00	15696	72,08	17,75	50,00	60,00	75,00	85,00	95,00
Psychological	T	21199	50,00	10,00	37,87	43,21	48,45	55,96	64,35	15679	49,99	10,00	38,18	44,27	49,37	55,67	63,08
	S	21199	76,93	16,52	53,57	67,86	78,57	89,29	96,43	15679	77,16	13,03	60,71	71,43	78,57	85,71	92,86
Autonomy & Parents	T	20792	50,00	10,00	38,33	42,86	49,47	55,75	63,99	15456	50,00	10,01	39,05	43,79	49,10	56,01	62,95
	S	20792	74,01	18,47	46,43	60,71	78,57	89,29	96,43	15456	73,40	15,61	53,57	64,29	75,00	85,71	92,86
Social Support & Peers	T	21277	50,00	10,00	37,86	44,40	49,79	57,83	66,34	15627	50,00	10,01	37,06	42,91	49,14	56,13	63,69
	S	21277	76,97	19,55	50,00	68,75	81,25	93,75	100,00	15627	69,05	18,28	43,75	56,25	68,75	81,25	93,75
School Environment	T	21160	50,00	10,00	38,68	42,94	48,09	54,40	62,84	15748	49,99	10,00	38,14	44,38	51,42	55,40	63,68
	S	21160	69,15	20,13	43,75	56,25	68,75	81,25	93,75	15748	70,89	17,35	50,00	62,50	75,00	81,25	93,75
KIDSCREEN-10																	
General HRQoL Index	T	20647	50,00	10,00	38,34	43,35	48,29	55,07	62,94	15361	49,99	10,00	38,76	43,30	48,58	54,89	62,85
	S	20647	74,07	14,94	52,50	65,00	75,00	85,00	92,50	15361	74,88	12,03	60,00	67,50	75,00	82,50	90,00

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-6:
European Normdata proxy KIDSCREEN children 8-11

Scale		Female								Male							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	2721	52,10	9,46	41,08	46,50	52,68	59,38	63,68	2605	53,20	9,49	41,08	46,50	52,68	59,38	63,68
	S	2721	75,93	15,86	55,00	65,00	75,00	90,00	95,00	2605	77,59	15,88	55,00	70,00	80,00	90,00	95,00
Psychological Well-being	T	2738	52,29	9,42	41,22	45,95	52,12	58,18	64,41	2601	51,45	9,49	39,05	45,95	52,12	58,18	64,41
	S	2738	78,50	13,81	62,50	70,83	79,17	87,50	95,83	2601	77,27	14,01	58,33	70,83	79,17	87,50	95,83
Moods & Emotions	T	2735	51,68	9,52	39,81	46,12	51,28	58,00	62,68	2599	51,21	9,73	39,81	43,87	51,28	58,00	62,68
	S	2735	83,77	12,26	67,86	78,57	85,71	92,86	96,43	2599	83,09	12,57	67,86	75,00	85,71	92,86	96,43
Self-Perception	T	2739	51,51	9,84	40,51	44,25	49,11	56,18	70,98	2614	54,33	9,79	42,28	46,48	52,27	61,43	70,98
	S	2739	79,49	15,33	60,00	70,00	80,00	90,00	100,00	2614	83,88	13,42	65,00	75,00	85,00	95,00	100,00
Autonomy	T	2758	50,21	9,14	39,51	43,48	50,95	57,07	61,01	2626	50,48	8,92	39,51	45,72	50,95	57,07	61,01
	S	2758	76,09	16,32	55,00	65,00	80,00	90,00	95,00	2626	76,70	15,90	55,00	70,00	80,00	90,00	95,00
Parent Relation & Home Life	T	2727	51,73	9,43	40,20	44,54	52,12	58,45	62,45	2596	51,17	9,32	40,20	44,54	52,12	58,45	62,45
	S	2727	80,55	13,92	62,50	70,83	83,33	91,67	95,83	2596	79,77	13,95	62,50	70,83	83,33	91,67	95,83
Social Support & Peers	T	2689	50,64	9,34	38,60	44,42	50,73	55,44	63,16	2556	50,09	9,49	38,60	44,42	50,73	55,44	60,37
	S	2689	69,24	16,73	45,83	58,33	70,83	79,17	91,67	2556	68,27	17,21	45,83	58,33	70,83	79,17	87,50
School Environment	T	2748	54,82	9,64	41,28	47,52	54,52	62,47	66,08	2610	52,19	10,14	39,29	45,39	52,09	59,60	66,08
	S	2748	77,81	15,78	54,17	66,67	79,17	91,67	95,83	2610	73,20	17,32	50,00	62,50	75,00	87,50	95,83
Bullying	T	2750	48,37	10,14	34,63	39,34	50,55	58,83	58,83	2628	47,58	10,52	34,63	39,34	50,55	58,83	58,83
	S	2750	86,25	15,63	66,67	75,00	91,67	100,00	100,00	2628	84,98	16,48	66,67	75,00	91,67	100,00	100,00
Financial Resources	T	2642	50,79	10,34	37,95	43,31	51,90	59,33	65,02	2501	49,82	10,22	35,23	43,31	51,90	55,39	65,02
	S	2642	68,52	26,15	33,33	50,00	75,00	91,67	100,00	2501	66,28	26,10	25,00	50,00	75,00	83,33	100,00

KIDSCREEN -27																	
Physical Well-being	T	2721	52,10	9,46	41,08	46,50	52,68	59,38	63,68	2605	53,20	9,49	41,08	46,50	52,68	59,38	63,68
	S	2721	75,93	15,86	55,00	65,00	75,00	90,00	95,00	2605	77,59	15,88	55,00	70,00	80,00	90,00	95,00
Psychological	T	2720	51,90	9,56	40,07	46,67	52,38	55,67	63,08	2587	51,54	9,58	40,07	44,27	52,38	55,67	63,08
	S	2720	79,79	11,70	64,29	75,00	82,14	85,71	92,86	2587	79,33	11,87	64,29	71,43	82,14	85,71	92,86
Autonomy & Parents	T	2644	51,03	9,83	40,61	43,79	49,10	56,01	62,95	2493	50,45	9,46	39,05	43,79	49,10	56,01	62,95
	S	2644	75,15	14,63	57,14	64,29	75,00	85,71	92,86	2493	74,45	14,61	53,57	64,29	75,00	85,71	92,86
Social Support & Peers	T	2714	50,66	9,31	39,97	45,94	52,59	56,13	63,69	2583	50,20	9,47	39,97	45,94	49,14	56,13	63,69
	S	2714	70,37	16,87	50,00	62,50	75,00	81,25	93,75	2583	69,59	17,31	50,00	62,50	68,75	81,25	93,75
School Environment	T	2750	54,30	9,45	41,24	47,69	55,40	59,34	70,67	2612	51,53	10,08	38,14	44,38	51,42	59,34	63,68
	S	2750	78,19	15,19	56,25	68,75	81,25	87,50	100,00	2612	73,46	16,99	50,00	62,50	75,00	87,50	93,75
KIDSCREEN-10																	
General HRQoL Index	T	2685	52,19	9,76	40,20	44,96	50,56	57,30	66,25	2539	51,61	9,79	40,20	44,96	50,56	57,30	66,25
	S	2685	77,69	10,93	62,50	70,00	77,50	85,00	92,50	2539	76,99	11,32	62,50	70,00	77,50	85,00	92,50

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-7:
European Normdata proxy KIDSCREEN adolescent 12-18

Scale		Female								Male							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	5601	47,13	9,78	34,77	41,08	46,50	52,68	59,38	4746	50,33	9,95	38,78	43,66	49,54	55,89	63,68
	S	5601	67,11	18,33	40,00	55,00	70,00	80,00	90,00	4746	72,70	17,50	50,00	60,00	75,00	85,00	95,00
Psychological Well-being	T	5642	48,75	10,28	34,75	41,22	48,87	55,25	61,09	4774	49,35	9,95	36,88	41,22	48,87	55,25	61,09
	S	5642	72,93	16,24	50,00	62,50	75,00	83,33	91,67	4774	73,99	15,45	54,17	62,50	75,00	83,33	91,67
Moods & Emotions	T	5618	48,66	10,02	36,22	41,77	48,57	54,36	62,68	4748	49,94	10,13	37,97	43,87	48,57	58,00	62,68
	S	5618	79,54	13,87	60,71	71,43	82,14	89,29	96,43	4748	81,23	13,51	64,29	75,00	82,14	92,86	96,43
Self-Perception	T	5667	46,57	9,44	35,81	40,51	44,25	52,27	61,43	4773	50,81	9,54	40,51	44,25	49,11	56,18	61,43
	S	5667	70,51	18,05	45,00	60,00	70,00	85,00	95,00	4773	78,61	15,07	60,00	70,00	80,00	90,00	95,00
Autonomy	T	5690	48,98	10,63	35,66	41,43	48,22	57,07	67,95	4800	50,85	10,18	37,60	43,48	50,95	57,07	67,95
	S	5690	73,13	19,58	45,00	60,00	75,00	90,00	100,00	4800	76,71	17,86	50,00	65,00	80,00	90,00	100,00
Parent Relation & Home Life	T	5627	49,06	10,39	36,17	42,33	49,38	55,13	62,45	4736	49,47	10,05	36,17	42,33	49,38	55,13	62,45
	S	5627	76,07	16,60	54,17	66,67	79,17	87,50	95,83	4736	76,85	15,81	54,17	66,67	79,17	87,50	95,83
Social Support & Peers	T	5572	50,05	10,29	36,67	42,46	50,73	55,44	63,16	4648	49,49	10,29	36,67	42,46	50,73	55,44	63,16
	S	5572	67,93	18,60	41,67	54,17	70,83	79,17	91,67	4648	66,95	18,65	41,67	54,17	70,83	79,17	91,67
School Environment	T	5585	48,79	9,41	37,40	41,28	47,52	54,52	59,60	4732	47,39	9,55	35,64	41,28	47,52	54,52	59,60
	S	5585	67,48	17,25	45,83	54,17	66,67	79,17	87,50	4732	64,78	17,97	41,67	54,17	66,67	79,17	87,50
Bullying	T	5677	51,42	9,48	39,34	44,83	58,83	58,83	58,83	4793	50,58	9,84	39,34	44,83	50,55	58,83	58,83
	S	5677	90,40	14,13	75,00	83,33	100,00	100,00	100,00	4793	89,21	14,82	75,00	83,33	91,67	100,00	100,00
Financial Resources	T	5649	49,88	9,90	37,95	43,31	48,85	59,33	65,02	4781	49,77	9,79	35,23	43,31	48,85	55,39	65,02
	S	5649	66,40	25,36	33,33	50,00	66,67	91,67	100,00	4781	66,25	25,17	25,00	50,00	66,67	83,33	100,00

KIDSCREEN -27																	
Physical Well-being	T	5601	47,13	9,78	34,77	41,08	46,50	52,68	59,38	4746	50,33	9,95	38,78	43,66	49,54	55,89	63,68
	S	5601	67,11	18,33	40,00	55,00	70,00	80,00	90,00	4746	72,70	17,50	50,00	60,00	75,00	85,00	95,00
Psychological	T	5609	48,36	10,08	36,38	42,08	46,67	55,67	63,08	4741	49,98	10,05	38,18	44,27	49,37	55,67	63,08
	S	5609	74,90	13,72	57,14	67,86	75,00	85,71	92,86	4741	77,14	13,06	60,71	71,43	78,57	85,71	92,86
Autonomy & Parents	T	5587	49,22	10,20	37,49	42,18	49,10	56,01	62,95	4709	50,10	10,11	39,05	43,79	49,10	56,01	62,95
	S	5587	71,99	16,33	50,00	60,71	75,00	85,71	92,86	4709	73,50	15,64	53,57	64,29	75,00	85,71	92,86
Social Support & Peers	T	5610	49,96	10,31	37,06	42,91	49,14	56,13	63,69	4699	49,53	10,30	37,06	42,91	49,14	56,13	63,69
	S	5610	68,90	18,84	43,75	56,25	68,75	81,25	93,75	4699	68,15	18,85	43,75	56,25	68,75	81,25	93,75
School Environment	T	5608	49,23	9,64	38,14	41,24	47,69	55,40	63,68	4756	47,56	9,75	35,35	41,24	47,69	55,40	59,34
	S	5608	69,70	16,89	50,00	56,25	68,75	81,25	93,75	4756	66,64	17,68	43,75	56,25	68,75	81,25	87,50
KIDSCREEN-10																	
General HRQoL Index	T	5487	48,55	10,11	36,03	41,71	48,58	54,89	62,85	4627	49,54	9,77	38,76	43,30	48,58	54,89	62,85
	S	5487	72,94	12,61	55,00	65,00	75,00	82,50	90,00	4627	74,38	11,82	60,00	67,50	75,00	82,50	90,00

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-8:
European Normdata proxy KIDSCREEN females & males

Scale		Children 8-11								Adolescents 12-18							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	5331	52,65	9,49	41,08	46,50	52,68	59,38	63,68	10365	48,60	9,99	36,70	41,08	49,54	55,89	63,68
	S	5331	76,75	15,89	55,00	65,00	80,00	90,00	95,00	10365	69,67	18,17	45,00	60,00	70,00	85,00	90,00
Psychological Well-being	T	5344	51,88	9,46	39,05	45,95	52,12	58,18	64,41	10433	49,03	10,14	34,75	41,22	48,87	55,25	61,09
	S	5344	77,91	13,92	58,33	70,83	79,17	87,50	95,83	10433	73,42	15,90	50,00	62,50	75,00	83,33	91,67
Moods & Emotions	T	5339	51,46	9,62	39,81	43,87	51,28	58,00	62,68	10384	49,24	10,10	36,22	41,77	48,57	54,36	62,68
	S	5339	83,44	12,41	67,86	75,00	85,71	92,86	96,43	10384	80,31	13,74	60,71	71,43	82,14	89,29	96,43
Self-Perception	T	5358	52,89	9,91	40,51	46,48	52,27	61,43	70,98	10458	48,51	9,72	37,33	42,28	46,48	52,27	61,43
	S	5358	81,63	14,59	60,00	75,00	85,00	95,00	100,00	10458	74,21	17,23	50,00	65,00	75,00	85,00	95,00
Autonomy	T	5389	50,34	9,03	39,51	43,48	50,95	57,07	61,01	10508	49,84	10,47	37,60	43,48	48,22	57,07	67,95
	S	5389	76,40	16,11	55,00	65,00	80,00	90,00	95,00	10508	74,77	18,89	50,00	65,00	75,00	90,00	100,00
Parent Relation & Home Life	T	5328	51,46	9,38	40,20	44,54	52,12	58,45	62,45	10381	49,25	10,23	36,17	42,33	49,38	55,13	62,45
	S	5328	80,18	13,93	62,50	70,83	83,33	91,67	95,83	10381	76,43	16,24	54,17	66,67	79,17	87,50	95,83
Social Support & Peers	T	5250	50,38	9,42	38,60	44,42	50,73	55,44	63,16	10235	49,80	10,29	36,67	42,46	50,73	55,44	63,16
	S	5250	68,77	16,97	45,83	58,33	70,83	79,17	91,67	10235	67,49	18,62	41,67	54,17	70,83	79,17	91,67
School Environment	T	5363	53,54	9,97	41,28	47,52	52,09	59,60	66,08	10334	48,15	9,50	35,64	41,28	47,52	54,52	59,60
	S	5363	75,57	16,70	54,17	66,67	75,00	87,50	95,83	10334	66,24	17,63	41,67	54,17	66,67	79,17	87,50
Bullying	T	5383	47,98	10,33	34,63	39,34	50,55	58,83	58,83	10488	51,04	9,65	39,34	44,83	58,83	58,83	58,83
	S	5383	85,63	16,06	66,67	75,00	91,67	100,00	100,00	10488	89,86	14,45	75,00	83,33	100,00	100,00	100,00
Financial Resources	T	5147	50,32	10,29	37,40	43,31	51,90	59,33	65,02	10448	49,84	9,85	35,23	43,31	48,85	55,39	65,02
	S	5147	67,45	26,14	31,67	50,00	75,00	91,67	100,00	10448	66,35	25,27	25,00	50,00	66,67	83,33	100,00

KIDSCREEN -27																	
Physical Well-being	T	5331	52,65	9,49	41,08	46,50	52,68	59,38	63,68	10365	48,60	9,99	36,70	41,08	49,54	55,89	63,68
	S	5331	76,75	15,89	55,00	65,00	80,00	90,00	95,00	10365	69,67	18,17	45,00	60,00	70,00	85,00	90,00
Psychological	T	5312	51,72	9,57	40,07	46,67	52,38	55,67	63,08	10367	49,10	10,10	36,38	42,08	49,37	55,67	63,08
	S	5312	79,57	11,78	64,29	75,00	82,14	85,71	92,86	10367	75,93	13,47	57,14	67,86	78,57	85,71	92,86
Autonomy & Parents	T	5142	50,76	9,66	39,05	43,79	49,10	56,01	62,95	10314	49,63	10,16	37,49	43,79	49,10	56,01	62,95
	S	5142	74,82	14,63	53,57	64,29	75,00	85,71	92,86	10314	72,69	16,03	50,00	64,29	75,00	85,71	92,86
Social Support & Peers	T	5302	50,44	9,39	39,97	45,94	52,59	56,13	63,69	10325	49,77	10,30	37,06	42,91	49,14	56,13	63,69
	S	5302	70,00	17,09	50,00	62,50	75,00	81,25	93,75	10325	68,56	18,84	43,75	56,25	68,75	81,25	93,75
School Environment	T	5367	52,95	9,86	38,14	47,69	51,42	59,34	63,68	10381	48,47	9,73	35,35	41,24	47,69	55,40	59,34
	S	5367	75,89	16,26	50,00	68,75	75,00	87,50	93,75	10381	68,30	17,33	43,75	56,25	68,75	81,25	87,50
KIDSCREEN-10																	
General HRQoL Index	T	5229	51,91	9,78	40,20	44,96	50,56	57,30	66,25	10132	49,00	9,98	37,37	41,71	48,58	54,89	62,85
	S	5229	77,36	11,12	62,50	70,00	77,50	85,00	92,50	10132	73,60	12,28	57,50	65,00	75,00	82,50	90,00

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

Table A1-9:
European Normdata proxy KIDSCREEN children & adolscents 8-18

Scale		Female								Male							
		n	Mean	sd	Percentiles					n	Mean	sd	Percentiles				
					10	25	50	75	90				10	25	50	75	90
KIDSCREEN-52																	
Physical Well-being	T	8322	48,75	9,95	36,70	41,08	49,54	55,89	63,68	7351	51,35	9,89	38,78	43,66	52,68	59,38	63,68
	S	8322	69,99	18,04	45,00	60,00	70,00	85,00	95,00	7351	74,43	17,10	50,00	65,00	75,00	85,00	95,00
Psychological Well-being	T	8380	49,91	10,15	36,88	43,47	48,87	58,18	61,09	7375	50,09	9,84	36,88	43,47	48,87	58,18	61,09
	S	8380	74,75	15,71	54,17	66,67	75,00	87,50	91,67	7375	75,15	15,04	54,17	66,67	75,00	87,50	91,67
Moods & Emotions	T	8353	49,65	9,96	36,22	43,87	48,57	54,36	62,68	7347	50,39	10,01	37,97	43,87	51,28	58,00	62,68
	S	8353	80,93	13,51	60,71	75,00	82,14	89,29	96,43	7347	81,89	13,22	64,29	75,00	85,71	92,86	96,43
Self-Perception	T	8406	48,18	9,84	37,33	42,28	46,48	52,27	61,43	7387	52,06	9,77	40,51	44,25	49,11	56,18	70,98
	S	8406	73,43	17,71	50,00	65,00	75,00	85,00	95,00	7387	80,47	14,72	60,00	70,00	80,00	90,00	100,00
Autonomy	T	8448	49,38	10,18	35,66	43,48	48,22	57,07	61,01	7426	50,72	9,75	37,60	43,48	50,95	57,07	67,95
	S	8448	74,10	18,63	45,00	65,00	75,00	90,00	95,00	7426	76,71	17,19	50,00	65,00	80,00	90,00	100,00
Parent Relation & Home Life	T	8354	49,94	10,16	36,17	42,33	49,38	58,45	62,45	7332	50,07	9,83	38,16	44,54	49,38	55,13	62,45
	S	8354	77,53	15,91	54,17	66,67	79,17	91,67	95,83	7332	77,89	15,24	58,33	70,83	79,17	87,50	95,83
Social Support & Peers	T	8261	50,24	9,99	38,60	44,42	50,73	55,44	63,16	7204	49,70	10,02	36,67	42,46	50,73	55,44	63,16
	S	8261	68,36	18,03	45,83	58,33	70,83	79,17	91,67	7204	67,42	18,16	41,67	54,17	70,83	79,17	91,67
School Environment	T	8333	50,78	9,90	37,40	43,31	49,75	57,01	62,47	7342	49,10	10,03	37,40	41,28	49,75	54,52	62,47
	S	8333	70,89	17,46	45,83	58,33	70,83	83,33	91,67	7342	67,77	18,19	45,83	54,17	70,83	79,17	91,67
Bullying	T	8427	50,42	9,81	39,34	44,83	50,55	58,83	58,83	7421	49,52	10,19	34,63	44,83	50,55	58,83	58,83
	S	8427	89,04	14,76	75,00	83,33	91,67	100,00	100,00	7421	87,71	15,56	66,67	83,33	91,67	100,00	100,00
Financial Resources	T	8291	50,17	10,05	37,95	43,31	51,90	59,33	65,02	7282	49,79	9,94	35,23	43,31	51,90	55,39	65,02
	S	8291	67,07	25,63	33,33	50,00	75,00	91,67	100,00	7282	66,26	25,49	25,00	50,00	75,00	83,33	100,00

KIDSCREEN -27																	
Physical Well-being	T	8322	48,75	9,95	36,70	41,08	49,54	55,89	63,68	7351	51,35	9,89	38,78	43,66	52,68	59,38	63,68
	S	8322	69,99	18,04	45,00	60,00	70,00	85,00	95,00	7351	74,43	17,10	50,00	65,00	75,00	85,00	95,00
Psychological	T	8329	49,52	10,05	36,38	42,08	49,37	55,67	63,08	7328	50,53	9,91	38,18	44,27	49,37	55,67	63,08
	S	8329	76,50	13,29	57,14	67,86	78,57	85,71	92,86	7328	77,91	12,69	60,71	71,43	78,57	85,71	92,86
Autonomy & Parents	T	8231	49,80	10,12	37,49	43,79	49,10	56,01	62,95	7202	50,22	9,89	39,05	43,79	49,10	56,01	62,95
	S	8231	73,00	15,87	50,00	64,29	75,00	85,71	92,86	7202	73,83	15,30	53,57	64,29	75,00	85,71	92,86
Social Support & Peers	T	8324	50,19	10,00	37,06	42,91	52,59	56,13	63,69	7282	49,77	10,02	37,06	42,91	49,14	56,13	63,69
	S	8324	69,38	18,24	43,75	56,25	75,00	81,25	93,75	7282	68,66	18,33	43,75	56,25	68,75	81,25	93,75
School Environment	T	8358	50,90	9,87	38,14	44,38	51,42	59,34	63,68	7368	48,96	10,05	35,35	41,24	47,69	55,40	63,68
	S	8358	72,49	16,83	50,00	62,50	75,00	87,50	93,75	7368	69,06	17,74	43,75	56,25	68,75	81,25	93,75
KIDSCREEN-10																	
General HRQoL Index	T	8172	49,74	10,14	37,37	43,30	48,58	54,89	62,85	7166	50,27	9,83	38,76	43,30	48,58	57,30	62,85
	S	8172	74,50	12,28	57,50	67,50	75,00	82,50	90,00	7166	75,30	11,71	60,00	67,50	75,00	85,00	90,00

T = international T-values based on Rasch person parameter
S = Sumscore transformed into values between 0 -100

KIDSCREEN Health Related Quality of Life Questionnaires

Appendix A2: Provision of European Norm Data for Children and Adolescents for Individual Diagnostic Use

Table A2-1:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Physical Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3421)		Males (n=3263)		All (n=6684)		Females (n=8368)		Males (n=7216)		All (n=15584)		Females (n=11789)		Males (n=10479)		All (n=22268)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	0.00							0.1	17.4	0.1	12.0	0.1	15.6	0.1	16.0	0.0	10.6	0.1	14.0
6	5.56	0.1	10.2	0.2	8.4	0.1	9.5	0.4	20.3	0.3	15.0	0.4	18.5	0.3	18.8	0.3	13.6	0.3	16.9
7	11.11	0.2	13.4	0.3	11.6	0.3	12.7	1.0	23.1	0.6	18.0	0.8	21.4	0.7	21.7	0.5	16.6	0.7	19.8
8	16.67	0.4	16.6	0.7	14.9	0.6	15.9	2.1	26.0	1.1	21.0	1.6	24.2	1.6	24.5	1.0	19.6	1.3	22.7
9	22.22	1.1	19.8	1.0	18.1	1.0	19.0	3.5	28.9	1.9	24.0	2.8	27.1	2.8	27.4	1.6	22.7	2.2	25.6
10	27.78	1.7	23.0	1.6	21.3	1.7	22.2	5.9	31.8	3.0	27.0	4.6	30.0	4.7	30.2	2.6	25.7	3.7	28.4
11	33.33	2.6	26.2	2.6	24.5	2.6	25.4	9.2	34.6	4.7	30.0	7.1	32.9	7.3	33.1	4.0	28.7	5.8	31.3
12	38.89	4.4	29.4	3.8	27.7	4.2	28.6	13.9	37.5	7.3	33.0	10.9	35.7	11.2	35.9	6.2	31.7	8.8	34.2
13	44.44	7.3	32.6	6.1	31.0	6.7	31.8	20.4	40.4	11.2	35.9	16.1	38.6	16.6	38.8	9.6	34.7	13.3	37.1
14	50.00	11.4	35.8	9.5	34.2	10.5	35.0	28.7	43.3	16.7	38.9	23.2	41.5	23.7	41.6	14.5	37.7	19.4	40.0
15	55.56	16.8	39.0	13.7	37.4	15.3	38.2	38.8	46.2	23.6	41.9	31.7	44.4	32.4	44.5	20.5	40.7	26.8	42.9
16	61.11	24.8	42.2	20.4	40.6	22.7	41.4	50.1	49.0	32.9	44.9	42.2	47.2	42.8	47.3	29.0	43.7	36.3	45.7
17	66.67	34.4	45.4	27.7	43.8	31.2	44.6	60.6	51.9	43.6	47.9	52.7	50.1	53.0	50.2	38.7	46.8	46.3	48.6
18	72.22	46.1	48.6	37.3	47.0	41.8	47.8	71.2	54.8	55.3	50.9	63.8	53.0	63.9	53.0	49.7	49.8	57.2	51.5
19	77.78	58.3	51.8	49.6	50.3	54.1	51.0	80.6	57.7	67.7	53.9	74.6	55.8	74.1	55.8	62.1	52.8	68.5	54.4
20	83.33	71.3	54.9	64.6	53.5	68.0	54.2	88.4	60.6	78.1	56.9	83.6	58.7	83.4	58.7	73.9	55.8	78.9	57.3
21	88.89	82.0	58.1	78.5	56.7	80.3	57.4	94.2	63.4	87.3	59.9	91.0	61.6	90.7	61.5	84.5	58.8	87.8	60.2
22	94.44	91.8	61.3	90.4	59.9	91.1	60.6	98.0	66.3	94.7	62.9	96.4	64.5	96.2	64.4	93.4	61.8	94.9	63.0
23	100.00	100.0	64.5	100.0	63.1	100.0	63.8	100.0	69.2	100.0	65.9	100.0	67.3	100.0	67.2	100.0	64.8	100.0	65.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-2:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Psychological Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3466)		Males (n=3289)		All (n=6755)		Females (n=8478)		Males (n=7262)		All (n=15740)		Females (n=11944)		Males (n=10551)		All (n=22495)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	**0.00**	0.0	-3.8	0.1	-3.3	0.0	-3.5	0.1	13.2	0.1	6.9	0.1	10.7	0.1	10.6	0.1	4.7	0.1	8.1
7	**4.17**	0.1	-1.1	0.1	-0.6	0.1	-0.8	0.1	15.4	0.2	9.2	0.2	13.0	0.1	12.8	0.2	7.1	0.1	10.4
8	**8.33**	0.1	1.6	0.2	2.1	0.2	1.9	0.3	17.5	0.3	11.6	0.3	15.2	0.3	14.9	0.3	9.5	0.3	12.7
9	**12.50**	0.3	4.4	0.3	4.8	0.3	4.6	0.9	19.6	0.5	13.9	0.7	17.4	0.7	17.1	0.5	11.9	0.6	15.0
10	**16.67**	0.3	7.1	0.5	7.6	0.4	7.3	1.4	21.7	0.8	16.3	1.1	19.6	1.1	19.3	0.7	14.4	0.9	17.3
11	**20.83**	0.4	9.8	0.6	10.3	0.5	10.0	2.1	23.8	1.2	18.7	1.7	21.8	1.6	21.5	1.0	16.8	1.3	19.5
12	**25.00**	0.5	12.5	0.8	13.0	0.7	12.7	3.1	26.0	1.7	21.0	2.5	24.0	2.3	23.7	1.5	19.2	1.9	21.8
13	**29.17**	0.9	15.2	0.9	15.7	0.9	15.5	4.3	28.1	2.4	23.4	3.5	26.2	3.3	25.9	2.0	21.6	2.7	24.1
14	**33.33**	1.2	18.0	1.5	18.4	1.4	18.2	5.6	30.2	3.1	25.7	4.5	28.4	4.3	28.1	2.6	24.0	3.5	26.4
15	**37.50**	1.9	20.7	2.0	21.1	2.0	20.9	7.5	32.3	4.3	28.1	6.0	30.6	5.9	30.3	3.6	26.5	4.8	28.7
16	**41.67**	2.6	23.4	2.8	23.8	2.7	23.6	9.6	34.5	5.6	30.5	7.7	32.8	7.6	32.4	4.7	28.9	6.2	30.9
17	**45.83**	3.7	26.1	3.5	26.5	3.6	26.3	12.4	36.6	7.4	32.8	10.0	35.1	9.8	34.6	6.1	31.3	8.1	33.2
18	**50.00**	4.8	28.9	4.8	29.2	4.8	29.0	15.9	38.7	10.1	35.2	13.2	37.3	12.7	36.8	8.4	33.7	10.7	35.5
19	**54.17**	6.6	31.6	6.5	31.9	6.6	31.7	20.0	40.8	12.9	37.5	16.8	39.5	16.1	39.0	10.9	36.1	13.7	37.8
20	**58.33**	8.8	34.3	8.7	34.6	8.7	34.4	24.4	43.0	16.7	39.9	20.8	41.7	19.9	41.2	14.2	38.6	17.2	40.1
21	**62.50**	11.6	37.0	11.9	37.3	11.7	37.2	30.4	45.1	21.6	42.3	26.3	43.9	24.9	43.4	18.6	41.0	21.9	42.3
22	**66.67**	16.2	39.7	16.3	40.0	16.2	39.9	36.4	47.2	27.6	44.6	32.3	46.1	30.5	45.6	24.0	43.4	27.5	44.6
23	**70.83**	21.8	42.5	22.1	42.7	22.0	42.6	43.3	49.3	34.9	47.0	39.4	48.3	37.0	47.7	30.9	45.8	34.2	46.9
24	**75.00**	29.7	45.2	30.0	45.4	29.9	45.3	53.3	51.4	45.4	49.3	49.6	50.5	46.5	49.9	40.6	48.3	43.7	49.2
25	**79.17**	39.1	47.9	39.9	48.1	39.5	48.0	62.4	53.6	55.2	51.7	59.1	52.7	55.7	52.1	50.4	50.7	53.2	51.5
26	**83.33**	48.9	50.6	50.8	50.8	49.8	50.7	71.3	55.7	65.1	54.0	68.4	54.9	64.8	54.3	60.7	53.1	62.9	53.8
27	**87.50**	63.2	53.3	64.3	53.5	63.7	53.4	81.8	57.8	77.1	56.4	79.7	57.2	76.4	56.5	73.1	55.5	74.9	56.0
28	**91.67**	74.8	56.1	75.8	56.2	75.3	56.1	88.3	59.9	85.7	58.8	87.1	59.4	84.4	58.7	82.6	57.9	83.6	58.3
29	**95.83**	85.0	58.8	86.4	58.9	85.7	58.9	93.5	62.1	91.7	61.1	92.7	61.6	91.1	60.9	90.0	60.4	90.6	60.6
30	**100.00**	100.0	61.5	100.0	61.7	100.0	61.6	100.0	64.2	100.0	63.5	100.0	63.8	100.0	63.1	100.0	62.8	100.0	62.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-3:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Moods & Emotions

Raw-Score	0-100 Score	Children 8-11 Females (n=3427) PR	Children 8-11 Females (n=3427) TS	Children 8-11 Males (n=3257) PR	Children 8-11 Males (n=3257) TS	Children 8-11 All (n=6684) PR	Children 8-11 All (n=6684) TS	Adolescents 12-18 Females (n=8448) PR	Adolescents 12-18 Females (n=8448) TS	Adolescents 12-18 Males (n=7258) PR	Adolescents 12-18 Males (n=7258) TS	Adolescents 12-18 All (n=15706) PR	Adolescents 12-18 All (n=15706) TS	Children & Adolescents 8-18 Females (n=11875) PR	Children & Adolescents 8-18 Females (n=11875) TS	Children & Adolescents 8-18 Males (n=10515) PR	Children & Adolescents 8-18 Males (n=10515) TS	Children & Adolescents 8-18 All (n=22390) PR	Children & Adolescents 8-18 All (n=22390) TS
7	**0.00**	0.1	-1.8	0.1	-4.0	0.1	-2.8	0.0	10.5	0.0	-0.5	0.0	6.7	0.1	8.3	0.0	-1.5	0.1	4.6
8	**3.57**	0.1	0.5	0.1	-1.6	0.1	-0.5	0.1	12.4	0.1	1.8	0.1	8.7	0.1	10.3	0.1	0.8	0.1	6.7
9	**7.14**	0.1	2.7	0.2	0.7	0.2	1.8	0.1	14.3	0.1	4.0	0.1	10.7	0.1	12.2	0.1	3.1	0.1	8.8
10	**10.71**	0.1	5.0	0.3	3.1	0.2	4.1	0.3	16.2	0.1	6.2	0.2	12.8	0.2	14.2	0.2	5.4	0.2	10.8
11	**14.29**	0.2	7.3	0.3	5.4	0.3	6.4	0.5	18.1	0.2	8.5	0.4	14.8	0.4	16.1	0.2	7.6	0.3	12.9
12	**17.86**	0.4	9.5	0.5	7.8	0.4	8.7	1.1	20.0	0.3	10.7	0.7	16.8	0.9	18.1	0.4	9.9	0.6	15.0
13	**21.43**	0.6	11.8	0.6	10.1	0.6	11.0	1.6	22.0	0.4	13.0	1.1	18.8	1.3	20.0	0.5	12.2	0.9	17.1
14	**25.00**	0.8	14.1	0.8	12.4	0.8	13.3	2.2	23.9	0.7	15.2	1.5	20.8	1.8	22.0	0.7	14.4	1.3	19.1
15	**28.57**	1.2	16.3	1.0	14.8	1.1	15.6	2.9	25.8	1.0	17.5	2.0	22.8	2.4	24.0	1.0	16.7	1.7	21.2
16	**32.14**	1.4	18.6	1.3	17.1	1.3	17.9	4.0	27.7	1.5	19.7	2.8	24.8	3.2	25.9	1.4	19.0	2.4	23.3
17	**35.71**	1.9	20.9	1.6	19.5	1.8	20.2	5.1	29.6	2.0	22.0	3.7	26.8	4.2	27.9	1.9	21.3	3.1	25.3
18	**39.29**	2.5	23.1	1.8	21.8	2.2	22.5	6.7	31.5	2.7	24.2	4.9	28.9	5.5	29.8	2.5	23.5	4.1	27.4
19	**42.86**	3.2	25.4	2.3	24.1	2.8	24.8	8.6	33.4	3.5	26.4	6.3	30.9	7.0	31.8	3.1	25.8	5.2	29.5
20	**46.43**	4.2	27.7	3.3	26.5	3.7	27.1	10.5	35.3	4.6	28.7	7.8	32.9	8.7	33.8	4.2	28.1	6.6	31.5
21	**50.00**	5.6	29.9	4.6	28.8	5.1	29.4	13.2	37.3	6.1	30.9	9.9	34.9	11.0	35.7	5.6	30.3	8.5	33.6
22	**53.57**	7.4	32.2	5.8	31.2	6.6	31.7	16.4	39.2	7.8	33.2	12.4	36.9	13.8	37.7	7.2	32.6	10.7	35.7
23	**57.14**	9.1	34.5	7.5	33.5	8.3	34.0	20.0	41.1	10.6	35.4	15.7	38.9	16.9	39.6	9.6	34.9	13.5	37.7
24	**60.71**	11.3	36.7	10.3	35.9	10.8	36.3	24.1	43.0	13.5	37.7	19.2	40.9	20.4	41.6	12.5	37.2	16.7	39.8
25	**64.29**	14.6	39.0	13.2	38.2	13.9	38.6	29.0	44.9	16.8	39.9	23.4	43.0	24.9	43.5	15.7	39.4	20.6	41.9
26	**67.86**	18.3	41.2	17.6	40.5	17.9	40.9	34.6	46.8	21.4	42.2	28.5	45.0	29.9	45.5	20.2	41.7	25.3	43.9
27	**71.43**	23.4	43.5	22.4	42.9	22.9	43.2	41.0	48.7	27.0	44.4	34.5	47.0	35.9	47.5	25.6	44.0	31.1	46.0
28	**75.00**	29.8	45.8	29.2	45.2	29.5	45.5	48.6	50.7	33.8	46.7	41.8	49.0	43.2	49.4	32.4	46.2	38.1	48.1
29	**78.57**	37.5	48.0	36.8	47.6	37.2	47.8	57.0	52.6	41.6	48.9	49.9	51.0	51.4	51.4	40.1	48.5	46.1	50.1
30	**82.14**	46.8	50.3	45.5	49.9	46.1	50.1	65.5	54.5	51.0	51.2	58.8	53.0	60.1	53.3	49.3	50.8	55.0	52.2
31	**85.71**	57.1	52.6	56.0	52.2	56.6	52.4	74.0	56.4	60.7	53.4	67.9	55.0	69.1	55.3	59.3	53.1	64.5	54.3
32	**89.29**	67.5	54.8	66.7	54.6	67.1	54.7	82.2	58.3	71.3	55.7	77.2	57.1	78.0	57.3	69.9	55.3	74.2	56.3
33	**92.86**	79.0	57.1	77.6	56.9	78.3	57.0	89.6	60.2	82.0	57.9	86.1	59.1	86.5	59.2	80.7	57.6	83.8	58.4
34	**96.43**	89.0	59.4	88.3	59.3	88.7	59.3	95.1	62.1	91.4	60.2	93.4	61.1	93.4	61.2	90.4	59.9	92.0	60.5
35	**100.00**	100.0	61.6	100.0	61.6	100.0	61.6	100.0	64.0	100.0	62.4	100.0	63.1	100.0	63.1	100.0	62.2	100.0	62.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-4:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Self-Perception

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3463)		Males (n=3285)		All (n=6748)		Females (n=8480)		Males (n=7271)		All (n=15751)		Females (n=11943)		Males (n=10556)		All (n=22499)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	**0.00**	0.1	5.5			0.0	1.7	0.2	21.6	0.1	8.3	0.1	17.9	0.2	19.8	0.0	5.9	0.1	15.5
6	**5.00**	0.1	8.3	0.0	-0.7	0.1	4.6	0.9	23.9	0.2	11.0	0.5	20.2	0.6	22.0	0.1	8.7	0.4	17.8
7	**10.00**	0.2	11.1	0.1	2.5	0.1	7.6	1.8	26.1	0.2	13.7	1.1	22.6	1.3	24.2	0.2	11.5	0.8	20.2
8	**15.00**	0.4	13.8	0.2	5.8	0.3	10.5	2.8	28.4	0.4	16.5	1.7	24.9	2.1	26.4	0.4	14.3	1.3	22.5
9	**20.00**	0.9	16.6	0.4	9.0	0.7	13.5	4.7	30.6	0.8	19.2	2.9	27.2	3.6	28.7	0.7	17.1	2.2	24.9
10	**25.00**	1.5	19.4	0.6	12.2	1.1	16.4	7.4	32.9	1.4	21.9	4.7	29.5	5.7	30.9	1.1	19.9	3.6	27.3
11	**30.00**	2.2	22.1	0.9	15.4	1.6	19.3	10.6	35.1	2.1	24.6	6.7	31.8	8.1	33.1	1.7	22.7	5.1	29.6
12	**35.00**	3.2	24.9	1.2	18.6	2.2	22.3	14.3	37.4	3.4	27.4	9.3	34.1	11.1	35.3	2.7	25.5	7.1	32.0
13	**40.00**	4.5	27.7	1.9	21.8	3.3	25.2	18.9	39.6	5.5	30.1	12.7	36.5	14.7	37.5	4.4	28.3	9.9	34.4
14	**45.00**	5.8	30.4	2.8	25.0	4.3	28.2	24.4	41.9	8.0	32.8	16.8	38.8	19.0	39.8	6.4	31.1	13.1	36.7
15	**50.00**	8.4	33.2	4.6	28.2	6.6	31.1	30.7	44.1	11.3	35.6	21.8	41.1	24.3	42.0	9.2	33.9	17.2	39.1
16	**55.00**	11.8	36.0	6.6	31.4	9.3	34.0	37.8	46.4	15.4	38.3	27.5	43.4	30.3	44.2	12.7	36.7	22.0	41.5
17	**60.00**	15.9	38.7	10.3	34.6	13.2	37.0	45.7	48.6	20.8	41.0	34.2	45.7	37.1	46.4	17.5	39.5	27.9	43.8
18	**65.00**	20.8	41.5	14.4	37.8	17.7	39.9	54.3	50.9	28.2	43.7	42.3	48.0	44.6	48.7	23.9	42.3	34.9	46.2
19	**70.00**	27.0	44.3	20.3	41.0	23.8	42.9	62.7	53.2	36.2	46.5	50.5	50.4	52.4	50.9	31.3	45.1	42.5	48.5
20	**75.00**	36.3	47.0	28.0	44.2	32.2	45.8	71.4	55.4	45.8	49.2	59.6	52.7	61.2	53.1	40.3	47.9	51.4	50.9
21	**80.00**	46.0	49.8	38.2	47.4	42.2	48.8	79.5	57.7	57.0	51.9	69.1	55.0	69.8	55.3	51.1	50.7	61.0	53.3
22	**85.00**	56.5	52.6	49.1	50.7	52.9	51.7	85.4	59.9	67.7	54.7	77.2	57.3	77.0	57.5	61.9	53.5	69.9	55.6
23	**90.00**	68.8	55.3	62.4	53.9	65.7	54.6	91.0	62.2	78.2	57.4	85.1	59.6	84.6	59.8	73.3	56.3	79.3	58.0
24	**95.00**	82.4	58.1	77.8	57.1	80.2	57.6	95.6	64.4	88.0	60.1	92.1	62.0	91.8	62.0	84.8	59.1	88.5	60.4
25	**100.00**	100.0	60.9	100.0	60.3	100.0	60.5	100.0	66.7	100.0	62.8	100.0	64.3	100.0	64.2	100.0	61.9	100.0	62.7

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-5:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Autonomy

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3476)		Males (n=3291)		All (n=6767)		Females (n=8474)		Males (n=7274)		All (n=15748)		Females (n=11950)		Males (n=10565)		All (n=22515)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	0.00	0.1	12.6	0.1	9.2	0.1	11.1	0.3	19.3	0.2	13.0	0.2	17.0	0.2	17.9	0.1	11.9	0.2	15.5
6	5.00	0.3	15.1	0.2	11.8	0.2	13.6	0.6	21.5	0.3	15.5	0.4	19.3	0.5	20.2	0.2	14.5	0.4	17.9
7	10.00	0.4	17.6	0.3	14.5	0.3	16.2	1.0	23.8	0.5	18.0	0.8	21.6	0.8	22.5	0.4	17.0	0.6	20.3
8	15.00	0.6	20.1	0.5	17.1	0.6	18.7	1.6	26.1	0.7	20.4	1.2	23.9	1.3	24.8	0.6	19.5	1.0	22.7
9	20.00	1.4	22.5	1.0	19.8	1.2	21.3	2.9	28.3	1.2	22.9	2.1	26.3	2.5	27.0	1.1	22.0	1.9	25.0
10	25.00	2.5	25.0	1.8	22.4	2.2	23.8	5.2	30.6	2.4	25.4	3.9	28.6	4.4	29.3	2.2	24.6	3.4	27.4
11	30.00	3.9	27.5	2.8	25.1	3.3	26.4	7.8	32.8	3.7	27.9	5.9	30.9	6.7	31.6	3.4	27.1	5.1	29.8
12	35.00	6.0	30.0	4.1	27.8	5.1	29.0	11.0	35.1	5.3	30.4	8.4	33.2	9.5	33.9	5.0	29.6	7.4	32.2
13	40.00	8.4	32.5	6.4	30.4	7.4	31.5	15.0	37.4	8.0	32.8	11.8	35.6	13.1	36.2	7.5	32.2	10.4	34.5
14	45.00	10.8	34.9	8.5	33.1	9.7	34.1	19.3	39.6	11.1	35.3	15.5	37.9	16.8	38.5	10.3	34.7	13.8	36.9
15	50.00	15.0	37.4	11.4	35.7	13.2	36.6	25.0	41.9	15.5	37.8	20.6	40.2	22.1	40.8	14.2	37.2	18.4	39.3
16	55.00	18.9	39.9	15.0	38.4	17.0	39.2	30.2	44.2	20.3	40.3	25.6	42.6	26.9	43.1	18.7	39.7	23.0	41.7
17	60.00	23.8	42.4	20.2	41.0	22.0	41.8	36.6	46.4	25.6	42.8	31.5	44.9	32.9	45.4	23.9	42.3	28.7	44.0
18	65.00	29.6	44.9	26.5	43.7	28.1	44.3	43.6	48.7	31.5	45.2	38.0	47.2	39.5	47.7	30.0	44.8	35.1	46.4
19	70.00	37.0	47.3	34.5	46.4	35.8	46.9	51.8	50.9	39.0	47.7	45.9	49.5	47.5	50.0	37.6	47.3	42.9	48.8
20	75.00	46.2	49.8	45.0	49.0	45.6	49.4	62.0	53.2	50.0	50.2	56.4	51.9	57.4	52.3	48.4	49.8	53.2	51.2
21	80.00	55.8	52.3	55.5	51.7	55.7	52.0	70.4	55.5	59.3	52.7	65.3	54.2	66.2	54.5	58.1	52.4	62.4	53.5
22	85.00	67.1	54.8	65.7	54.3	66.4	54.6	78.6	57.7	68.6	55.2	74.0	56.5	75.3	56.8	67.7	54.9	71.7	55.9
23	90.00	77.9	57.3	77.5	57.0	77.7	57.1	86.1	60.0	78.1	57.6	82.4	58.8	83.7	59.1	77.9	57.4	81.0	58.3
24	95.00	87.2	59.7	85.9	59.6	86.6	59.7	92.4	62.3	86.6	60.1	89.7	61.2	90.9	61.4	86.4	60.0	88.8	60.7
25	100.00	100.0	62.2	100.0	62.3	100.0	62.2	100.0	64.5	100.0	62.6	100.0	63.5	100.0	63.7	100.0	62.5	100.0	63.0

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-6:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Parent Relations & Home Life

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3443)		Males (n=3268)		All (n=6711)		Females (n=8402)		Males (n=7208)		All (n=15610)		Females (n=11845)		Males (n=10476)		All (n=22321)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	**0.00**							0.2	14.8	0.2	8.3	0.2	12.2	0.1	11.9	0.1	5.8	0.1	9.3
7	**4.17**			0.0	-0.5	0.0	-0.4	0.4	16.8	0.3	10.5	0.3	14.3	0.3	13.9	0.2	8.1	0.2	11.5
8	**8.33**	0.1	2.3	0.1	2.1	0.1	2.2	0.6	18.8	0.4	12.8	0.5	16.4	0.4	16.0	0.3	10.4	0.4	13.6
9	**12.50**	0.2	4.9	0.2	4.8	0.2	4.8	0.9	20.7	0.5	15.0	0.7	18.4	0.7	18.0	0.4	12.7	0.6	15.8
10	**16.67**	0.3	7.5	0.4	7.4	0.3	7.5	1.5	22.7	0.7	17.2	1.2	20.5	1.2	20.1	0.6	15.0	0.9	17.9
11	**20.83**	0.4	10.1	0.6	10.1	0.5	10.1	2.2	24.6	1.0	19.4	1.6	22.5	1.7	22.1	0.8	17.3	1.3	20.1
12	**25.00**	0.6	12.7	0.7	12.7	0.6	12.7	3.1	26.6	1.5	21.6	2.4	24.6	2.4	24.1	1.2	19.6	1.8	22.2
13	**29.17**	0.9	15.3	0.9	15.3	0.9	15.3	4.4	28.5	2.3	23.9	3.4	26.6	3.4	26.2	1.8	21.9	2.7	24.4
14	**33.33**	1.6	17.9	1.1	18.0	1.3	18.0	6.0	30.5	3.0	26.1	4.6	28.7	4.7	28.2	2.4	24.2	3.6	26.5
15	**37.50**	2.0	20.5	1.6	20.6	1.8	20.6	8.0	32.4	4.2	28.3	6.2	30.8	6.3	30.3	3.4	26.5	4.9	28.7
16	**41.67**	2.7	23.1	2.3	23.3	2.5	23.2	10.0	34.4	5.7	30.5	8.1	32.8	7.9	32.3	4.7	28.8	6.4	30.8
17	**45.83**	3.5	25.7	3.1	25.9	3.3	25.8	12.7	36.4	7.4	32.7	10.3	34.9	10.0	34.4	6.1	31.1	8.2	33.0
18	**50.00**	5.0	28.3	4.9	28.5	5.0	28.4	15.7	38.3	10.2	35.0	13.2	36.9	12.6	36.4	8.6	33.4	10.7	35.1
19	**54.17**	7.0	30.9	6.5	31.2	6.8	31.1	19.2	40.3	13.2	37.2	16.4	39.0	15.7	38.4	11.1	35.7	13.5	37.3
20	**58.33**	9.2	33.5	8.9	33.8	9.0	33.7	23.2	42.2	17.1	39.4	20.4	41.1	19.1	40.5	14.6	38.0	17.0	39.4
21	**62.50**	11.5	36.1	12.5	36.5	12.0	36.3	27.9	44.2	21.6	41.6	25.0	43.1	23.1	42.5	18.8	40.3	21.1	41.6
22	**66.67**	15.1	38.7	16.3	39.1	15.7	38.9	33.3	46.1	26.5	43.8	30.2	45.2	28.0	44.6	23.3	42.6	25.8	43.7
23	**70.83**	19.3	41.3	21.0	41.8	20.1	41.5	38.9	48.1	32.9	46.1	36.1	47.2	33.2	46.6	29.2	44.9	31.3	45.9
24	**75.00**	24.8	43.9	27.1	44.4	25.9	44.2	45.7	50.0	40.7	48.3	43.4	49.3	39.6	48.6	36.5	47.3	38.1	48.0
25	**79.17**	31.6	46.6	34.3	47.0	32.9	46.8	52.3	52.0	48.5	50.5	50.6	51.3	46.3	50.7	44.1	49.6	45.3	50.2
26	**83.33**	40.5	49.2	43.8	49.7	42.1	49.4	60.1	53.9	56.8	52.7	58.6	53.4	54.4	52.7	52.8	51.9	53.6	52.3
27	**87.50**	50.4	51.8	54.0	52.3	52.2	52.0	68.9	55.9	66.0	54.9	67.6	55.5	63.6	54.8	62.2	54.2	62.9	54.5
28	**91.67**	62.9	54.4	66.6	55.0	64.7	54.7	78.7	57.9	76.1	57.2	77.5	57.5	74.1	56.8	73.1	56.5	73.6	56.6
29	**95.83**	78.0	57.0	80.9	57.6	79.4	57.3	87.9	59.8	86.0	59.4	87.0	59.6	85.0	58.9	84.4	58.8	84.7	58.8
30	**100.00**	100.0	59.6	100.0	60.2	100.0	59.9	100.0	61.8	100.0	61.6	100.0	61.6	100.0	60.9	100.0	61.1	100.0	60.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-7:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Social Support & Peers

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3427)		Males (n=3240)		All (n=6667)		Females (n=8415)		Males (n=7236)		All (n=15651)		Females (n=11842)		Males (n=10476)		All (n=22318)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	0.00	0.3	10.4	0.2	10.7	0.3	10.6	0.1	12.0	0.5	12.8	0.3	12.4	0.2	11.5	0.4	12.2	0.3	11.9
7	4.17	0.4	12.6	0.3	12.9	0.3	12.7	0.2	14.1	0.7	14.9	0.4	14.5	0.3	13.7	0.5	14.3	0.4	14.0
8	8.33	0.5	14.8	0.6	15.1	0.5	14.9	0.4	16.2	0.8	17.1	0.6	16.6	0.4	15.8	0.7	16.5	0.6	16.2
9	12.50	0.6	17.0	0.7	17.3	0.7	17.1	0.7	18.4	1.0	19.2	0.8	18.8	0.7	18.0	0.9	18.7	0.8	18.3
10	16.67	1.1	19.1	1.1	19.5	1.1	19.3	1.2	20.5	1.3	21.3	1.3	20.9	1.2	20.1	1.3	20.8	1.2	20.5
11	20.83	1.4	21.3	1.6	21.7	1.5	21.5	1.8	22.6	1.8	23.5	1.8	23.1	1.7	22.3	1.7	23.0	1.7	22.6
12	25.00	2.1	23.5	2.4	23.9	2.2	23.7	2.5	24.8	2.5	25.6	2.5	25.2	2.4	24.4	2.5	25.1	2.4	24.8
13	29.17	2.9	25.7	3.1	26.1	3.0	25.9	3.5	26.9	3.5	27.8	3.5	27.3	3.4	26.6	3.4	27.3	3.4	26.9
14	33.33	4.1	27.9	4.3	28.3	4.2	28.1	4.8	29.1	5.0	29.9	4.9	29.5	4.6	28.7	4.8	29.4	4.7	29.1
15	37.50	5.3	30.1	5.7	30.5	5.5	30.3	6.5	31.2	6.6	32.0	6.5	31.6	6.1	30.9	6.3	31.6	6.2	31.2
16	41.67	7.1	32.2	7.7	32.7	7.4	32.5	8.5	33.3	8.6	34.2	8.5	33.7	8.1	33.0	8.3	33.8	8.2	33.4
17	45.83	9.5	34.4	9.4	34.9	9.4	34.7	11.0	35.5	11.1	36.3	11.1	35.9	10.5	35.2	10.6	35.9	10.6	35.5
18	50.00	12.3	36.6	12.6	37.1	12.5	36.9	14.2	37.6	15.1	38.5	14.6	38.0	13.6	37.3	14.4	38.1	14.0	37.7
19	54.17	15.6	38.8	16.2	39.3	15.9	39.1	17.6	39.7	19.0	40.6	18.3	40.1	17.0	39.5	18.1	40.2	17.5	39.8
20	58.33	19.5	41.0	20.5	41.5	20.0	41.3	21.5	41.9	24.3	42.7	22.8	42.3	20.9	41.6	23.1	42.4	22.0	42.0
21	62.50	24.7	43.2	25.9	43.7	25.3	43.5	26.5	44.0	29.4	44.9	27.8	44.4	25.9	43.8	28.3	44.5	27.1	44.1
22	66.67	30.7	45.3	32.3	46.0	31.5	45.6	33.0	46.2	36.7	47.0	34.7	46.6	32.3	45.9	35.3	46.7	33.7	46.3
23	70.83	37.2	47.5	39.9	48.2	38.5	47.8	39.8	48.3	44.2	49.2	41.9	48.7	39.0	48.1	42.9	48.9	40.8	48.4
24	75.00	45.8	49.7	49.3	50.4	47.5	50.0	48.8	50.4	54.0	51.3	51.2	50.8	47.9	50.2	52.6	51.0	50.1	50.6
25	79.17	55.0	51.9	59.0	52.6	57.0	52.2	56.9	52.6	62.5	53.4	59.5	53.0	56.4	52.4	61.5	53.2	58.8	52.7
26	83.33	64.2	54.1	68.1	54.8	66.1	54.4	66.7	54.7	71.4	55.6	68.9	55.1	66.0	54.5	70.4	55.3	68.1	54.9
27	87.50	73.7	56.3	77.2	57.0	75.4	56.6	76.0	56.9	79.7	57.7	77.7	57.2	75.4	56.7	78.9	57.5	77.0	57.1
28	91.67	83.1	58.4	86.2	59.2	84.6	58.8	85.2	59.0	87.3	59.8	86.1	59.4	84.6	58.8	86.9	59.6	85.7	59.2
29	95.83	90.4	60.6	92.3	61.4	91.3	61.0	92.7	61.1	93.4	62.0	93.0	61.5	92.0	61.0	93.1	61.8	92.5	61.4
30	100.00	100.0	62.8	100.0	63.6	100.0	63.2	100.0	63.3	100.0	64.1	100.0	63.7	100.0	63.1	100.0	64.0	100.0	63.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-8:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: School Environment

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3440)		Males (n=3269)		All (n=6709)		Females (n=8360)		Males (n=7175)		All (n=15535)		Females (n=11800)		Males (n=10444)		All (n=22244)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	**0.00**	0.1	8.6	0.1	15.1	0.1	12.3	0.1	18.4	0.4	20.4	0.3	19.4	0.1	17.4	0.3	19.5	0.2	18.4
7	**4.17**	0.1	10.8	0.2	17.1	0.1	14.4	0.3	20.5	0.8	22.4	0.5	21.4	0.2	19.5	0.6	21.4	0.4	20.4
8	**8.33**	0.2	13.1	0.5	19.1	0.3	16.5	0.7	22.6	1.4	24.4	1.0	23.5	0.5	21.5	1.1	23.4	0.8	22.4
9	**12.50**	0.3	15.3	0.7	21.2	0.5	18.6	1.3	24.7	2.2	26.3	1.7	25.5	1.0	23.5	1.7	25.3	1.3	24.4
10	**16.67**	0.6	17.6	1.2	23.2	0.9	20.7	2.2	26.8	3.5	28.3	2.8	27.5	1.8	25.5	2.8	27.3	2.2	26.4
11	**20.83**	0.9	19.8	1.8	25.2	1.3	22.8	3.4	28.9	4.7	30.3	4.0	29.6	2.7	27.6	3.8	29.2	3.2	28.4
12	**25.00**	1.2	22.1	3.0	27.2	2.1	25.0	5.0	31.0	6.6	32.3	5.8	31.6	3.9	29.6	5.5	31.2	4.7	30.4
13	**29.17**	1.9	24.3	4.5	29.3	3.2	27.1	7.0	33.1	8.4	34.3	7.7	33.7	5.5	31.6	7.2	33.1	6.3	32.4
14	**33.33**	2.8	26.6	6.2	31.3	4.5	29.2	9.7	35.2	11.2	36.3	10.4	35.7	7.7	33.6	9.6	35.1	8.6	34.4
15	**37.50**	4.4	28.8	8.4	33.3	6.3	31.3	12.9	37.3	14.7	38.3	13.7	37.7	10.4	35.7	12.7	37.0	11.5	36.3
16	**41.67**	6.0	31.0	11.0	35.3	8.4	33.4	17.3	39.4	18.6	40.3	17.9	39.8	14.0	37.7	16.2	39.0	15.1	38.3
17	**45.83**	8.2	33.3	13.9	37.3	11.0	35.5	22.2	41.5	23.8	42.2	23.0	41.8	18.1	39.7	20.7	40.9	19.3	40.3
18	**50.00**	11.3	35.5	17.2	39.4	14.2	37.6	28.7	43.5	30.0	44.2	29.3	43.9	23.7	41.8	26.0	42.9	24.7	42.3
19	**54.17**	14.7	37.8	22.1	41.4	18.3	39.7	35.0	45.6	36.3	46.2	35.6	45.9	29.1	43.8	31.8	44.8	30.4	44.3
20	**58.33**	18.7	40.0	27.3	43.4	22.9	41.8	42.5	47.7	43.3	48.2	42.8	48.0	35.5	45.8	38.3	46.8	36.8	46.3
21	**62.50**	24.2	42.3	32.8	45.4	28.4	43.9	50.3	49.8	51.5	50.2	50.9	50.0	42.7	47.8	45.7	48.7	44.1	48.3
22	**66.67**	29.7	44.5	38.6	47.4	34.0	46.0	58.6	51.9	59.4	52.2	59.0	52.0	50.2	49.9	52.9	50.7	51.4	50.3
23	**70.83**	36.2	46.7	46.0	49.5	41.0	48.2	67.2	54.0	66.8	54.2	67.0	54.1	58.2	51.9	60.3	52.7	59.2	52.3
24	**75.00**	43.6	49.0	54.7	51.5	49.0	50.3	75.2	56.1	75.1	56.2	75.2	56.1	66.0	53.9	68.7	54.6	67.3	54.2
25	**79.17**	51.3	51.2	61.8	53.5	56.4	52.4	81.2	58.2	81.4	58.1	81.3	58.2	72.5	55.9	75.3	56.6	73.8	56.2
26	**83.33**	60.0	53.5	69.8	55.5	64.8	54.5	86.5	60.3	86.6	60.1	86.6	60.2	78.8	58.0	81.3	58.5	80.0	58.2
27	**87.50**	69.9	55.7	77.1	57.6	73.4	56.6	91.1	62.4	91.1	62.1	91.1	62.2	84.9	60.0	86.7	60.5	85.8	60.2
28	**91.67**	79.7	58.0	84.3	59.6	81.9	58.7	94.9	64.5	94.6	64.1	94.7	64.3	90.5	62.0	91.4	62.4	90.9	62.2
29	**95.83**	88.7	60.2	91.0	61.6	89.8	60.8	97.9	66.6	97.3	66.1	97.6	66.3	95.2	64.1	95.3	64.4	95.3	64.2
30	**100.00**	100.0	62.4	100.0	63.6	100.0	62.9	100.0	68.6	100.0	68.1	100.0	68.4	100.0	66.1	100.0	66.3	100.0	66.2

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-9:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Social Acceptance

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3483)		Males (n=3307)		All (n=6790)		Females (n=8457)		Males (n=7267)		All (n=15724)		Females (n=11940)		Males (n=10574)		All (n=22514)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
3	**0.00**	0.5	4.5	0.3	2.7	0.4	3.7	0.2	-8.6	0.4	-6.6	0.3	-7.6	0.3	-3.5	0.4	-2.9	0.3	-3.2
4	**8.33**	0.7	8.9	0.5	7.3	0.6	8.2	0.3	-3.2	0.6	-1.3	0.4	-2.3	0.5	1.6	0.6	2.1	0.5	1.8
5	**16.67**	1.2	13.4	0.8	11.9	1.0	12.7	0.7	2.2	0.8	3.9	0.7	3.0	0.9	6.6	0.8	7.1	0.8	6.8
6	**25.00**	1.9	17.8	1.5	16.5	1.7	17.2	1.2	7.6	1.4	9.2	1.3	8.4	1.4	11.6	1.4	12.0	1.4	11.8
7	**33.33**	3.5	22.3	2.8	21.1	3.1	21.7	1.8	13.0	2.0	14.4	1.9	13.7	2.3	16.6	2.2	17.0	2.3	16.8
8	**41.67**	4.7	26.7	4.2	25.7	4.4	26.3	2.7	18.4	2.8	19.7	2.7	19.0	3.3	21.6	3.2	22.0	3.2	21.8
9	**50.00**	7.7	31.2	7.3	30.4	7.6	30.8	4.1	23.8	4.2	24.9	4.1	24.3	5.1	26.6	5.2	27.0	5.1	26.8
10	**58.33**	11.5	35.6	11.1	35.0	11.3	35.3	5.9	29.2	6.1	30.2	6.0	29.7	7.6	31.6	7.7	32.0	7.6	31.8
11	**66.67**	16.7	40.0	17.1	39.6	16.9	39.8	9.2	34.6	9.7	35.4	9.5	35.0	11.4	36.6	12.0	37.0	11.7	36.8
12	**75.00**	26.7	44.5	26.7	44.2	26.7	44.3	16.0	40.0	16.9	40.7	16.4	40.3	19.1	41.6	19.9	42.0	19.5	41.8
13	**83.33**	40.2	48.9	40.5	48.8	40.4	48.9	26.9	45.4	28.4	45.9	27.6	45.7	30.8	46.6	32.2	46.9	31.4	46.8
14	**91.67**	60.6	53.4	60.2	53.4	60.4	53.4	45.7	50.8	49.6	51.2	47.5	51.0	50.0	51.6	52.9	51.9	51.4	51.8
15	**100.00**	100.0	57.8	100.0	58.0	100.0	57.9	100.0	56.2	100.0	56.5	100.0	56.3	100.0	56.6	100.0	56.9	100.0	56.8

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-10:
European reference population (13 countries). Individual norm data for KIDSCREEN-52: Financial Resources

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3334)		Males (n=3174)		All (n=6508)		Females (n=8449)		Males (n=7239)		All (n=15688)		Females (n=11783)		Males (n=10413)		All (n=22196)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
3	**0.00**	2.4	24.9	2.8	25.8	2.6	25.3	1.5	22.6	1.4	21.2	1.4	22.0	1.8	23.3	1.8	22.8	1.8	23.1
4	**8.33**	3.8	27.9	4.6	28.7	4.2	28.3	2.8	25.8	2.2	24.5	2.5	25.2	3.1	26.4	2.9	26.0	3.0	26.2
5	**16.67**	6.6	30.9	7.7	31.7	7.1	31.3	4.7	29.0	4.0	27.8	4.4	28.4	5.2	29.6	5.2	29.1	5.2	29.4
6	**25.00**	10.9	33.9	12.4	34.6	11.6	34.3	8.6	32.2	7.7	31.0	8.2	31.7	9.3	32.7	9.2	32.3	9.2	32.5
7	**33.33**	15.9	36.9	17.0	37.6	16.4	37.2	12.4	35.4	11.4	34.3	11.9	34.9	13.4	35.8	13.1	35.4	13.3	35.6
8	**41.67**	20.7	39.9	21.5	40.5	21.1	40.2	17.5	38.6	15.3	37.5	16.5	38.1	18.4	39.0	17.2	38.6	17.8	38.8
9	**50.00**	29.0	42.9	29.0	43.4	29.0	43.2	25.7	41.7	23.1	40.8	24.5	41.3	26.6	42.1	24.9	41.7	25.8	41.9
10	**58.33**	34.8	45.9	36.3	46.4	35.6	46.1	32.8	44.9	29.5	44.1	31.3	44.5	33.4	45.2	31.6	44.8	32.6	45.0
11	**66.67**	43.3	48.9	45.0	49.3	44.2	49.1	40.8	48.1	37.6	47.3	39.3	47.8	41.5	48.4	39.9	48.0	40.7	48.2
12	**75.00**	54.5	51.9	56.7	52.3	55.6	52.1	54.0	51.3	50.7	50.6	52.5	51.0	54.1	51.5	52.5	51.1	53.4	51.3
13	**83.33**	64.1	54.9	66.6	55.2	65.3	55.0	64.4	54.5	61.3	53.8	63.0	54.2	64.3	54.6	62.9	54.3	63.7	54.5
14	**91.67**	76.5	57.9	77.6	58.2	77.0	58.0	76.1	57.7	73.3	57.1	74.8	57.4	76.2	57.7	74.6	57.4	75.4	57.6
15	**100.00**	100.0	60.9	100.0	61.1	100.0	61.0	100.0	60.9	100.0	60.4	100.0	60.6	100.0	60.9	100.0	60.5	100.0	60.7

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-11:
European reference population (13 countries). Individual norm data for KIDSCREEN-27: Physical Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3421)		Males (n=3263)		All (n=6684)		Females (n=8368)		Males (n=7216)		All (n=15584)		Females (n=11789)		Males (n=10479)		All (n=22268)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	0.00							0.1	17.4	0.1	12.0	0.1	15.6	0.1	16.0	0.0	10.6	0.1	14.0
6	5.56	0.1	10.2	0.2	8.4	0.1	9.5	0.4	20.3	0.3	15.0	0.4	18.5	0.3	18.8	0.3	13.6	0.3	16.9
7	11.11	0.2	13.4	0.3	11.6	0.3	12.7	1.0	23.1	0.6	18.0	0.8	21.4	0.7	21.7	0.5	16.6	0.7	19.8
8	16.67	0.4	16.6	0.7	14.9	0.6	15.9	2.1	26.0	1.1	21.0	1.6	24.2	1.6	24.5	1.0	19.6	1.3	22.7
9	22.22	1.1	19.8	1.0	18.1	1.0	19.0	3.5	28.9	1.9	24.0	2.8	27.1	2.8	27.4	1.6	22.7	2.2	25.6
10	27.78	1.7	23.0	1.6	21.3	1.7	22.2	5.9	31.8	3.0	27.0	4.6	30.0	4.7	30.2	2.6	25.7	3.7	28.4
11	33.33	2.6	26.2	2.6	24.5	2.6	25.4	9.2	34.6	4.7	30.0	7.1	32.9	7.3	33.1	4.0	28.7	5.8	31.3
12	38.89	4.4	29.4	3.8	27.7	4.2	28.6	13.9	37.5	7.3	33.0	10.9	35.7	11.2	35.9	6.2	31.7	8.8	34.2
13	44.44	7.3	32.6	6.1	31.0	6.7	31.8	20.4	40.4	11.2	35.9	16.1	38.6	16.6	38.8	9.6	34.7	13.3	37.1
14	50.00	11.4	35.8	9.5	34.2	10.5	35.0	28.7	43.3	16.7	38.9	23.2	41.5	23.7	41.6	14.5	37.7	19.4	40.0
15	55.56	16.8	39.0	13.7	37.4	15.3	38.2	38.8	46.2	23.6	41.9	31.7	44.4	32.4	44.5	20.5	40.7	26.8	42.9
16	61.11	24.8	42.2	20.4	40.6	22.7	41.4	50.1	49.0	32.9	44.9	42.2	47.2	42.8	47.3	29.0	43.7	36.3	45.7
17	66.67	34.4	45.4	27.7	43.8	31.2	44.6	60.6	51.9	43.6	47.9	52.7	50.1	53.0	50.2	38.7	46.8	46.3	48.6
18	72.22	46.1	48.6	37.3	47.0	41.8	47.8	71.2	54.8	55.3	50.9	63.8	53.0	63.9	53.0	49.7	49.8	57.2	51.5
19	77.78	58.3	51.8	49.6	50.3	54.1	51.0	80.6	57.7	67.7	53.9	74.6	55.8	74.1	55.8	62.1	52.8	68.5	54.4
20	83.33	71.3	54.9	64.6	53.5	68.0	54.2	88.4	60.6	78.1	56.9	83.6	58.7	83.4	58.7	73.9	55.8	78.9	57.3
21	88.89	82.0	58.1	78.5	56.7	80.3	57.4	94.2	63.4	87.3	59.9	91.0	61.6	90.7	61.5	84.5	58.8	87.8	60.2
22	94.44	91.8	61.3	90.4	59.9	91.1	60.6	98.0	66.3	94.7	62.9	96.4	64.5	96.2	64.4	93.4	61.8	94.9	63.0
23	100.00	100.0	64.5	100.0	63.1	100.0	63.8	100.0	69.2	100.0	65.9	100.0	67.3	100.0	67.2	100.0	64.8	100.0	65.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-12:
European reference population (13 countries). Individual norm data for KIDSCREEN-27: Psychological Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3441)		Males (n=3266)		All (n=6707)		Females (n=8440)		Males (n=7235)		All (n=15675)		Females (n=11881)		Males (n=10501)		All (n=22382)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
7	**0.00**	0.0	-5.2			0.0	-6.9	0.0	9.1	0.0	-0.5	0.0	5.8	0.0	6.9	0.0	-2.4	0.0	3.4
8	**3.57**	0.1	-2.8	0.0	-6.4	0.1	-4.4	0.0	11.1	0.0	1.8	0.0	7.9	0.0	8.9	0.0	-0.1	0.0	5.6
9	**7.14**	0.1	-0.4			0.1	-1.9	0.1	13.2	0.1	4.2	0.1	10.0	0.1	11.0	0.1	2.3	0.1	7.7
10	**10.71**	0.1	2.1	0.1	-1.2	0.1	0.6	0.2	15.2	0.1	6.5	0.2	12.1	0.2	13.1	0.1	4.6	0.2	9.9
11	**14.29**	0.2	4.5	0.2	1.3	0.2	3.0	0.4	17.2	0.1	8.8	0.3	14.2	0.3	15.1	0.1	7.0	0.2	12.1
12	**17.86**	0.2	6.9	0.2	3.9	0.2	5.5	0.7	19.2	0.2	11.1	0.5	16.4	0.6	17.2	0.2	9.4	0.4	14.2
13	**21.43**	0.3	9.4	0.3	6.4	0.3	8.0	1.1	21.3	0.4	13.4	0.8	18.5	0.9	19.3	0.3	11.7	0.6	16.4
14	**25.00**	0.6	11.8	0.4	9.0	0.5	10.5	1.7	23.3	0.7	15.7	1.2	20.6	1.4	21.3	0.6	14.1	1.0	18.6
15	**28.57**	0.8	14.2	0.6	11.6	0.7	13.0	2.4	25.3	1.0	18.0	1.7	22.7	1.9	23.4	0.8	16.4	1.4	20.7
16	**32.14**	1.1	16.7	0.8	14.1	1.0	15.5	3.6	27.4	1.6	20.3	2.6	24.8	2.9	25.4	1.3	18.8	2.1	22.9
17	**35.71**	1.5	19.1	1.1	16.7	1.3	18.0	4.7	29.4	2.2	22.6	3.5	26.9	3.8	27.5	1.8	21.2	2.9	25.1
18	**39.29**	1.9	21.5	1.4	19.3	1.7	20.5	6.6	31.4	3.0	24.9	4.9	29.0	5.2	29.6	2.5	23.5	3.9	27.2
19	**42.86**	2.7	24.0	2.1	21.8	2.4	23.0	8.2	33.4	4.0	27.2	6.2	31.1	6.6	31.6	3.4	25.9	5.1	29.4
20	**46.43**	3.6	26.4	2.6	24.4	3.1	25.5	10.8	35.5	5.2	29.5	8.2	33.2	8.7	33.7	4.4	28.2	6.7	31.6
21	**50.00**	4.6	28.8	3.3	27.0	4.0	28.0	13.7	37.5	6.7	31.9	10.4	35.3	11.0	35.8	5.6	30.6	8.5	33.7
22	**53.57**	6.0	31.3	4.6	29.5	5.3	30.5	16.9	39.5	8.6	34.2	13.1	37.4	13.7	37.8	7.4	33.0	10.7	35.9
23	**57.14**	7.8	33.7	6.4	32.1	7.1	33.0	21.2	41.5	11.3	36.5	16.6	39.6	17.3	39.9	9.8	35.3	13.8	38.0
24	**60.71**	10.3	36.1	8.9	34.6	9.6	35.4	26.1	43.6	14.6	38.8	20.8	41.7	21.5	41.9	12.8	37.7	17.4	40.2
25	**64.29**	13.3	38.6	12.0	37.2	12.6	37.9	31.7	45.6	19.2	41.1	25.9	43.8	26.3	44.0	17.0	40.1	22.0	42.4
26	**67.86**	18.2	41.0	16.3	39.8	17.3	40.4	38.2	47.6	24.3	43.4	31.8	45.9	32.4	46.1	21.8	42.4	27.4	44.5
27	**71.43**	24.3	43.4	21.6	42.3	23.0	42.9	45.8	49.7	30.9	45.7	38.9	48.0	39.5	48.1	28.0	44.8	34.1	46.7
28	**75.00**	31.9	45.9	28.9	44.9	30.4	45.4	54.4	51.7	39.0	48.0	47.3	50.1	47.9	50.2	35.8	47.1	42.2	48.9
29	**78.57**	40.6	48.3	37.4	47.5	39.1	47.9	63.8	53.7	48.8	50.3	56.8	52.2	57.0	52.3	45.3	49.5	51.5	51.0
30	**82.14**	51.1	50.7	48.2	50.0	49.7	50.4	72.6	55.7	59.2	52.6	66.4	54.3	66.4	54.3	55.8	51.9	61.4	53.2
31	**85.71**	62.5	53.2	59.6	52.6	61.1	52.9	80.6	57.8	70.2	54.9	75.8	56.4	75.3	56.4	66.9	54.2	71.4	55.4
32	**89.29**	73.1	55.6	70.5	55.1	71.8	55.4	87.4	59.8	79.8	57.2	83.9	58.5	83.2	58.5	76.9	56.6	80.3	57.5
33	**92.86**	82.4	58.0	81.9	57.7	82.2	57.9	93.2	61.8	88.3	59.6	90.9	60.6	90.1	60.5	86.3	58.9	88.3	59.7
34	**96.43**	91.3	60.5	90.9	60.3	91.1	60.4	97.2	63.8	94.4	61.9	95.9	62.8	95.5	62.6	93.3	61.3	94.5	61.9
35	**100.00**	100.0	62.9	100.0	62.8	100.0	62.9	100.0	65.9	100.0	64.2	100.0	64.9	100.0	64.6	100.0	63.7	100.0	64.0

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-13:
European reference population (13 countries). Individual norm data for KIDSCREEN-27: Parent Relations & Autonomy

Raw-Score	0-100 Score	Children 8-11 Females (n=3309) PR	Children 8-11 Females (n=3309) TS	Children 8-11 Males (n=3159) PR	Children 8-11 Males (n=3159) TS	Children 8-11 All (n=6468) PR	Children 8-11 All (n=6468) TS	Adolescents 12-18 Females (n=8346) PR	Adolescents 12-18 Females (n=8346) TS	Adolescents 12-18 Males (n=7151) PR	Adolescents 12-18 Males (n=7151) TS	Adolescents 12-18 All (n=15497) PR	Adolescents 12-18 All (n=15497) TS	Children & Adolescents 8-18 Females (n=11655) PR	Children & Adolescents 8-18 Females (n=11655) TS	Children & Adolescents 8-18 Males (n=10310) PR	Children & Adolescents 8-18 Males (n=10310) TS	Children & Adolescents 8-18 All (n=21965) PR	Children & Adolescents 8-18 All (n=21965) TS
7	**0.00**			0.0	5.5	0.0	6.3	0.0	13.3	0.0	7.7	0.0	11.1	0.0	12.0	0.0	7.1	0.0	10.0
8	**3.57**			0.0	7.6	0.0	8.3	0.1	15.1	0.0	9.7	0.1	13.0	0.1	13.9	0.0	9.2	0.1	11.9
9	**7.14**	0.1	10.9	0.1	9.7	0.1	10.3	0.2	17.0	0.1	11.8	0.1	14.9	0.2	15.8	0.1	11.2	0.1	13.9
10	**10.71**	0.2	12.9	0.1	11.7	0.1	12.3	0.4	18.8	0.1	13.8	0.2	16.8	0.3	17.6	0.1	13.2	0.2	15.8
11	**14.29**	0.3	14.9	0.3	13.8	0.3	14.4	0.5	20.7	0.2	15.8	0.4	18.8	0.5	19.5	0.2	15.3	0.3	17.7
12	**17.86**	0.4	16.9	0.3	15.8	0.4	16.4	0.8	22.5	0.4	17.8	0.6	20.7	0.7	21.4	0.4	17.3	0.5	19.7
13	**21.43**	0.6	18.9	0.4	17.9	0.5	18.4	1.4	24.4	0.6	19.8	1.0	22.6	1.2	23.2	0.6	19.3	0.9	21.6
14	**25.00**	0.9	20.9	0.7	20.0	0.8	20.4	2.1	26.3	1.0	21.9	1.6	24.5	1.7	25.1	0.9	21.3	1.4	23.5
15	**28.57**	1.4	22.9	1.0	22.0	1.2	22.5	3.2	28.1	1.5	23.9	2.4	26.4	2.7	27.0	1.4	23.4	2.1	25.5
16	**32.14**	2.0	24.8	1.7	24.1	1.8	24.5	4.4	30.0	2.3	25.9	3.5	28.3	3.7	28.8	2.1	25.4	3.0	27.4
17	**35.71**	3.1	26.8	2.6	26.2	2.9	26.5	6.0	31.8	3.4	27.9	4.8	30.2	5.2	30.7	3.2	27.4	4.2	29.3
18	**39.29**	4.7	28.8	3.8	28.2	4.3	28.5	8.3	33.7	4.7	29.9	6.6	32.1	7.3	32.6	4.4	29.4	5.9	31.2
19	**42.86**	6.2	30.8	5.0	30.3	5.6	30.6	10.9	35.5	6.5	31.9	8.9	34.1	9.6	34.4	6.0	31.5	7.9	33.2
20	**46.43**	8.4	32.8	6.9	32.4	7.7	32.6	14.0	37.4	8.8	34.0	11.6	36.0	12.4	36.3	8.2	33.5	10.4	35.1
21	**50.00**	10.4	34.8	9.5	34.4	10.0	34.6	17.8	39.2	11.9	36.0	15.1	37.9	15.7	38.2	11.2	35.5	13.6	37.0
22	**53.57**	13.2	36.8	12.4	36.5	12.8	36.6	21.9	41.1	15.1	38.0	18.8	39.8	19.5	40.0	14.3	37.6	17.0	39.0
23	**57.14**	16.8	38.8	15.6	38.6	16.3	38.7	26.0	42.9	18.9	40.0	22.8	41.7	23.4	41.9	17.9	39.6	20.8	40.9
24	**60.71**	19.9	40.8	19.8	40.6	19.9	40.7	31.0	44.8	23.2	42.0	27.4	43.6	27.9	43.8	22.2	41.6	25.2	42.8
25	**64.29**	24.3	42.8	25.3	42.7	24.8	42.7	36.5	46.6	28.3	44.0	32.7	45.5	33.0	45.6	27.4	43.6	30.4	44.8
26	**67.86**	28.7	44.7	30.8	44.7	29.8	44.7	42.5	48.5	34.3	46.1	38.8	47.4	38.6	47.5	33.3	45.7	36.1	46.7
27	**71.43**	34.7	46.7	37.1	46.8	35.9	46.8	49.4	50.3	41.1	48.1	45.6	49.3	45.2	49.4	39.9	47.7	42.7	48.6
28	**75.00**	41.2	48.7	43.6	48.9	42.4	48.8	56.5	52.2	48.4	50.1	52.7	51.3	52.1	51.2	46.9	49.7	49.7	50.6
29	**78.57**	48.9	50.7	51.3	50.9	50.1	50.8	63.4	54.0	56.0	52.1	60.0	53.2	59.3	53.1	54.6	51.8	57.1	52.5
30	**82.14**	56.9	52.7	58.6	53.0	57.8	52.9	71.0	55.9	64.1	54.1	67.8	55.1	67.0	55.0	62.4	53.8	64.9	54.4
31	**85.71**	65.1	54.7	67.7	55.1	66.4	54.9	78.1	57.7	72.1	56.2	75.3	57.0	74.4	56.8	70.7	55.8	72.7	56.4
32	**89.29**	74.6	56.7	76.1	57.1	75.4	56.9	84.7	59.6	80.4	58.2	82.7	58.9	81.9	58.7	79.1	57.8	80.5	58.3
33	**92.86**	82.4	58.7	84.0	59.2	83.2	58.9	90.9	61.4	87.9	60.2	89.5	60.8	88.5	60.6	86.7	59.9	87.7	60.2
34	**96.43**	90.4	60.7	90.9	61.3	90.6	61.0	95.7	63.3	93.7	62.2	94.8	62.7	94.2	62.4	92.8	61.9	93.6	62.2
35	**100.00**	100.0	62.7	100.0	63.3	100.0	63.0	100.0	65.2	100.0	64.2	100.0	64.6	100.0	64.3	100.0	63.9	100.0	64.1

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-14:
European reference population (13 countries). Individual norm data for KIDSCREEN-27: Social Support & Peers

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3464)		Males (n=3273)		All (n=6737)		Females (n=8464)		Males (n=7273)		All (n=15737)		Females (n=11928)		Males (n=10546)		All (n=22474)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
4	**0.00**	0.3	8.1	0.4	8.7	0.4	8.4	0.1	10.7	0.6	11.6	0.4	11.2	0.2	10.1	0.5	10.9	0.4	10.5
5	**6.25**	0.5	11.4	0.5	12.0	0.5	11.7	0.4	13.9	0.8	14.8	0.6	14.4	0.4	13.3	0.7	14.1	0.5	13.7
6	**12.50**	0.7	14.7	0.7	15.3	0.7	15.0	0.7	17.1	1.0	18.0	0.9	17.6	0.7	16.5	0.9	17.3	0.8	16.9
7	**18.75**	1.1	18.0	1.0	18.6	1.1	18.3	1.3	20.3	1.6	21.2	1.4	20.7	1.3	19.7	1.4	20.5	1.3	20.1
8	**25.00**	2.0	21.3	2.0	21.9	2.0	21.6	2.5	23.5	2.6	24.4	2.5	23.9	2.3	22.9	2.4	23.7	2.4	23.3
9	**31.25**	3.2	24.6	3.4	25.1	3.3	24.9	3.8	26.7	3.8	27.6	3.8	27.1	3.6	26.1	3.7	26.9	3.7	26.5
10	**37.50**	4.5	27.9	4.9	28.4	4.7	28.1	6.0	29.8	5.9	30.7	6.0	30.3	5.5	29.3	5.6	30.1	5.6	29.7
11	**43.75**	6.5	31.2	7.1	31.7	6.8	31.4	8.6	33.0	8.9	33.9	8.7	33.5	8.0	32.5	8.3	33.3	8.1	32.9
12	**50.00**	10.5	34.5	10.6	35.0	10.6	34.7	13.0	36.2	13.4	37.1	13.2	36.6	12.3	35.7	12.5	36.5	12.4	36.1
13	**56.25**	14.1	37.7	14.7	38.3	14.4	38.0	17.8	39.4	19.0	40.3	18.3	39.8	16.7	39.0	17.7	39.7	17.1	39.3
14	**62.50**	19.6	41.0	21.2	41.6	20.4	41.3	23.9	42.6	26.8	43.5	25.2	43.0	22.6	42.2	25.0	42.9	23.8	42.5
15	**68.75**	27.8	44.3	29.3	44.9	28.5	44.6	32.7	45.8	36.3	46.7	34.4	46.2	31.3	45.4	34.1	46.1	32.6	45.7
16	**75.00**	38.7	47.6	41.9	48.1	40.3	47.9	44.3	49.0	49.4	49.9	46.6	49.4	42.7	48.6	47.0	49.3	44.7	48.9
17	**81.25**	51.8	50.9	54.3	51.4	53.0	51.2	56.3	52.2	62.4	53.0	59.1	52.6	55.0	51.8	59.8	52.5	57.3	52.2
18	**87.50**	66.4	54.2	69.0	54.7	67.6	54.5	70.9	55.3	75.3	56.2	72.9	55.7	69.6	55.0	73.3	55.8	71.3	55.4
19	**93.75**	80.3	57.5	82.6	58.0	81.4	57.8	85.5	58.5	87.9	59.4	86.6	58.9	84.0	58.2	86.3	59.0	85.1	58.6
20	**100.00**	100.0	60.8	100.0	61.3	100.0	61.0	100.0	61.7	100.0	62.6	100.0	62.1	100.0	61.4	100.0	62.2	100.0	61.8

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-15:
European reference population (13 countries). Individual norm data for KIDSCREEN-27: School Environment

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3460)		Males (n=3287)		All (n=6747)		Females (n=8400)		Males (n=7208)		All (n=15608)		Females (n=11860)		Males (n=10495)		All (n=22355)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
4	**0.00**	0.2	6.6	0.1	12.7	0.2	10.0	0.2	16.0	0.4	18.0	0.3	16.9	0.2	14.9	0.3	17.0	0.2	15.9
5	**6.25**	0.2	10.1	0.2	15.9	0.2	13.3	0.5	19.2	0.9	21.0	0.7	20.1	0.4	18.1	0.7	20.0	0.5	19.0
6	**12.50**	0.4	13.5	0.6	19.0	0.5	16.6	1.1	22.4	1.7	24.1	1.4	23.2	0.9	21.2	1.4	23.0	1.1	22.1
7	**18.75**	0.6	17.0	1.3	22.2	1.0	19.9	2.3	25.6	3.1	27.1	2.7	26.4	1.8	24.4	2.6	26.1	2.1	25.2
8	**25.00**	1.2	20.5	2.4	25.3	1.8	23.2	4.1	28.9	5.4	30.2	4.7	29.5	3.2	27.5	4.4	29.1	3.8	28.3
9	**31.25**	2.1	23.9	4.2	28.5	3.2	26.4	6.5	32.1	7.9	33.3	7.1	32.7	5.2	30.7	6.7	32.1	5.9	31.4
10	**37.50**	3.5	27.4	7.1	31.6	5.2	29.7	10.5	35.3	11.8	36.3	11.1	35.8	8.5	33.8	10.3	35.2	9.3	34.5
11	**43.75**	6.3	30.9	10.4	34.8	8.3	33.0	16.1	38.5	17.4	39.4	16.7	38.9	13.3	37.0	15.2	38.2	14.2	37.6
12	**50.00**	10.1	34.3	16.0	37.9	13.0	36.3	24.4	41.8	25.5	42.4	25.0	42.1	20.3	40.1	22.5	41.2	21.3	40.7
13	**56.25**	15.2	37.8	22.3	41.1	18.7	39.5	34.1	45.0	34.9	45.5	34.5	45.2	28.6	43.3	31.0	44.3	29.7	43.8
14	**62.50**	22.4	41.2	30.0	44.2	26.1	42.8	45.5	48.2	46.3	48.6	45.9	48.4	38.8	46.4	41.2	47.3	39.9	46.8
15	**68.75**	31.4	44.7	39.4	47.4	35.3	46.1	58.4	51.4	58.6	51.6	58.5	51.5	50.5	49.6	52.6	50.3	51.5	49.9
16	**75.00**	43.2	48.2	52.8	50.5	47.8	49.4	72.3	54.7	72.5	54.7	72.4	54.7	63.8	52.7	66.3	53.4	65.0	53.0
17	**81.25**	55.9	51.6	65.8	53.7	60.7	52.7	82.5	57.9	82.0	57.8	82.3	57.8	74.7	55.9	76.9	56.4	75.8	56.1
18	**87.50**	70.5	55.1	77.1	56.8	73.8	55.9	90.2	61.1	89.6	60.8	89.9	61.0	84.5	59.0	85.7	59.4	85.0	59.2
19	**93.75**	83.6	58.6	87.3	60.0	85.4	59.2	96.0	64.3	95.2	63.9	95.6	64.1	92.4	62.2	92.7	62.4	92.5	62.3
20	**100.00**	100.0	62.0	100.0	63.1	100.0	62.5	100.0	67.6	100.0	66.9	100.0	67.3	100.0	65.4	100.0	65.5	100.0	65.4

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A2-16:
European reference population (13 countries). Individual norm data for KIDSCREEN-10 Index

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=3364)		Males (n=3176)		All (n=6540)		Females (n=8235)		Males (n=7044)		All (n=15279)		Females (n=11599)		Males (n=10220)		All (n=21819)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	0.00																		
11	2.50																		
12	5.00							0.0	8.0			0.0	5.4	0.0	6.7			0.0	3.8
13	7.50							0.0	9.6			0.0	7.1	0.0	8.3			0.0	5.5
14	10.00							0.0	11.3	0.0	4.3	0.0	8.8	0.0	9.9	0.0	2.9	0.0	7.2
15	12.50							0.1	12.9	0.0	6.0	0.0	10.5	0.0	11.5	0.0	4.6	0.0	8.9
16	15.00	0.0	2.5			0.0	1.6	0.1	14.5	0.0	7.8	0.0	12.1	0.1	13.1	0.0	6.4	0.0	10.5
17	17.50	0.0	4.3			0.0	3.4	0.1	16.2	0.1	9.6	0.1	13.8	0.1	14.8	0.0	8.2	0.1	12.2
18	20.00	0.1	6.2	0.1	4.4	0.1	5.3	0.2	17.8	0.1	11.4	0.1	15.5	0.2	16.4	0.1	10.0	0.1	13.9
19	22.50	0.1	8.0	0.1	6.3	0.1	7.2	0.3	19.4	0.1	13.2	0.2	17.2	0.3	18.0	0.1	11.8	0.2	15.6
20	25.00	0.2	9.8	0.2	8.2	0.2	9.0	0.6	21.1	0.2	14.9	0.4	18.8	0.4	19.6	0.1	13.6	0.3	17.2
21	27.50	0.2	11.7	0.2	10.1	0.2	10.9	0.8	22.7	0.3	16.7	0.6	20.5	0.6	21.2	0.3	15.4	0.5	18.9
22	30.00	0.3	13.5	0.3	12.0	0.3	12.8	1.3	24.3	0.4	18.5	0.9	22.2	1.0	22.8	0.4	17.2	0.7	20.6
23	32.50	0.4	15.4	0.4	13.9	0.4	14.7	1.7	26.0	0.7	20.3	1.3	23.9	1.4	24.4	0.6	19.0	1.0	22.3
24	35.00	0.6	17.2	0.4	15.8	0.5	16.6	2.5	27.6	1.0	22.1	1.8	25.5	1.9	26.0	0.9	20.7	1.4	23.9
25	37.50	0.6	19.1	0.7	17.7	0.6	18.4	3.5	29.3	1.5	23.9	2.6	27.2	2.6	27.6	1.2	22.5	2.0	25.6
26	40.00	1.1	20.9	0.8	19.7	1.0	20.3	4.6	30.9	2.2	25.6	3.5	28.9	3.6	29.3	1.8	24.3	2.7	27.3
27	42.50	1.3	22.8	1.1	21.6	1.2	22.2	6.1	32.5	3.0	27.4	4.6	30.6	4.7	30.9	2.4	26.1	3.6	29.0
28	45.00	1.6	24.6	1.7	23.5	1.7	24.1	8.0	34.2	3.8	29.2	6.0	32.2	6.1	32.5	3.1	27.9	4.7	30.6
29	47.50	2.5	26.4	2.1	25.4	2.4	25.9	10.3	35.8	4.9	31.0	7.8	33.9	8.0	34.1	4.0	29.7	6.2	32.3
30	50.00	3.6	28.3	2.9	27.3	3.3	27.8	13.0	37.4	6.4	32.8	10.0	35.6	10.3	35.7	5.3	31.5	8.0	34.0
31	52.50	5.0	30.1	4.0	29.2	4.5	29.7	16.2	39.1	8.5	34.5	12.7	37.3	13.0	37.3	7.1	33.3	10.2	35.7
32	55.00	6.2	32.0	5.1	31.1	5.7	31.6	20.3	40.7	11.0	36.3	16.1	38.9	16.2	38.9	9.2	35.0	12.9	37.3
33	57.50	7.8	33.8	7.0	33.0	7.4	33.4	24.1	42.3	13.9	38.1	19.4	40.6	19.4	40.5	11.8	36.8	15.8	39.0
34	60.00	10.6	35.7	8.7	34.9	9.7	35.3	28.6	44.0	17.4	39.9	23.4	42.3	23.4	42.2	14.7	38.6	19.3	40.7
35	62.50	13.7	37.5	11.7	36.9	12.7	37.2	33.7	45.6	21.9	41.7	28.3	44.0	27.9	43.8	18.7	40.4	23.6	42.4
36	65.00	16.7	39.4	15.2	38.8	16.0	39.1	39.8	47.2	26.7	43.5	33.7	45.6	33.1	45.4	23.1	42.2	28.4	44.0
37	67.50	20.5	41.2	19.5	40.7	20.0	41.0	45.3	48.9	32.1	45.2	39.2	47.3	38.1	47.0	28.2	44.0	33.4	45.7
38	70.00	24.8	43.0	24.5	42.6	24.6	42.8	51.9	50.5	38.0	47.0	45.5	49.0	44.1	48.6	33.8	45.8	39.2	47.4
39	72.50	29.5	44.9	29.6	44.5	29.6	44.7	58.1	52.2	44.4	48.8	51.8	50.7	49.8	50.2	39.8	47.6	45.1	49.0
40	75.00	35.4	46.7	35.0	46.4	35.2	46.6	64.4	53.8	51.7	50.6	58.5	52.3	56.0	51.8	46.5	49.4	51.5	50.7
41	77.50	42.5	48.6	42.7	48.3	42.6	48.5	71.4	55.4	59.6	52.4	65.9	54.0	63.0	53.4	54.3	51.1	58.9	52.4
42	80.00	49.4	50.4	49.3	50.2	49.3	50.3	77.1	57.1	66.8	54.1	72.3	55.7	69.1	55.0	61.3	52.9	65.4	54.1
43	82.50	57.3	52.3	56.8	52.1	57.0	52.2	82.4	58.7	72.9	55.9	78.0	57.4	75.1	56.7	67.9	54.7	71.7	55.7
44	85.00	65.1	54.1	65.2	54.1	65.1	54.1	86.9	60.3	79.6	57.7	83.5	59.0	80.6	58.3	75.1	56.5	78.0	57.4
45	87.50	71.9	56.0	73.0	56.0	72.4	56.0	90.9	62.0	85.1	59.5	88.2	60.7	85.4	59.9	81.3	58.3	83.5	59.1
46	90.00	79.5	57.8	80.1	57.9	79.8	57.8	93.8	63.6	90.0	61.3	92.0	62.4	89.6	61.5	86.9	60.1	88.4	60.8
47	92.50	86.0	59.6	86.4	59.8	86.2	59.7	96.2	65.2	93.4	63.1	94.9	64.1	93.2	63.1	91.3	61.9	92.3	62.4
48	95.00	91.7	61.5	91.7	61.7	91.7	61.6	98.2	66.9	96.5	64.8	97.5	65.7	96.3	64.7	95.0	63.7	95.7	64.1
49	97.50	96.0	63.3	95.8	63.6	95.9	63.5	99.4	68.5	98.5	66.6	99.0	67.4	98.4	66.3	97.6	65.5	98.0	65.8
50	100.00	100.0	65.2	100.0	65.5	100.0	65.3	100.0	70.1	100.0	68.4	100.0	69.1	100.0	67.9	100.0	67.2	100.0	67.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

KIDSCREEN Health Related Quality of Life Questionnaires

Appendix A3: Provision of European Norm Proxy Data for Individual Diagnostic Use

Table A3-1:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Physical Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2885)		Males (n=2754)		All (n=5639)		Females (n=5437)		Males (n=4597)		All (n=10034)		Females (n=8322)		Males (n=7351)		All (n=15673)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	**0.00**	0.1	4.2			0.0	3.8	0.1	15.5	0.1	10.5	0.1	13.8	0.0	13.2	0.0	8.4	0.0	11.4
6	**5.56**	0.1	7.6	0.1	6.6	0.1	7.2	0.3	18.5	0.2	13.6	0.2	16.8	0.2	16.2	0.1	11.6	0.2	14.4
7	**11.11**	0.2	11.0	0.3	10.0	0.2	10.6	0.8	21.4	0.5	16.7	0.7	19.7	0.6	19.1	0.4	14.7	0.5	17.4
8	**16.67**	0.4	14.4	0.6	13.4	0.5	14.0	1.5	24.3	0.9	19.7	1.3	22.7	1.2	22.1	0.8	17.9	1.0	20.5
9	**22.22**	0.7	17.8	0.8	16.8	0.8	17.4	2.7	27.3	1.7	22.8	2.2	25.6	2.0	25.1	1.4	21.0	1.7	23.5
10	**27.78**	1.3	21.2	1.3	20.2	1.3	20.8	4.6	30.2	2.7	25.9	3.8	28.6	3.5	28.1	2.2	24.2	2.9	26.5
11	**33.33**	1.8	24.6	2.0	23.5	1.9	24.1	7.2	33.1	4.2	28.9	5.8	31.5	5.3	31.1	3.4	27.3	4.4	29.5
12	**38.89**	3.3	28.0	3.3	26.9	3.3	27.5	11.5	36.1	6.7	32.0	9.3	34.5	8.6	34.0	5.4	30.4	7.1	32.6
13	**44.44**	5.8	31.4	5.0	30.3	5.4	30.9	17.0	39.0	9.8	35.1	13.7	37.4	13.1	37.0	8.0	33.6	10.7	35.6
14	**50.00**	9.8	34.8	8.3	33.7	9.1	34.3	24.5	41.9	14.7	38.1	20.0	40.4	19.3	40.0	12.3	36.7	16.0	38.6
15	**55.56**	14.8	38.2	12.8	37.1	13.8	37.7	33.0	44.9	21.7	41.2	27.8	43.3	26.7	43.0	18.3	39.9	22.8	41.7
16	**61.11**	23.3	41.6	19.5	40.5	21.4	41.1	44.1	47.8	29.9	44.3	37.6	46.3	36.8	46.0	26.0	43.0	31.8	44.7
17	**66.67**	33.6	45.0	29.2	43.9	31.5	44.5	55.9	50.7	41.0	47.4	49.1	49.2	48.1	48.9	36.6	46.2	42.7	47.7
18	**72.22**	48.1	48.4	42.2	47.3	45.3	47.9	68.0	53.6	54.4	50.4	61.8	52.2	61.1	51.9	49.8	49.3	55.8	50.7
19	**77.78**	60.1	51.8	54.7	50.7	57.5	51.3	77.8	56.6	66.6	53.5	72.7	55.1	71.7	54.9	62.1	52.5	67.2	53.8
20	**83.33**	72.6	55.2	67.6	54.1	70.2	54.6	86.1	59.5	77.5	56.6	82.2	58.1	81.4	57.9	73.8	55.6	77.9	56.8
21	**88.89**	83.7	58.6	80.3	57.5	82.1	58.0	92.3	62.4	86.9	59.6	89.8	61.0	89.3	60.9	84.4	58.8	87.0	59.8
22	**94.44**	93.0	62.0	92.1	60.9	92.5	61.4	97.0	65.4	94.2	62.7	95.7	64.0	95.6	63.8	93.4	61.9	94.6	62.9
23	**100.00**	100.0	65.4	100.0	64.3	100.0	64.8	100.0	68.3	100.0	65.8	100.0	66.9	100.0	66.8	100.0	65.1	100.0	65.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-2:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Psychological Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2903)		Males (n=2751)		All (n=5654)		Females (n=5477)		Males (n=4624)		All (n=10101)		Females (n=8380)		Males (n=7375)		All (n=15744)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	**0.00**																		
7	**4.17**							0.0	8.0	0.0	5.0	0.0	6.7	0.0	5.0	0.0	2.7	0.0	4.0
8	**8.33**							0.0	10.5	0.1	7.7	0.0	9.3	0.0	7.6	0.0	5.5	0.0	6.7
9	**12.50**	0.1	1.2	0.1	3.5	0.0	2.4	0.1	13.1	0.2	10.3	0.2	11.9	0.1	10.3	0.1	8.3	0.1	9.4
10	**16.67**	0.1	4.2	0.1	6.5	0.1	5.4	0.2	15.7	0.2	13.0	0.2	14.6	0.2	13.0	0.2	11.0	0.2	12.1
11	**20.83**	0.2	7.3	0.1	9.5	0.1	8.4	0.4	18.3	0.3	15.7	0.4	17.2	0.3	15.6	0.2	13.8	0.3	14.8
12	**25.00**	0.2	10.4	0.3	12.4	0.2	11.5	1.0	20.8	0.6	18.4	0.8	19.8	0.7	18.3	0.5	16.6	0.6	17.5
13	**29.17**	0.4	13.4	0.4	15.4	0.4	14.5	1.6	23.4	1.0	21.1	1.3	22.4	1.2	20.9	0.8	19.4	1.0	20.2
14	**33.33**	0.5	16.5	0.8	18.4	0.6	17.5	2.4	25.9	1.5	23.8	2.0	25.0	1.8	23.6	1.2	22.1	1.5	22.9
15	**37.50**	1.0	19.6	1.2	21.4	1.1	20.5	4.1	28.5	2.7	26.5	3.5	27.6	3.0	26.3	2.2	24.9	2.6	25.6
16	**41.67**	1.5	22.6	2.0	24.4	1.8	23.5	5.6	31.0	4.0	29.2	4.9	30.2	4.2	28.9	3.3	27.7	3.8	28.4
17	**45.83**	2.2	25.7	3.1	27.4	2.6	26.6	8.1	33.6	5.7	31.9	7.0	32.8	6.0	31.6	4.8	30.5	5.4	31.1
18	**50.00**	4.4	28.8	5.7	30.4	5.1	29.6	12.4	36.1	9.9	34.6	11.3	35.5	9.6	34.2	8.4	33.2	9.0	33.8
19	**54.17**	6.3	31.8	7.9	33.4	7.1	32.6	16.1	38.7	13.2	37.3	14.7	38.1	12.6	36.9	11.2	36.0	12.0	36.5
20	**58.33**	9.0	34.9	11.4	36.4	10.1	35.6	20.6	41.2	17.9	39.9	19.4	40.7	16.5	39.5	15.5	38.8	16.0	39.2
21	**62.50**	14.7	38.0	17.2	39.3	15.9	38.7	29.0	43.8	26.1	42.6	27.7	43.3	24.0	42.2	22.8	41.5	23.4	41.9
22	**66.67**	19.4	41.0	22.8	42.3	21.1	41.7	35.6	46.4	32.1	45.3	34.0	45.9	29.9	44.8	28.6	44.3	29.3	44.6
23	**70.83**	26.6	44.1	29.7	45.3	28.1	44.7	43.7	48.9	39.9	48.0	42.0	48.5	37.7	47.5	36.1	47.1	37.0	47.3
24	**75.00**	44.2	47.2	49.1	48.3	46.6	47.7	57.7	51.5	56.7	50.7	57.3	51.1	53.0	50.1	53.9	49.9	53.4	50.0
25	**79.17**	54.6	50.2	58.9	51.3	56.7	50.8	66.7	54.0	66.1	53.4	66.4	53.7	62.5	52.8	63.4	52.6	62.9	52.7
26	**83.33**	64.2	53.3	68.6	54.3	66.4	53.8	76.1	56.6	75.4	56.1	75.8	56.3	72.0	55.4	72.9	55.4	72.4	55.4
27	**87.50**	80.2	56.4	83.0	57.3	81.6	56.8	88.3	59.1	86.5	58.8	87.5	59.0	85.4	58.1	85.2	58.2	85.3	58.1
28	**91.67**	86.3	59.4	88.4	60.3	87.3	59.8	92.3	61.7	91.1	61.5	91.8	61.6	90.2	60.8	90.1	61.0	90.2	60.8
29	**95.83**	91.9	62.5	92.8	63.2	92.3	62.8	95.4	64.2	95.1	64.2	95.2	64.2	94.1	63.4	94.2	63.7	94.2	63.6
30	**100.00**	100.0	65.6	100.0	66.2	100.0	65.9	100.0	66.8	100.0	66.9	100.0	66.8	100.0	66.1	100.0	66.5	100.0	66.3

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-3:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Moods & Emotions

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2897)		Males (n=2740)		All (n=5637)		Females (n=5456)		Males (n=4607)		All (n=10063)		Females (n=8353)		Males (n=7347)		All (n=15700)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
7	0.00																		
8	3.57																		
9	7.14																		
10	10.71			0.1	-8.0	0.0	-8.9									0.0	-3.9	0.0	-2.9
11	14.29			0.1	-5.2	0.0	-6.0									0.0	-1.2	0.0	-0.2
12	17.86	0.1	-4.1	0.1	-2.3	0.0	-3.2			0.0	3.2	0.0	4.7	0.0	3.3	0.0	1.5	0.0	2.5
13	21.43	0.1	-1.1	0.1	0.5	0.0	-0.3	0.0	8.2	0.1	5.9	0.1	7.3	0.0	5.9	0.1	4.2	0.0	5.2
14	25.00	0.2	1.8	0.1	3.4	0.1	2.6	0.1	10.8	0.2	8.5	0.1	9.9	0.1	8.6	0.1	6.9	0.1	7.8
15	28.57	0.2	4.7	0.2	6.3	0.2	5.5	0.3	13.4	0.3	11.2	0.3	12.5	0.3	11.2	0.2	9.6	0.3	10.5
16	32.14	0.5	7.6	0.4	9.1	0.5	8.4	0.5	16.0	0.5	13.8	0.5	15.1	0.5	13.9	0.5	12.3	0.5	13.2
17	35.71	0.6	10.5	0.7	12.0	0.6	11.2	1.0	18.5	0.6	16.4	0.8	17.7	0.8	16.5	0.7	15.0	0.8	15.8
18	39.29	1.0	13.4	0.9	14.8	0.9	14.1	1.5	21.1	1.1	19.1	1.3	20.3	1.3	19.2	1.0	17.7	1.2	18.5
19	42.86	1.1	16.3	1.2	17.7	1.1	17.0	2.0	23.7	1.6	21.7	1.8	22.9	1.7	21.8	1.4	20.4	1.6	21.2
20	46.43	1.5	19.3	1.6	20.5	1.5	19.9	2.9	26.3	2.3	24.4	2.6	25.5	2.4	24.4	2.0	23.1	2.2	23.9
21	50.00	2.3	22.2	2.5	23.4	2.4	22.8	4.0	28.9	3.4	27.0	3.7	28.1	3.4	27.1	3.1	25.8	3.2	26.5
22	53.57	3.2	25.1	3.6	26.2	3.4	25.7	5.9	31.4	5.0	29.7	5.5	30.7	4.9	29.7	4.5	28.5	4.7	29.2
23	57.14	4.4	28.0	4.7	29.1	4.5	28.5	8.7	34.0	7.1	32.3	8.0	33.3	7.2	32.4	6.2	31.2	6.7	31.9
24	60.71	5.7	30.9	6.9	31.9	6.3	31.4	12.4	36.6	9.5	35.0	11.0	35.9	10.0	35.0	8.5	33.9	9.3	34.5
25	64.29	7.8	33.8	9.5	34.8	8.6	34.3	16.3	39.2	13.4	37.6	15.0	38.5	13.3	37.7	12.0	36.7	12.7	37.2
26	67.86	11.1	36.8	12.5	37.6	11.8	37.2	21.8	41.8	18.0	40.2	20.1	41.1	18.1	40.3	15.9	39.4	17.1	39.9
27	71.43	15.3	39.7	17.7	40.5	16.5	40.1	28.7	44.3	24.2	42.9	26.7	43.7	24.1	43.0	21.8	42.1	23.0	42.5
28	75.00	22.8	42.6	25.3	43.3	24.1	43.0	38.2	46.9	32.9	45.5	35.8	46.3	32.9	45.6	30.1	44.8	31.6	45.2
29	78.57	31.2	45.5	33.2	46.2	32.2	45.8	47.5	49.5	42.6	48.2	45.3	48.9	41.8	48.2	39.1	47.5	40.6	47.9
30	82.14	41.8	48.4	43.6	49.0	42.7	48.7	58.3	52.1	52.5	50.8	55.6	51.5	52.5	50.9	49.2	50.2	51.0	50.6
31	85.71	54.1	51.3	56.3	51.9	55.2	51.6	68.4	54.7	63.4	53.5	66.1	54.1	63.4	53.5	60.7	52.9	62.2	53.2
32	89.29	67.9	54.3	69.9	54.7	68.9	54.5	78.9	57.2	74.9	56.1	77.1	56.7	75.1	56.2	73.0	55.6	74.1	55.9
33	92.86	81.0	57.2	83.0	57.6	82.0	57.4	87.9	59.8	84.8	58.8	86.5	59.3	85.5	58.8	84.2	58.3	84.9	58.6
34	96.43	92.2	60.1	92.2	60.4	92.2	60.2	94.8	62.4	92.9	61.4	93.9	61.9	93.9	61.5	92.6	61.0	93.3	61.2
35	100.00	100.0	63.0	100.0	63.3	100.0	63.1	100.0	65.0	100.0	64.1	100.0	64.5	100.0	64.1	100.0	63.7	100.0	63.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-4:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Self-Perception

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2903)		Males (n=2760)		All (n=5663)		Females (n=5503)		Males (n=4627)		All (n=10130)		Females (n=8406)		Males (n=7387)		All (n=15793)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	**0.00**																		
6	**5.00**							0.0	13.9	0.0	1.3	0.0	10.0	0.0	11.3	0.0	-1.3	0.0	7.1
7	**10.00**							0.3	16.6	0.1	4.6	0.2	12.9	0.2	14.2	0.0	2.1	0.1	10.1
8	**15.00**	0.1	7.5			0.0	4.1	0.5	19.4	0.1	7.9	0.3	15.8	0.3	17.0	0.1	5.5	0.2	13.1
9	**20.00**	0.1	10.8	0.1	2.4	0.1	7.5	1.0	22.2	0.3	11.2	0.7	18.7	0.7	19.8	0.2	8.9	0.5	16.1
10	**25.00**	0.4	14.1	0.1	6.1	0.2	11.0	2.0	25.0	0.4	14.5	1.3	21.6	1.4	22.6	0.3	12.3	0.9	19.1
11	**30.00**	0.6	17.4	0.1	9.9	0.4	14.4	3.5	27.7	0.7	17.8	2.2	24.5	2.5	25.4	0.5	15.7	1.5	22.1
12	**35.00**	1.2	20.7	0.3	13.6	0.8	17.8	5.1	30.5	1.2	21.1	3.3	27.4	3.7	28.3	0.8	19.1	2.4	25.1
13	**40.00**	2.1	23.9	0.8	17.3	1.5	21.3	7.6	33.3	2.0	24.5	5.1	30.3	5.7	31.1	1.5	22.5	3.8	28.0
14	**45.00**	3.5	27.2	1.8	21.0	2.7	24.7	11.3	36.0	3.3	27.8	7.6	33.2	8.6	33.9	2.7	25.9	5.8	31.0
15	**50.00**	5.4	30.5	2.8	24.8	4.2	28.2	16.3	38.8	5.5	31.1	11.4	36.1	12.5	36.7	4.5	29.3	8.8	34.0
16	**55.00**	8.6	33.8	4.6	28.5	6.6	31.6	22.7	41.6	9.3	34.4	16.6	39.0	17.8	39.6	7.5	32.7	13.0	37.0
17	**60.00**	12.8	37.1	7.1	32.2	10.1	35.1	31.1	44.4	14.1	37.7	23.3	41.9	24.8	42.4	11.5	36.1	18.6	40.0
18	**65.00**	20.0	40.3	12.2	36.0	16.2	38.5	41.0	47.1	21.7	41.0	32.2	44.8	33.7	45.2	18.1	39.5	26.4	43.0
19	**70.00**	29.0	43.6	19.3	39.7	24.3	41.9	51.2	49.9	31.9	44.4	42.4	47.7	43.5	48.0	27.2	42.9	35.9	46.0
20	**75.00**	40.3	46.9	28.5	43.4	34.6	45.4	62.6	52.7	43.6	47.7	53.9	50.6	54.8	50.8	37.9	46.3	46.9	48.9
21	**80.00**	52.0	50.2	39.5	47.2	46.0	48.8	73.3	55.4	56.3	51.0	65.5	53.5	65.9	53.7	50.0	49.7	58.5	51.9
22	**85.00**	64.0	53.5	53.9	50.9	59.1	52.3	82.1	58.2	68.3	54.3	75.8	56.4	75.8	56.5	62.9	53.1	69.8	54.9
23	**90.00**	76.8	56.7	68.8	54.6	72.9	55.7	89.5	61.0	80.9	57.6	85.6	59.3	85.1	59.3	76.3	56.5	81.0	57.9
24	**95.00**	88.4	60.0	84.1	58.3	86.3	59.1	95.3	63.8	90.4	60.9	93.0	62.2	92.9	62.1	88.0	59.9	90.6	60.9
25	**100.00**	100.0	63.3	100.0	62.1	100.0	62.6	100.0	66.5	100.0	64.2	100.0	65.1	100.0	65.0	100.0	63.3	100.0	63.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-5:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Autonomy

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2924)		Males (n=2775)		All (n=5699)		Females (n=5524)		Males (n=4651)		All (n=10175)		Females (n=8448)		Males (n=7426)		All (n=15874)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	0.00									0.0	7.0	0.0	10.5			0.0	5.4	0.0	8.2
6	5.00							0.0	15.3	0.1	9.8	0.1	13.1	0.0	12.9	0.1	8.3	0.0	11.0
7	10.00	0.1	9.9			0.0	9.2	0.2	17.8	0.1	12.6	0.1	15.7	0.1	15.6	0.1	11.2	0.1	13.7
8	15.00	0.1	13.0	0.1	11.6	0.1	12.3	0.3	20.4	0.2	15.4	0.2	18.4	0.2	18.3	0.2	14.1	0.2	16.5
9	20.00	0.2	16.0	0.1	14.7	0.2	15.4	0.5	22.9	0.5	18.2	0.5	21.0	0.4	21.0	0.3	17.0	0.4	19.3
10	25.00	0.7	19.0	0.4	17.8	0.6	18.4	2.0	25.5	1.4	21.0	1.7	23.7	1.6	23.6	1.0	19.9	1.3	22.1
11	30.00	1.2	22.1	0.9	20.9	1.1	21.5	3.6	28.0	1.9	23.8	2.8	26.3	2.8	26.3	1.5	22.8	2.2	24.8
12	35.00	2.0	25.1	1.9	24.1	2.0	24.6	5.7	30.6	3.1	26.6	4.5	29.0	4.4	29.0	2.7	25.7	3.6	27.6
13	40.00	3.5	28.1	3.5	27.2	3.5	27.7	8.6	33.1	4.5	29.4	6.7	31.6	6.8	31.7	4.2	28.6	5.6	30.4
14	45.00	6.0	31.2	5.6	30.3	5.8	30.7	12.2	35.7	6.9	32.2	9.8	34.3	10.0	34.4	6.4	31.5	8.3	33.2
15	50.00	9.9	34.2	9.4	33.4	9.7	33.8	17.4	38.2	11.1	35.0	14.5	36.9	14.8	37.1	10.5	34.5	12.8	35.9
16	55.00	14.7	37.2	13.1	36.5	13.9	36.9	21.9	40.8	15.2	37.8	18.8	39.5	19.4	39.7	14.4	37.4	17.1	38.7
17	60.00	20.0	40.3	18.4	39.7	19.2	40.0	27.5	43.3	19.9	40.6	24.0	42.2	24.9	42.4	19.4	40.3	22.3	41.5
18	65.00	26.7	43.3	24.8	42.8	25.8	43.1	33.6	45.9	25.6	43.4	30.0	44.8	31.2	45.1	25.3	43.2	28.5	44.3
19	70.00	35.4	46.3	33.6	45.9	34.5	46.1	41.1	48.5	33.2	46.2	37.5	47.5	39.1	47.8	33.3	46.1	36.4	47.1
20	75.00	49.6	49.4	48.5	49.0	49.0	49.2	55.8	51.0	48.3	49.0	52.4	50.1	53.7	50.5	48.4	49.0	51.2	49.8
21	80.00	62.6	52.4	61.5	52.2	62.0	52.3	64.5	53.6	59.0	51.8	62.0	52.8	63.8	53.2	59.9	51.9	62.0	52.6
22	85.00	72.6	55.4	73.2	55.3	72.9	55.4	73.3	56.1	68.7	54.6	71.2	55.4	73.0	55.9	70.4	54.8	71.8	55.4
23	90.00	83.1	58.4	83.3	58.4	83.2	58.4	81.6	58.7	77.7	57.4	79.8	58.1	82.1	58.5	79.8	57.7	81.0	58.2
24	95.00	90.8	61.5	91.3	61.5	91.1	61.5	89.6	61.2	86.3	60.2	88.1	60.7	90.0	61.2	88.2	60.6	89.1	60.9
25	100.00	100.0	64.5	100.0	64.7	100.0	64.6	100.0	63.8	100.0	63.0	100.0	63.4	100.0	63.9	100.0	63.6	100.0	63.7

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-6:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Parent Relations & Home Life

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2891)		Males (n=2743)		All (n=5634)		Females (n=5463)		Males (n=4589)		All (n=10052)		Females (n=8354)		Males (n=7332)		All (n=15686)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	**0.00**							0.0	4.4			0.0	3.1	0.0	1.2			0.0	0.2
7	**4.17**							0.0	5.9			0.0	6.2	0.0	3.8			0.0	2.9
8	**8.33**	0.1	-2.1			0.0	-1.4	0.1	9.4	0.0	6.6	0.1	8.2	0.1	6.5	0.0	4.3	0.0	5.5
9	**12.50**	0.1	0.9			0.0	1.6	0.2	11.9	0.1	9.3	0.1	10.8	0.1	9.1	0.1	7.1	0.1	8.2
10	**16.67**	0.1	3.9			0.0	4.6	0.3	14.4	0.1	11.9	0.2	13.3	0.2	11.7	0.1	9.8	0.1	10.8
11	**20.83**	0.1	6.9			0.1	7.5	0.4	16.9	0.3	14.5	0.3	15.9	0.3	14.3	0.2	12.5	0.2	13.5
12	**25.00**	0.1	9.9	0.1	11.0	0.1	10.5	0.8	19.4	0.5	17.2	0.7	18.4	0.6	16.9	0.3	15.3	0.5	16.2
13	**29.17**	0.2	12.9	0.3	14.0	0.2	13.5	1.3	21.9	0.8	19.8	1.1	21.0	0.9	19.6	0.6	18.0	0.7	18.9
14	**33.33**	0.3	15.9	0.4	17.0	0.4	16.4	1.9	24.4	1.3	22.5	1.6	23.6	1.3	22.2	0.9	20.7	1.1	21.5
15	**37.50**	0.8	18.9	0.7	19.9	0.7	19.4	2.9	26.9	2.1	25.1	2.6	26.1	2.2	24.8	1.6	23.5	1.9	24.2
16	**41.67**	1.4	21.9	1.4	22.9	1.4	22.4	4.2	29.4	3.3	27.7	3.8	28.7	3.2	27.4	2.6	26.2	2.9	26.9
17	**45.83**	2.2	24.9	2.4	25.8	2.3	25.4	6.3	31.9	5.1	30.4	5.8	31.2	4.9	30.0	4.1	28.9	4.5	29.5
18	**50.00**	3.6	27.9	4.3	28.8	3.9	28.3	9.2	34.4	7.8	33.0	8.6	33.8	7.2	32.6	6.5	31.7	6.9	32.2
19	**54.17**	5.5	30.9	6.9	31.8	6.2	31.3	12.9	36.9	11.1	35.7	12.1	36.4	10.3	35.3	9.5	34.4	9.9	34.9
20	**58.33**	8.6	33.9	10.2	34.7	9.3	34.3	17.9	39.4	15.3	38.3	16.7	38.9	14.6	37.9	13.4	37.1	14.0	37.5
21	**62.50**	13.3	36.9	14.4	37.7	13.9	37.3	23.2	41.9	21.4	40.9	22.3	41.5	19.8	40.5	18.8	39.9	19.3	40.2
22	**66.67**	19.5	39.8	20.8	40.7	20.1	40.2	30.0	44.4	27.2	43.6	28.7	44.1	26.3	43.1	24.8	42.6	25.6	42.9
23	**70.83**	25.4	42.8	28.3	43.6	26.8	43.2	37.7	46.9	35.3	46.2	36.6	46.6	33.4	45.7	32.7	45.3	33.0	45.6
24	**75.00**	35.8	45.8	38.1	46.6	36.9	46.2	47.7	49.4	46.2	48.8	47.0	49.2	43.6	48.4	43.2	48.1	43.4	48.2
25	**79.17**	46.2	48.8	48.5	49.5	47.4	49.2	57.7	51.9	56.7	51.5	57.2	51.7	53.7	51.0	53.6	50.8	53.7	50.9
26	**83.33**	57.4	51.8	60.1	52.5	58.7	52.2	67.9	54.5	66.9	54.1	67.4	54.3	64.2	53.6	64.3	53.5	64.3	53.6
27	**87.50**	69.2	54.8	72.0	55.5	70.6	55.1	77.1	57.0	76.7	56.8	76.9	56.9	74.4	56.2	75.0	56.3	74.6	56.2
28	**91.67**	81.4	57.8	83.6	58.4	82.5	58.1	85.5	59.5	85.7	59.4	85.6	59.4	84.1	58.8	84.9	59.0	84.5	58.9
29	**95.83**	90.4	60.8	91.9	61.4	91.1	61.1	92.8	62.0	92.5	62.0	92.6	62.0	91.9	61.4	92.3	61.7	92.1	61.6
30	**100.00**	100.0	63.8	100.0	64.4	100.0	64.1	100.0	64.5	100.0	64.7	100.0	64.6	100.0	64.1	100.0	64.5	100.0	64.2

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-7:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Social Support & Peers

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2848)		Males (n=2696)		All (n=5544)		Females (n=5413)		Males (n=4508)		All (n=9921)		Females (n=8261)		Males (n=7204)		All (n=15465)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	0.00	0.1	8.8	0.2	10.5	0.2	9.7	0.1	13.5	0.2	14.1	0.1	13.8	0.1	12.0	0.2	12.9	0.1	12.4
7	4.17	0.2	11.3	0.3	13.0	0.2	12.1	0.2	15.7	0.3	16.3	0.2	16.0	0.1	14.3	0.3	15.2	0.2	14.7
8	8.33	0.2	13.8	0.4	15.4	0.3	14.6	0.2	18.0	0.5	18.6	0.4	18.2	0.2	16.7	0.5	17.5	0.4	17.0
9	12.50	0.5	16.2	0.5	17.8	0.5	17.0	0.4	20.2	0.8	20.8	0.6	20.5	0.4	19.0	0.7	19.8	0.6	19.3
10	16.67	0.6	18.7	0.8	20.2	0.7	19.5	0.9	22.4	1.0	23.0	0.9	22.7	0.8	21.3	0.9	22.0	0.8	21.7
11	20.83	0.8	21.2	1.1	22.6	0.9	21.9	1.4	24.7	1.3	25.3	1.4	25.0	1.2	23.6	1.2	24.3	1.2	24.0
12	25.00	1.5	23.7	2.5	25.0	2.0	24.3	2.7	26.9	2.9	27.5	2.8	27.2	2.3	25.9	2.8	26.6	2.5	26.3
13	29.17	2.2	26.1	3.5	27.4	2.8	26.8	4.2	29.2	4.5	29.7	4.3	29.4	3.5	28.2	4.1	28.9	3.8	28.6
14	33.33	3.3	28.6	4.8	29.8	4.0	29.2	5.7	31.4	6.3	31.9	6.0	31.7	4.8	30.5	5.7	31.2	5.3	30.9
15	37.50	5.0	31.1	6.3	32.2	5.6	31.7	8.1	33.7	8.3	34.2	8.2	33.9	7.0	32.8	7.6	33.5	7.3	33.2
16	41.67	7.5	33.5	8.4	34.6	7.9	34.1	10.9	35.9	11.1	36.4	11.0	36.1	9.7	35.2	10.1	35.8	9.9	35.5
17	45.83	10.4	36.0	12.2	37.1	11.3	36.5	14.6	38.1	14.9	38.6	14.7	38.4	13.1	37.5	13.9	38.1	13.5	37.8
18	50.00	16.1	38.5	17.5	39.5	16.8	39.0	21.0	40.4	21.7	40.9	21.3	40.6	19.3	39.8	20.1	40.4	19.7	40.1
19	54.17	21.3	40.9	22.4	41.9	21.9	41.4	25.8	42.6	26.8	43.1	26.3	42.8	24.3	42.1	25.1	42.7	24.7	42.4
20	58.33	27.0	43.4	28.7	44.3	27.8	43.8	31.4	44.9	32.7	45.3	32.0	45.1	29.8	44.4	31.2	45.0	30.5	44.7
21	62.50	34.5	45.9	36.3	46.7	35.4	46.3	38.2	47.1	40.1	47.6	39.1	47.3	37.0	46.7	38.7	47.3	37.8	47.0
22	66.67	43.9	48.4	46.1	49.1	45.0	48.7	46.3	49.4	48.6	49.8	47.4	49.6	45.5	49.0	47.7	49.5	46.5	49.3
23	70.83	53.0	50.8	56.1	51.5	54.5	51.2	55.2	51.6	57.7	52.0	56.3	51.8	54.4	51.3	57.1	51.8	55.7	51.6
24	75.00	67.5	53.3	70.2	53.9	68.8	53.6	68.0	53.8	70.9	54.2	69.3	54.0	67.9	53.7	70.6	54.1	69.2	53.9
25	79.17	75.8	55.8	78.0	56.4	76.9	56.0	75.9	56.1	77.7	56.5	76.7	56.3	75.9	56.0	77.8	56.4	76.8	56.2
26	83.33	83.2	58.2	85.6	58.8	84.4	58.5	82.7	58.3	83.6	58.7	83.1	58.5	82.9	58.3	84.4	58.7	83.6	58.5
27	87.50	89.1	60.7	90.4	61.2	89.7	60.9	88.5	60.6	89.0	60.9	88.7	60.7	88.7	60.6	89.5	61.0	89.1	60.8
28	91.67	93.5	63.2	94.8	63.6	94.1	63.4	92.8	62.8	93.1	63.2	92.9	63.0	93.1	62.9	93.7	63.3	93.4	63.1
29	95.83	96.1	65.6	97.1	66.0	96.6	65.8	96.0	65.1	96.0	65.4	96.0	65.2	96.0	65.2	96.4	65.6	96.2	65.4
30	100.00	100.0	68.1	100.0	68.4	100.0	68.2	100.0	67.3	100.0	67.6	100.0	67.4	100.0	67.5	100.0	67.9	100.0	67.7

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-8:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: School Environment

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2908)		Males (n=2757)		All (n=5665)		Females (n=5425)		Males (n=4585)		All (n=10010)		Females (n=8333)		Males (n=7342)		All (n=15675)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
6	**0.00**							0.1	10.9	0.0	14.1	0.0	12.5	0.0	9.4	0.0	12.7	0.0	11.1
7	**4.17**	0.1	3.5			0.0	7.0	0.1	13.3	0.1	16.4	0.1	14.9	0.1	11.7	0.1	15.0	0.1	13.4
8	**8.33**	0.1	6.2			0.1	9.5	0.1	15.7	0.4	18.8	0.3	17.3	0.1	14.1	0.3	17.3	0.2	15.8
9	**12.50**	0.1	8.8	0.1	14.5	0.1	12.0	0.3	18.1	0.6	21.1	0.5	19.6	0.2	16.5	0.5	19.6	0.3	18.1
10	**16.67**	0.2	11.4	0.3	16.9	0.2	14.5	0.7	20.6	1.0	23.4	0.8	22.0	0.5	18.9	0.8	21.9	0.6	20.4
11	**20.83**	0.2	14.1	0.7	19.4	0.5	17.1	1.0	23.0	1.8	25.7	1.4	24.4	0.8	21.3	1.4	24.2	1.1	22.8
12	**25.00**	0.5	16.7	1.1	21.8	0.8	19.6	1.8	25.4	2.9	28.0	2.3	26.7	1.3	23.7	2.2	26.4	1.7	25.1
13	**29.17**	0.7	19.3	1.5	24.2	1.1	22.1	2.8	27.8	4.3	30.3	3.5	29.1	2.1	26.1	3.3	28.7	2.6	27.4
14	**33.33**	1.2	22.0	2.3	26.7	1.7	24.6	4.2	30.3	6.0	32.7	5.0	31.4	3.1	28.5	4.6	31.0	3.8	29.8
15	**37.50**	2.0	24.6	3.6	29.1	2.8	27.1	6.1	32.7	9.2	35.0	7.5	33.8	4.6	30.8	7.1	33.3	5.8	32.1
16	**41.67**	2.9	27.2	5.5	31.5	4.2	29.6	8.7	35.1	12.4	37.3	10.4	36.2	6.7	33.2	9.8	35.6	8.1	34.4
17	**45.83**	5.0	29.9	7.9	33.9	6.4	32.1	12.7	37.5	16.8	39.6	14.6	38.5	10.0	35.6	13.5	37.9	11.6	36.8
18	**50.00**	7.5	32.5	12.4	36.4	9.9	34.6	19.0	40.0	24.2	41.9	21.4	40.9	15.0	38.0	19.8	40.2	17.2	39.1
19	**54.17**	10.2	35.1	16.6	38.8	13.3	37.1	25.7	42.4	31.6	44.3	28.4	43.3	20.2	40.4	26.0	42.5	22.9	41.4
20	**58.33**	14.2	37.8	21.2	41.2	17.6	39.6	33.1	44.8	39.5	46.6	36.1	45.6	26.5	42.8	32.6	44.8	29.4	43.8
21	**62.50**	19.2	40.4	28.0	43.7	23.5	42.1	41.9	47.2	48.4	48.9	44.9	48.0	33.9	45.2	40.7	47.1	37.1	46.1
22	**66.67**	25.2	43.0	36.2	46.1	30.5	44.6	50.6	49.7	56.2	51.2	53.2	50.4	41.7	47.6	48.7	49.4	44.9	48.4
23	**70.83**	33.5	45.7	45.2	48.5	39.1	47.1	59.9	52.1	64.9	53.5	62.2	52.7	50.6	49.9	57.5	51.6	53.8	50.8
24	**75.00**	45.0	48.3	57.1	51.0	50.9	49.6	71.1	54.5	75.3	55.8	73.0	55.1	61.9	52.3	68.5	53.9	65.0	53.1
25	**79.17**	54.3	50.9	65.5	53.4	59.7	52.1	78.0	56.9	82.1	58.2	79.9	57.5	69.7	54.7	75.9	56.2	72.6	55.4
26	**83.33**	64.0	53.5	73.2	55.8	68.5	54.6	84.9	59.4	88.2	60.5	86.4	59.8	77.6	57.1	82.6	58.5	79.9	57.8
27	**87.50**	74.3	56.2	81.0	58.2	77.6	57.2	90.6	61.8	92.7	62.8	91.5	62.2	84.9	59.5	88.3	60.8	86.5	60.1
28	**91.67**	83.3	58.8	87.0	60.7	85.1	59.7	95.0	64.2	95.4	65.1	95.2	64.6	90.9	61.9	92.3	63.1	91.5	62.4
29	**95.83**	91.2	61.4	93.0	63.1	92.1	62.2	97.5	66.6	97.8	67.4	97.6	66.9	95.3	64.3	96.0	65.4	95.6	64.7
30	**100.00**	100.0	64.1	100.0	65.5	100.0	64.7	100.0	69.0	100.0	69.7	100.0	69.3	100.0	66.7	100.0	67.7	100.0	67.1

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-9:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Social Acceptance

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2919)		Males (n=2774)		All (n=5693)		Females (n=5508)		Males (n=4647)		All (n=10155)		Females (n=8427)		Males (n=7421)		All (n=15848)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
3	**0.00**	0.1	-6.3			0.0	-4.2	0.1	-13.5	0.0	-10.0	0.0	-11.8	0.1	-10.4	0.0	-6.4	0.0	-8.4
4	**8.33**	0.1	-0.8	0.1	2.9	0.1	1.1	0.2	-7.6	0.1	-4.4	0.1	-6.1	0.2	-4.7	0.1	-1.1	0.1	-2.9
5	**16.67**	0.3	4.6	0.4	8.0	0.3	6.3	0.3	-1.8	0.3	1.2	0.3	-0.3	0.3	0.9	0.3	4.3	0.3	2.6
6	**25.00**	0.9	10.0	1.2	13.1	1.0	11.6	0.6	4.1	0.6	6.8	0.6	5.4	0.7	6.6	0.8	9.7	0.8	8.1
7	**33.33**	1.4	15.4	1.8	18.2	1.6	16.8	1.0	9.9	1.1	12.4	1.1	11.2	1.2	12.2	1.3	15.0	1.2	13.6
8	**41.67**	2.2	20.8	2.9	23.3	2.5	22.1	1.5	15.8	2.0	18.0	1.7	16.9	1.8	17.9	2.3	20.4	2.0	19.1
9	**50.00**	5.0	26.2	6.0	28.4	5.4	27.3	3.3	21.7	4.4	23.6	3.8	22.6	3.9	23.5	5.0	25.8	4.4	24.6
10	**58.33**	7.6	31.6	9.3	33.5	8.4	32.6	5.3	27.5	6.1	29.3	5.6	28.4	6.1	29.2	7.3	31.1	6.6	30.1
11	**66.67**	11.4	37.0	14.8	38.6	13.1	37.8	8.4	33.4	9.7	34.9	9.0	34.1	9.4	34.8	11.6	36.5	10.5	35.6
12	**75.00**	26.3	42.4	30.0	43.8	28.1	43.1	18.0	39.2	20.9	40.5	19.3	39.8	20.9	40.5	24.3	41.8	22.5	41.1
13	**83.33**	42.7	47.8	46.2	48.9	44.4	48.4	29.9	45.1	33.4	46.1	31.5	45.6	34.3	46.1	38.2	47.2	36.1	46.7
14	**91.67**	62.3	53.2	65.1	54.0	63.7	53.6	47.9	51.0	51.4	51.7	49.5	51.3	52.9	51.8	56.5	52.6	54.6	52.2
15	**100.00**	100.0	58.7	100.0	59.1	100.0	58.9	100.0	56.8	100.0	57.3	100.0	57.0	100.0	57.4	100.0	57.9	100.0	57.7

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-10:
European reference population (11 countries). Individual norm data for KIDSCREEN-52 PROXY: Financial Resources

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2798)		Males (n=2648)		All (n=5446)		Females (n=5493)		Males (n=4634)		All (n=10127)		Females (n=8291)		Males (n=7282)		All (n=15573)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
3	**0.00**	1.8	23.7	2.5	24.5	2.1	24.1	1.2	23.8	1.4	23.6	1.3	23.7	1.4	23.8	1.8	24.0	1.6	23.9
4	**8.33**	3.0	26.9	3.7	27.7	3.3	27.3	2.5	27.1	2.8	26.9	2.6	27.0	2.7	27.0	3.1	27.2	2.9	27.1
5	**16.67**	5.2	30.1	5.9	30.9	5.5	30.5	4.5	30.4	4.8	30.3	4.6	30.3	4.7	30.3	5.2	30.5	4.9	30.4
6	**25.00**	9.3	33.3	10.7	34.1	10.0	33.7	9.9	33.6	10.2	33.6	10.1	33.6	9.7	33.6	10.4	33.8	10.0	33.7
7	**33.33**	13.8	36.5	14.9	37.3	14.3	36.9	14.8	36.9	14.6	36.9	14.7	36.9	14.4	36.8	14.7	37.0	14.6	36.9
8	**41.67**	19.1	39.7	20.2	40.5	19.7	40.1	20.7	40.2	19.8	40.2	20.3	40.2	20.2	40.1	20.0	40.3	20.1	40.2
9	**50.00**	30.3	42.9	32.1	43.7	31.2	43.3	33.4	43.5	32.3	43.5	32.9	43.5	32.3	43.3	32.2	43.6	32.3	43.4
10	**58.33**	37.5	46.1	39.6	46.9	38.5	46.5	41.2	46.8	40.4	46.8	40.9	46.8	40.0	46.6	40.1	46.9	40.0	46.7
11	**66.67**	46.0	49.3	49.6	50.1	47.7	49.7	50.1	50.1	50.1	50.1	50.1	50.1	48.7	49.8	49.9	50.1	49.3	50.0
12	**75.00**	61.5	52.5	65.8	53.3	63.6	52.9	65.8	53.4	66.4	53.4	66.1	53.4	64.3	53.1	66.2	53.4	65.2	53.2
13	**83.33**	70.4	55.7	75.2	56.5	72.7	56.1	75.1	56.7	76.1	56.8	75.6	56.7	73.5	56.4	75.8	56.7	74.6	56.5
14	**91.67**	79.9	58.9	84.1	59.7	81.9	59.3	84.8	60.0	85.5	60.1	85.1	60.0	83.1	59.6	85.0	60.0	84.0	59.8
15	**100.00**	100.0	62.1	100.0	62.9	100.0	62.5	100.0	63.3	100.0	63.4	100.0	63.3	100.0	62.9	100.0	63.2	100.0	63.0

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-11:
European reference population (11 countries). Individual norm data for KIDSCREEN-27 PROXY: Physical Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2885)		Males (n=2754)		All (n=5639)		Females (n=5437)		Males (n=4597)		All (n=10034)		Females (n=8322)		Males (n=7351)		All (n=15673)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
5	**0.00**	0.1	4.2			0.0	3.8	0.1	15.5	0.1	10.5	0.1	13.8	0.0	13.2	0.0	8.4	0.0	11.4
6	**5.56**	0.1	7.6	0.1	6.6	0.1	7.2	0.3	18.5	0.2	13.6	0.2	16.8	0.2	16.2	0.1	11.6	0.2	14.4
7	**11.11**	0.2	11.0	0.3	10.0	0.2	10.6	0.8	21.4	0.5	16.7	0.7	19.7	0.6	19.1	0.4	14.7	0.5	17.4
8	**16.67**	0.4	14.4	0.6	13.4	0.5	14.0	1.5	24.3	0.9	19.7	1.3	22.7	1.2	22.1	0.8	17.9	1.0	20.5
9	**22.22**	0.7	17.8	0.8	16.8	0.8	17.4	2.7	27.3	1.7	22.8	2.2	25.6	2.0	25.1	1.4	21.0	1.7	23.5
10	**27.78**	1.3	21.2	1.3	20.2	1.3	20.8	4.6	30.2	2.7	25.9	3.8	28.6	3.5	28.1	2.2	24.2	2.9	26.5
11	**33.33**	1.8	24.6	2.0	23.5	1.9	24.1	7.2	33.1	4.2	28.9	5.8	31.5	5.3	31.1	3.4	27.3	4.4	29.5
12	**38.89**	3.3	28.0	3.3	26.9	3.3	27.5	11.5	36.1	6.7	32.0	9.3	34.5	8.6	34.0	5.4	30.4	7.1	32.6
13	**44.44**	5.8	31.4	5.0	30.3	5.4	30.9	17.0	39.0	9.8	35.1	13.7	37.4	13.1	37.0	8.0	33.6	10.7	35.6
14	**50.00**	9.8	34.8	8.3	33.7	9.1	34.3	24.5	41.9	14.7	38.1	20.0	40.4	19.3	40.0	12.3	36.7	16.0	38.6
15	**55.56**	14.8	38.2	12.8	37.1	13.8	37.7	33.0	44.9	21.7	41.2	27.8	43.3	26.7	43.0	18.3	39.9	22.8	41.7
16	**61.11**	23.3	41.6	19.5	40.5	21.4	41.1	44.1	47.8	29.9	44.3	37.6	46.3	36.8	46.0	26.0	43.0	31.8	44.7
17	**66.67**	33.6	45.0	29.2	43.9	31.5	44.5	55.9	50.7	41.0	47.4	49.1	49.2	48.1	48.9	36.6	46.2	42.7	47.7
18	**72.22**	48.1	48.4	42.2	47.3	45.3	47.9	68.0	53.6	54.4	50.4	61.8	52.2	61.1	51.9	49.8	49.3	55.8	50.7
19	**77.78**	60.1	51.8	54.7	50.7	57.5	51.3	77.8	56.6	66.6	53.5	72.7	55.1	71.7	54.9	62.1	52.5	67.2	53.8
20	**83.33**	72.6	55.2	67.6	54.1	70.2	54.6	86.1	59.5	77.5	56.6	82.2	58.1	81.4	57.9	73.8	55.6	77.9	56.8
21	**88.89**	83.7	58.6	80.3	57.5	82.1	58.0	92.3	62.4	86.9	59.6	89.8	61.0	89.3	60.9	84.4	58.8	87.0	59.8
22	**94.44**	93.0	62.0	92.1	60.9	92.5	61.4	97.0	65.4	94.2	62.7	95.7	64.0	95.6	63.8	93.4	61.9	94.6	62.9
23	**100.00**	100.0	65.4	100.0	64.3	100.0	64.8	100.0	68.3	100.0	65.8	100.0	66.9	100.0	66.8	100.0	65.1	100.0	65.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-12:
European reference population (11 countries). Individual norm data for KIDSCREEN-27 PROXY: Psychological Well-being

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2886)		Males (n=2731)		All (n=5617)		Females (n=5443)		Males (n=4597)		All (n=10040)		Females (n=8329)		Males (n=7328)		All (n=15657)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
7	**0.00**																		
8	**3.57**																		
9	**7.14**			0.1	-11.3	0.0	-11.9									0.0	-5.8	0.0	-3.8
10	**10.71**			0.1	-8.3	0.0	-8.9			0.0	-0.6	0.0	1.8			0.0	-3.0	0.0	-1.0
11	**14.29**	0.1	-6.5	0.1	-5.2	0.0	-5.8			0.1	2.1	0.0	4.4	0.0	3.1	0.0	-0.2	0.0	1.7
12	**17.86**	0.1	-3.4	0.1	-2.2	0.0	-2.8	0.0	8.5	0.1	4.9	0.0	7.1	0.0	5.8	0.1	2.7	0.0	4.5
13	**21.43**	0.1	-0.3	0.1	0.9	0.1	0.3	0.1	11.2	0.1	7.6	0.1	9.7	0.1	8.5	0.1	5.5	0.1	7.2
14	**25.00**	0.1	2.7	0.1	3.9	0.1	3.3	0.1	13.8	0.2	10.3	0.2	12.4	0.1	11.2	0.2	8.3	0.1	9.9
15	**28.57**	0.2	5.8	0.2	6.9	0.2	6.3	0.3	16.4	0.3	13.0	0.3	15.0	0.3	13.9	0.3	11.1	0.3	12.7
16	**32.14**	0.3	8.9	0.3	9.9	0.3	9.4	0.7	19.0	0.4	15.8	0.6	17.7	0.5	16.6	0.4	13.9	0.5	15.4
17	**35.71**	0.6	11.9	0.4	12.9	0.5	12.4	1.2	21.6	0.9	18.5	1.0	20.3	1.0	19.3	0.7	16.7	0.8	18.2
18	**39.29**	0.8	15.0	0.8	16.0	0.8	15.5	1.8	24.2	1.4	21.2	1.6	23.0	1.4	22.0	1.2	19.5	1.3	20.9
19	**42.86**	1.2	18.0	1.3	19.0	1.2	18.5	3.0	26.8	2.0	23.9	2.5	25.6	2.3	24.6	1.7	22.4	2.1	23.6
20	**46.43**	1.7	21.1	1.7	22.0	1.7	21.6	4.5	29.4	2.9	26.7	3.8	28.3	3.5	27.3	2.5	25.2	3.0	26.4
21	**50.00**	2.5	24.2	2.5	25.0	2.5	24.6	6.7	32.0	4.4	29.4	5.6	30.9	5.2	30.0	3.7	28.0	4.5	29.1
22	**53.57**	3.4	27.2	3.8	28.1	3.6	27.7	9.5	34.6	6.3	32.1	8.0	33.6	7.4	32.7	5.4	30.8	6.4	31.9
23	**57.14**	5.1	30.3	5.4	31.1	5.2	30.7	12.9	37.2	9.1	34.8	11.1	36.2	10.1	35.4	7.7	33.6	9.0	34.6
24	**60.71**	6.9	33.4	8.3	34.1	7.6	33.7	17.7	39.8	13.2	37.6	15.6	38.9	13.9	38.1	11.4	36.4	12.7	37.4
25	**64.29**	10.7	36.4	11.9	37.1	11.3	36.8	24.0	42.4	18.0	40.3	21.3	41.5	19.4	40.8	15.7	39.2	17.7	40.1
26	**67.86**	15.2	39.5	17.6	40.2	16.4	39.8	32.3	45.1	24.9	43.0	28.9	44.2	26.4	43.5	22.2	42.1	24.4	42.8
27	**71.43**	21.9	42.6	24.7	43.2	23.3	42.9	41.2	47.7	34.2	45.7	38.0	46.8	34.5	46.2	30.7	44.9	32.7	45.6
28	**75.00**	33.1	45.6	35.5	46.2	34.2	45.9	52.0	50.3	44.6	48.5	48.6	49.5	45.4	48.8	41.2	47.7	43.5	48.3
29	**78.57**	46.7	48.7	48.4	49.3	47.5	49.0	63.0	52.9	56.6	51.2	60.1	52.1	57.3	51.5	53.5	50.5	55.5	51.1
30	**82.14**	61.6	51.8	62.6	52.3	62.1	52.0	73.5	55.5	68.4	53.9	71.2	54.8	69.4	54.2	66.2	53.3	67.9	53.8
31	**85.71**	74.2	54.8	75.8	55.3	74.9	55.1	83.0	58.1	78.2	56.6	80.8	57.4	79.9	56.9	77.3	56.1	78.7	56.5
32	**89.29**	84.0	57.9	85.2	58.3	84.6	58.1	90.2	60.7	86.8	59.4	88.6	60.1	88.0	59.6	86.2	58.9	87.2	59.3
33	**92.86**	91.1	60.9	92.2	61.4	91.6	61.1	95.0	63.3	93.1	62.1	94.1	62.7	93.6	62.3	92.8	61.8	93.2	62.0
34	**96.43**	95.8	64.0	96.6	64.4	96.2	64.2	98.0	65.9	97.2	64.8	97.7	65.4	97.3	65.0	97.0	64.6	97.1	64.8
35	**100.00**	100.0	67.1	100.0	67.4	100.0	67.2	100.0	68.5	100.0	67.5	100.0	68.0	100.0	67.7	100.0	67.4	100.0	67.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-13:
European reference population (11 countries). Individual norm data for KIDSCREEN-27 PROXY: Parent Relations & Autonomy

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2803)		Males (n=2642)		All (n=5445)		Females (n=5428)		Males (n=4560)		All (n=9988)		Females (n=8231)		Males (n=7202)		All (n=15433)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
7	0.00																		
8	3.57																		
9	7.14																		
10	10.71							0.0	12.5	0.0	9.6	0.0	11.3	0.0	10.7	0.0	8.7	0.0	9.8
11	14.29	0.1	8.5			0.0	9.0	0.1	14.7	0.1	11.9	0.1	13.5	0.1	13.0	0.0	11.1	0.1	12.1
12	17.86	0.1	11.0	0.1	11.8	0.1	11.4	0.2	16.9	0.1	14.2	0.1	15.8	0.1	15.2	0.1	13.4	0.1	14.4
13	21.43	0.1	13.4	0.1	14.2	0.1	13.8	0.3	19.1	0.1	16.5	0.2	18.0	0.3	17.5	0.1	15.7	0.2	16.7
14	25.00	0.2	15.8	0.3	16.6	0.2	16.2	0.5	21.3	0.3	18.8	0.4	20.2	0.4	19.7	0.3	18.1	0.4	19.0
15	28.57	0.4	18.3	0.5	19.0	0.4	18.7	1.0	23.4	0.6	21.1	0.8	22.5	0.8	22.0	0.6	20.4	0.7	21.3
16	32.14	0.5	20.7	1.0	21.5	0.7	21.1	1.9	25.6	1.3	23.4	1.6	24.7	1.4	24.2	1.2	22.7	1.3	23.5
17	35.71	1.1	23.1	1.9	23.9	1.5	23.5	3.1	27.8	2.1	25.7	2.6	26.9	2.4	26.5	2.0	25.1	2.2	25.8
18	39.29	2.1	25.6	2.5	26.3	2.3	25.9	4.5	30.0	3.3	28.0	3.9	29.1	3.7	28.7	3.0	27.4	3.4	28.1
19	42.86	3.3	28.0	3.8	28.7	3.5	28.3	6.7	32.2	4.9	30.3	5.8	31.4	5.5	31.0	4.5	29.7	5.0	30.4
20	46.43	5.0	30.4	5.6	31.1	5.3	30.8	9.2	34.4	7.1	32.6	8.2	33.6	7.8	33.2	6.6	32.1	7.2	32.7
21	50.00	6.7	32.8	8.2	33.5	7.4	33.2	12.2	36.6	9.7	34.9	11.1	35.8	10.3	35.5	9.1	34.4	9.8	35.0
22	53.57	9.9	35.3	11.2	35.9	10.5	35.6	16.0	38.8	12.9	37.2	14.6	38.1	13.9	37.7	12.3	36.7	13.1	37.3
23	57.14	13.9	37.7	15.5	38.4	14.7	38.0	20.8	41.0	18.0	39.5	19.5	40.3	18.5	40.0	17.1	39.1	17.8	39.6
24	60.71	19.2	40.1	20.0	40.8	19.6	40.4	26.6	43.1	23.0	41.8	25.0	42.5	24.1	42.2	21.9	41.4	23.1	41.9
25	64.29	25.5	42.6	26.3	43.2	25.9	42.9	33.4	45.3	29.6	44.0	31.6	44.8	30.7	44.5	28.4	43.7	29.6	44.1
26	67.86	33.8	45.0	32.6	45.6	33.2	45.3	41.0	47.5	36.8	46.3	39.1	47.0	38.5	46.7	35.3	46.1	37.0	46.4
27	71.43	41.8	47.4	42.1	48.0	41.9	47.7	49.0	49.7	44.6	48.6	47.0	49.2	46.5	49.0	43.6	48.4	45.2	48.7
28	75.00	50.1	49.9	52.2	50.4	51.1	50.1	58.4	51.9	53.6	50.9	56.2	51.5	55.6	51.2	53.1	50.7	54.4	51.0
29	78.57	58.9	52.3	62.7	52.8	60.7	52.6	66.4	54.1	62.7	53.2	64.7	53.7	63.8	53.5	62.7	53.1	63.3	53.3
30	82.14	69.1	54.7	71.8	55.3	70.4	55.0	74.3	56.3	72.1	55.5	73.3	55.9	72.5	55.7	72.0	55.4	72.3	55.6
31	85.71	78.2	57.1	81.1	57.7	79.6	57.4	81.6	58.5	80.4	57.8	81.0	58.2	80.4	58.0	80.6	57.8	80.5	57.9
32	89.29	85.8	59.6	87.6	60.1	86.6	59.8	87.8	60.6	87.6	60.1	87.7	60.4	87.1	60.2	87.6	60.1	87.3	60.2
33	92.86	91.9	62.0	93.5	62.5	92.7	62.2	94.0	62.8	92.9	62.4	93.5	62.6	93.3	62.5	93.1	62.4	93.2	62.5
34	96.43	96.5	64.4	97.1	64.9	96.8	64.7	97.3	65.0	96.8	64.7	97.1	64.9	97.1	64.7	96.9	64.8	97.0	64.7
35	100.00	100.0	66.9	100.0	67.3	100.0	67.1	100.0	67.2	100.0	67.0	100.0	67.1	100.0	67.0	100.0	67.1	100.0	67.0

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-14:
European reference population (11 countries). Individual norm data for KIDSCREEN-27 PROXY: Social Support & Peers

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2874)		Males (n=2726)		All (n=5600)		Females (n=5450)		Males (n=4556)		All (n=10006)		Females (n=8324)		Males (n=7282)		All (n=15606)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
4	**0.00**	0.1	8.6	0.3	10.1	0.2	9.4	0.1	13.4	0.3	13.8	0.2	13.6	0.1	11.9	0.3	12.5	0.2	12.2
5	**6.25**	0.3	12.2	0.4	13.7	0.3	13.0	0.3	16.7	0.4	17.1	0.4	16.9	0.3	15.3	0.4	16.0	0.3	15.6
6	**12.50**	0.4	15.9	0.6	17.3	0.5	16.6	0.5	20.1	0.7	20.4	0.6	20.2	0.4	18.8	0.7	19.4	0.6	19.1
7	**18.75**	0.7	19.6	0.8	20.9	0.8	20.2	1.2	23.4	1.2	23.7	1.2	23.6	1.1	22.2	1.0	22.8	1.1	22.5
8	**25.00**	1.5	23.2	2.6	24.5	2.0	23.9	3.0	26.7	3.2	27.1	3.1	26.9	2.5	25.6	3.0	26.2	2.7	25.9
9	**31.25**	2.7	26.9	4.0	28.1	3.3	27.5	5.0	30.0	5.4	30.4	5.2	30.2	4.2	29.1	4.9	29.6	4.5	29.3
10	**37.50**	4.9	30.6	6.3	31.7	5.6	31.1	8.1	33.4	8.3	33.7	8.2	33.5	7.0	32.5	7.6	33.0	7.3	32.7
11	**43.75**	8.6	34.2	9.9	35.2	9.2	34.7	12.6	36.7	12.5	37.0	12.6	36.8	11.2	35.9	11.5	36.4	11.4	36.1
12	**50.00**	15.7	37.9	16.9	38.8	16.3	38.4	21.1	40.0	21.7	40.3	21.4	40.2	19.2	39.3	19.9	39.8	19.5	39.6
13	**56.25**	23.7	41.6	24.0	42.4	23.9	42.0	28.6	43.3	29.0	43.6	28.7	43.5	26.9	42.8	27.1	43.2	27.0	43.0
14	**62.50**	34.2	45.2	36.5	46.0	35.3	45.6	38.5	46.7	39.7	46.9	39.0	46.8	37.0	46.2	38.5	46.6	37.7	46.4
15	**68.75**	48.3	48.9	50.1	49.6	49.2	49.2	50.6	50.0	52.4	50.3	51.4	50.1	49.8	49.6	51.5	50.0	50.6	49.8
16	**75.00**	67.6	52.5	69.2	53.2	68.4	52.9	68.3	53.3	70.3	53.6	69.2	53.4	68.1	53.1	69.9	53.4	68.9	53.2
17	**81.25**	78.5	56.2	80.9	56.8	79.7	56.5	79.3	56.6	79.9	56.9	79.5	56.7	79.0	56.5	80.2	56.8	79.6	56.6
18	**87.50**	88.2	59.9	89.9	60.3	89.0	60.1	87.9	60.0	88.5	60.2	88.2	60.1	88.0	59.9	89.1	60.2	88.5	60.1
19	**93.75**	94.2	63.5	95.8	63.9	95.0	63.7	94.2	63.3	94.2	63.5	94.2	63.4	94.2	63.3	94.8	63.6	94.5	63.5
20	**100.00**	100.0	67.2	100.0	67.5	100.0	67.3	100.0	66.6	100.0	66.8	100.0	66.7	100.0	66.8	100.0	67.1	100.0	66.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-15:
European reference population (11 countries). Individual norm data for KIDSCREEN-27 PROXY: School Environment

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2912)		Males (n=2760)		All (n=5672)		Females (n=5446)		Males (n=4608)		All (n=10054)		Females (n=8358)		Males (n=7368)		All (n=15726)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
4	**0.00**							0.1	8.8	0.0	12.5	0.0	10.7	0.0	6.8	0.0	11.0	0.0	9.1
5	**6.25**	0.1	2.5			0.0	6.8	0.1	12.5	0.2	16.0	0.1	14.3	0.1	10.6	0.1	14.6	0.1	12.7
6	**12.50**	0.1	6.6	0.2	13.6	0.2	10.7	0.3	16.2	0.6	19.6	0.4	17.9	0.2	14.3	0.4	18.1	0.3	16.3
7	**18.75**	0.2	10.7	0.6	17.4	0.3	14.5	0.8	19.9	1.2	23.1	1.0	21.5	0.6	18.0	1.0	21.6	0.8	19.9
8	**25.00**	0.3	14.9	1.0	21.1	0.6	18.4	1.4	23.6	2.5	26.6	1.9	25.1	1.0	21.7	1.9	25.1	1.5	23.5
9	**31.25**	1.0	19.0	1.9	24.8	1.4	22.3	2.8	27.3	4.6	30.2	3.7	28.7	2.2	25.4	3.6	28.7	2.9	27.1
10	**37.50**	1.6	23.1	3.5	28.5	2.5	26.1	5.1	31.0	7.6	33.7	6.3	32.4	3.8	29.1	6.1	32.2	4.9	30.7
11	**43.75**	3.2	27.2	6.3	32.2	4.7	30.0	8.7	34.7	12.8	37.2	10.6	36.0	6.8	32.9	10.4	35.7	8.5	34.3
12	**50.00**	6.9	31.4	12.8	35.9	9.8	33.9	17.2	38.4	23.1	40.7	19.9	39.6	13.6	36.6	19.3	39.2	16.2	37.9
13	**56.25**	11.6	35.5	19.3	39.6	15.3	37.7	26.8	42.2	33.6	44.3	29.9	43.2	21.5	40.3	28.2	42.7	24.6	41.5
14	**62.50**	18.6	39.6	28.6	43.4	23.4	41.6	38.3	45.9	45.6	47.8	41.7	46.8	31.4	44.0	39.2	46.3	35.1	45.1
15	**68.75**	28.8	43.7	41.1	47.1	34.8	45.5	51.7	49.6	58.4	51.3	54.8	50.4	43.6	47.7	51.9	49.8	47.5	48.7
16	**75.00**	46.7	47.8	59.4	50.8	52.8	49.4	69.3	53.3	74.4	54.9	71.6	54.0	61.4	51.5	68.8	53.3	64.8	52.3
17	**81.25**	63.0	52.0	72.1	54.5	67.4	53.2	80.6	57.0	84.8	58.4	82.5	57.6	74.4	55.2	80.1	56.8	77.1	55.9
18	**87.50**	77.0	56.1	82.7	58.2	79.8	57.1	89.8	60.7	91.7	61.9	90.7	61.2	85.3	58.9	88.3	60.4	86.7	59.6
19	**93.75**	88.7	60.2	91.8	61.9	90.2	61.0	95.8	64.4	96.7	65.4	96.2	64.8	93.3	62.6	94.9	63.9	94.0	63.2
20	**100.00**	100.0	64.3	100.0	65.6	100.0	64.8	100.0	68.1	100.0	69.0	100.0	68.5	100.0	66.3	100.0	67.4	100.0	66.8

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

Table A3-16:
European reference population (11 countries). Individual norm data for KIDSCREEN-10-PROXY Index

Raw-	0-100	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=2840)		Males (n=2682)		All (n=5522)		Females (n=5332)		Males (n=4484)		All (n=9816)		Females (n=8172)		Males (n=7166)		All (n=15338)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**			0.1	-2.7	0.0	-3.9									0.0	0.7	0.0	2.3
18	**20.00**			0.1	-0.5	0.0	-1.7	0.0	8.0			0.0	6.4	0.0	5.6	0.0	2.8	0.0	4.4
19	**22.50**			0.1	1.7	0.0	0.6	0.0	10.0			0.0	8.4	0.0	7.6	0.0	5.0	0.0	6.4
20	**25.00**			0.1	3.9	0.0	2.8	0.0	12.0	0.0	8.4	0.0	10.5	0.0	9.7	0.0	7.1	0.0	8.5
21	**27.50**			0.1	6.2	0.0	5.1	0.1	14.0	0.1	10.5	0.1	12.5	0.0	11.7	0.0	9.2	0.0	10.6
22	**30.00**			0.1	8.4	0.0	7.4	0.1	16.0	0.1	12.6	0.1	14.6	0.1	13.7	0.1	11.3	0.1	12.7
23	**32.50**	0.1	8.6	0.1	10.6	0.1	9.6	0.2	18.0	0.1	14.7	0.1	16.6	0.1	15.8	0.1	13.4	0.1	14.7
24	**35.00**	0.1	10.9	0.1	12.8	0.1	11.9	0.3	20.0	0.1	16.8	0.2	18.7	0.2	17.8	0.1	15.6	0.2	16.8
25	**37.50**	0.1	13.1	0.2	15.0	0.1	14.1	0.5	22.0	0.4	18.9	0.5	20.7	0.4	19.8	0.3	17.7	0.3	18.9
26	**40.00**	0.2	15.4	0.4	17.2	0.3	16.3	0.9	24.0	0.6	21.0	0.8	22.7	0.7	21.9	0.5	19.9	0.6	21.0
27	**42.50**	0.3	17.7	0.6	19.5	0.5	18.6	1.4	25.9	0.9	23.1	1.2	24.8	1.1	23.9	0.8	22.0	0.9	23.1
28	**45.00**	0.7	20.0	0.8	21.7	0.8	20.8	2.3	27.9	1.5	25.3	2.0	26.8	1.8	25.9	1.3	24.1	1.5	25.1
29	**47.50**	1.0	22.3	1.2	23.9	1.1	23.1	3.6	29.9	2.5	27.4	3.1	28.8	2.7	28.0	2.0	26.3	2.4	27.2
30	**50.00**	1.6	24.5	1.8	26.1	1.7	25.3	5.4	31.9	3.6	29.5	4.6	30.9	4.1	30.0	2.9	28.4	3.5	29.3
31	**52.50**	2.5	26.8	2.7	28.3	2.6	27.6	7.9	33.9	5.0	31.6	6.6	32.9	6.0	32.1	4.1	30.5	5.1	31.4
32	**55.00**	3.8	29.1	4.2	30.5	4.0	29.8	10.7	35.9	6.8	33.7	8.9	35.0	8.3	34.1	5.8	32.7	7.2	33.5
33	**57.50**	5.3	31.4	6.1	32.7	5.7	32.1	14.3	37.9	9.8	35.8	12.2	37.0	11.1	36.1	8.4	34.8	9.9	35.5
34	**60.00**	7.4	33.7	9.0	34.9	8.2	34.3	18.4	39.9	13.8	37.9	16.3	39.0	14.6	38.2	12.0	36.9	13.4	37.6
35	**62.50**	10.1	36.0	12.4	37.1	11.2	36.6	23.7	41.9	18.7	40.0	21.4	41.1	19.0	40.2	16.3	39.1	17.7	39.7
36	**65.00**	14.3	38.2	17.2	39.4	15.7	38.8	29.3	43.9	24.3	42.1	27.0	43.1	24.1	42.2	21.7	41.2	22.9	41.8
37	**67.50**	19.3	40.5	22.4	41.6	20.8	41.0	35.6	45.8	30.5	44.3	33.3	45.2	29.9	44.3	27.5	43.3	28.8	43.8
38	**70.00**	25.2	42.8	29.0	43.8	27.1	43.3	42.5	47.8	38.4	46.4	40.6	47.2	36.5	46.3	34.9	45.5	35.7	45.9
39	**72.50**	32.7	45.1	36.1	46.0	34.3	45.5	50.6	49.8	46.2	48.5	48.6	49.2	44.3	48.3	42.4	47.6	43.4	48.0
40	**75.00**	41.6	47.4	44.6	48.2	43.0	47.8	58.6	51.8	54.2	50.6	56.6	51.3	52.7	50.4	50.6	49.7	51.7	50.1
41	**77.50**	50.4	49.7	53.9	50.4	52.1	50.0	66.5	53.8	62.5	52.7	64.7	53.3	60.9	52.4	59.3	51.9	60.1	52.2
42	**80.00**	59.6	51.9	62.1	52.6	60.8	52.3	73.7	55.8	70.6	54.8	72.3	55.3	68.8	54.5	67.4	54.0	68.1	54.2
43	**82.50**	68.4	54.2	69.6	54.8	69.0	54.5	80.3	57.8	77.5	56.9	79.0	57.4	76.1	56.5	74.6	56.1	75.4	56.3
44	**85.00**	77.4	56.5	77.6	57.0	77.5	56.8	86.0	59.8	83.8	59.0	85.0	59.4	83.0	58.5	81.5	58.3	82.3	58.4
45	**87.50**	83.8	58.8	84.5	59.2	84.2	59.0	90.1	61.8	89.4	61.2	89.8	61.5	87.9	60.6	87.6	60.4	87.8	60.5
46	**90.00**	89.5	61.1	89.9	61.5	89.7	61.2	93.7	63.7	93.2	63.3	93.5	63.5	92.2	62.6	92.0	62.5	92.1	62.6
47	**92.50**	93.6	63.3	94.9	63.7	94.2	63.5	96.5	65.7	96.3	65.4	96.4	65.5	95.5	64.6	95.7	64.7	95.6	64.6
48	**95.00**	97.0	65.6	97.3	65.9	97.1	65.7	98.3	67.7	98.2	67.5	98.2	67.6	97.8	66.7	97.9	66.8	97.8	66.7
49	**97.50**	98.9	67.9	99.3	68.1	99.1	68.0	99.3	69.7	99.2	69.6	99.2	69.6	99.1	68.7	99.2	68.9	99.2	68.8
50	**100.00**	100.0	70.2	100.0	70.3	100.0	70.2	100.0	71.7	100.0	71.7	100.0	71.7	100.0	70.7	100.0	71.1	100.0	70.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular (sub-)population (M = 50, SD = 10).

KIDSCREEN Health Related Quality of Life Questionnaires

Appendix A4: Provision of National Norm Data for Individual Diagnostic Use (KIDSCREEN-10 Index)

Table A4-1:
AT - Austria. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=255)		Males (n=223)		All (n=478)		Females (n=467)		Males (n=406)		All (n=873)		Females (n=722)		Males (n=629)		All (n=1351)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**			0.7	-3.0	0.3	-4.0									0.2	3.5	0.1	7.5
20	**25.00**			0.7	-0.8	0.3	-1.8									0.2	5.5	0.1	9.4
21	**27.50**			0.7	1.3	0.3	0.4	0.5	16.1	0.4	9.3	0.4	13.7	0.3	13.8	0.4	7.5	0.3	11.3
22	**30.00**			0.7	3.5	0.3	2.6	0.5	17.9	0.4	11.3	0.4	15.6	0.3	15.6	0.4	9.5	0.3	13.2
23	**32.50**			0.7	5.7	0.3	4.7	0.5	19.8	0.4	13.3	0.4	17.4	0.3	17.4	0.4	11.5	0.3	15.0
24	**35.00**			0.7	7.9	0.3	6.9	1.1	21.6	0.4	15.2	0.7	19.3	0.7	19.2	0.4	13.5	0.5	16.9
25	**37.50**			0.7	10.0	0.3	9.1	1.4	23.4	0.4	17.2	0.9	21.1	0.9	21.0	0.4	15.5	0.6	18.8
26	**40.00**	0.6	10.4	0.7	12.2	0.5	11.3	2.0	25.2	0.7	19.2	1.3	23.0	1.4	22.8	0.6	17.5	1.0	20.7
27	**42.50**	0.6	12.6	0.7	14.4	0.5	13.5	2.6	27.1	0.7	21.2	1.7	24.9	1.8	24.6	0.6	19.5	1.2	22.5
28	**45.00**	0.6	14.9	0.7	16.5	0.5	15.7	3.9	28.9	1.7	23.2	2.9	26.7	2.6	26.4	1.3	21.5	2.0	24.4
29	**47.50**	0.6	17.1	0.7	18.7	0.5	17.9	4.8	30.7	1.7	25.2	3.4	28.6	3.2	28.2	1.3	23.6	2.3	26.3
30	**50.00**	1.0	19.3	0.7	20.9	0.7	20.1	6.4	32.5	3.5	27.2	5.1	30.5	4.4	30.0	2.4	25.6	3.5	28.2
31	**52:.50**	1.4	21.5	0.7	23.0	0.9	22.3	8.6	34.3	4.9	29.2	6.9	32.3	6.0	31.8	3.3	27.6	4.8	30.1
32	**55.00**	2.1	23.7	2.7	25.2	2.3	24.5	11.4	36.1	5.7	31.2	8.7	34.2	8.0	33.6	4.6	29.6	6.4	31.9
33	**57.50**	2.5	25.9	3.4	27.4	2.8	26.7	14.2	38.0	8.1	33.1	11.4	36.1	10.0	35.4	6.4	31.6	8.3	33.8
34	**60.00**	5.5	28.2	4.2	29.5	4.8	28.8	16.5	39.8	10.8	35.1	13.9	37.9	12.6	37.2	8.4	33.6	10.7	35.7
35	**62.50**	7.4	30.4	5.1	31.7	6.3	31.0	20.4	41.6	13.3	37.1	17.1	39.8	15.8	39.0	10.3	35.6	13.2	37.6
36	**65.00**	9.0	32.6	9.0	33.9	9.0	33.2	27.0	43.4	15.2	39.1	21.5	41.6	20.7	40.8	13.0	37.6	17.1	39.5
37	**67.50**	10.6	34.8	11.2	36.0	10.9	35.4	30.7	45.2	20.4	41.1	25.9	43.5	23.6	42.6	17.1	39.6	20.6	41.3
38	**70.00**	12.9	37.0	14.4	38.2	13.6	37.6	37.9	47.0	25.1	43.1	32.0	45.4	29.1	44.4	21.3	41.6	25.5	43.2
39	**72.50**	14.9	39.3	16.2	40.3	15.5	39.8	45.2	48.9	29.8	45.1	38.0	47.2	34.5	46.2	25.0	43.6	30.0	45.1
40	**75.00**	17.6	41.5	18.9	42.5	18.2	42.0	53.1	50.7	35.5	47.1	44.9	49.1	40.6	48.0	29.6	45.6	35.4	47.0
41	**77.50**	25.2	43.7	31.0	44.7	27.9	44.2	60.4	52:.5	45.3	49.1	53.4	51.0	48.0	49.8	40.2	47.6	44.4	48.9
42	**80.00**	30.6	45.9	37.2	46.8	33.7	46.4	68.0	54.3	52:.2	51.1	60.6	52:.8	54.8	51.6	46.9	49.6	51.1	50.7
43	**82.50**	38.5	48.1	45.7	49.0	41.9	48.6	74.8	56.1	59.6	53.0	67.7	54.7	62.0	53.4	54.6	51.7	58.6	52:.6
44	**85.00**	48.7	50.4	54.2	51.2	51.3	50.7	80.1	57.9	69.7	55.0	75.3	56.6	69.0	55.2	64.2	53.7	66.8	54.5
45	**87.50**	59.3	52:.6	62.7	53.3	60.9	52:.9	85.7	59.8	79.0	57.0	82.6	58.4	76.4	57.0	73.3	55.7	74.9	56.4
46	**90.00**	69.9	54.8	72.6	55.5	71.2	55.1	89.6	61.6	85.5	59.0	87.7	60.3	82.6	58.8	80.9	57.7	81.8	58.3
47	**92.50**	78.5	57.0	80.3	57.7	79.3	57.3	93.8	63.4	90.6	61.0	92.3	62.1	88.4	60.6	87.0	59.7	87.7	60.1
48	**95.00**	85.1	59.2	87.0	59.8	86.0	59.5	97.4	65.2	95.1	63.0	96.3	64.0	93.1	62.4	92.2	61.7	92.7	62.0
49	**97.50**	93.7	61.5	92.0	62.0	92.9	61.7	99.1	67.0	97.8	65.0	98.5	65.9	97.2	64.2	95.7	63.7	96.5	63.9
50	**100.00**	100.0	63.7	100.0	64.2	100.0	63.9	100.0	68.8	100.0	67.0	100.0	67.7	100.0	66.0	100.0	65.7	100.0	65.8

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-2:
CH - Switzerland. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=283)		Males (n=262)		All (n=545)		Females (n=576)		Males (n=495)		All (n=1071)		Females (n=859)		Males (n=757)		All (n=1619)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**			0.6	-11.6	0.3	-8.7									0.2	-4.5	0.1	1.4
19	**22.50**			0.6	-9.2	0.3	-6.4	0.3	8.5			0.1	5.4	0.2	6.7	0.2	-2.3	0.2	3.4
20	**25.00**			0.6	-6.8	0.3	-4.1	0.3	10.5			0.1	7.5	0.2	8.7	0.2	0.0	0.2	5.5
21	**27.50**			0.6	-4.4	0.3	-1.7	0.3	12.5			0.1	9.5	0.2	10.7	0.2	2.2	0.2	7.6
22	**30.00**			0.6	-2.0	0.3	0.6	0.3	14.5			0.1	11.6	0.2	12.6	0.2	4.4	0.2	9.6
23	**32.50**	0.6	4.6	0.6	0.4	0.5	2.9	0.6	16.5			0.3	13.6	0.5	14.6	0.2	6.7	0.3	11.7
24	**35.00**	0.6	6.9	0.6	2.7	0.5	5.2	0.6	18.5	0.3	10.4	0.4	15.6	0.5	16.6	0.3	8.9	0.4	13.7
25	**37.50**	0.6	9.2	0.6	5.1	0.5	7.5	0.9	20.4	0.3	12.6	0.6	17.7	0.7	18.5	0.3	11.2	0.5	15.8
26	**40.00**	0.6	11.4	0.6	7.5	0.5	9.9	1.3	22.4	0.5	14.8	0.9	19.7	1.0	20.5	0.5	13.4	0.7	17.8
27	**42.50**	0.9	13.7	0.6	9.9	0.7	12.1	1.8	24.4	0.5	17.1	1.1	21.8	1.4	22.5	0.5	15.7	0.9	19.9
28	**45.00**	0.9	16.0	0.6	12.3	0.7	14.4	3.0	26.4	0.9	19.3	2.0	23.9	2.2	24.5	0.7	17.9	1.5	22.0
29	**47.50**	0.9	18.3	0.6	14.7	0.7	16.7	4.0	28.4	1.6	21.6	2.9	25.9	2.9	26.4	1.2	20.1	2.1	24.0
30	**50.00**	0.9	20.5	0.6	17.1	0.7	19.0	5.1	30.4	2.3	23.8	3.8	28.0	3.6	28.4	1.6	22.3	2.7	26.1
31	**52:.50**	1.5	22.8	1.0	19.5	1.1	21.4	7.0	32.4	2.5	26.1	4.9	30.0	5.1	30.4	1.9	24.6	3.6	28.1
32	**55.00**	1.5	25.1	1.4	21.9	1.4	23.7	8.9	34.3	3.7	28.3	6.5	32.1	6.4	32.4	2.8	26.8	4.7	30.2
33	**57.50**	3.5	27.3	1.8	24.3	2.6	26.0	12.2	36.3	4.9	30.5	8.8	34.1	9.3	34.3	3.7	29.0	6.7	32.3
34	**60.00**	5.3	29.6	1.8	26.7	3.5	28.3	15.5	38.3	6.9	32.8	11.5	36.2	12.1	36.3	5.0	31.3	8.8	34.3
35	**62.50**	6.4	31.8	2.8	29.1	4.6	30.6	18.5	40.3	9.5	35.0	14.3	38.2	14.5	38.3	7.1	33.5	11.0	36.4
36	**65.00**	8.8	34.1	4.3	31.5	6.6	33.0	21.8	42.3	13.6	37.3	18.0	40.3	17.5	40.3	10.3	35.7	14.1	38.4
37	**67.50**	10.9	36.4	6.9	33.9	9.0	35.3	26.8	44.3	16.8	39.5	22.2	42.4	21.6	42.2	13.4	38.0	17.7	40.5
38	**70.00**	13.8	38.6	11.4	36.3	12.7	37.6	33.2	46.2	20.4	41.8	27.3	44.4	26.8	44.2	17.3	40.2	22.4	42.6
39	**72.50**	20.1	40.9	14.9	38.7	17.6	39.9	40.6	48.2	26.5	44.0	34.0	46.5	33.8	46.2	22.5	42.4	28.5	44.6
40	**75.00**	24.0	43.2	19.8	41.0	22.0	42.2	47.3	50.2	34.3	46.2	41.3	48.5	39.6	48.2	29.3	44.7	34.8	46.7
41	**77.50**	30.0	45.4	27.4	43.4	28.8	44.5	58.2	52:.2	42.8	48.5	51.1	50.6	48.9	50.2	37.5	46.9	43.6	48.7
42	**80.00**	38.8	47.7	35.0	45.8	37.0	46.8	67.4	54.2	54.0	50.7	61.2	52:.6	57.9	52:.1	47.4	49.1	53.0	50.8
43	**82.50**	49.1	50.0	42.7	48.2	46.0	49.2	75.5	56.2	62.0	53.0	69.3	54.7	66.8	54.1	55.3	51.4	61.4	52:.9
44	**85.00**	60.4	52:.2	51.9	50.6	56.3	51.5	83.6	58.1	74.4	55.2	79.3	56.8	75.9	56.1	66.6	53.6	71.5	54.9
45	**87.50**	70.2	54.5	59.9	53.0	65.3	53.8	89.3	60.1	81.2	57.5	85.6	58.8	83.0	58.1	73.8	55.8	78.7	57.0
46	**90.00**	77.3	56.8	70.2	55.4	73.9	56.1	94.0	62.1	87.1	59.7	90.8	60.9	88.5	60.0	81.3	58.1	85.1	59.0
47	**92.50**	85.4	59.0	81.7	57.8	83.7	58.4	96.2	64.1	91.3	61.9	94.0	62.9	92.7	62.0	88.0	60.3	90.5	61.1
48	**95.00**	91.5	61.3	90.5	60.2	91.0	60.7	98.4	66.1	96.4	64.2	97.5	65.0	96.1	64.0	94.3	62.5	95.3	63.2
49	**97.50**	95.4	63.6	95.1	62.6	95.2	63.0	99.1	68.1	98.4	66.4	98.8	67.0	97.9	66.0	97.2	64.8	97.6	65.2
50	**100.00**	100.0	65.8	100.0	65.0	100.0	65.3	100.0	70.1	100.0	68.7	100.0	69.1	100.0	67.9	100.0	67.0	100.0	67.3

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-3:
CZ - Czech Republic. Individual norm data KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11 Females (n=275) PR	TS	Children 8-11 Males (n=265) PR	TS	Children 8-11 All (n=540) PR	TS	Adolescents 12-18 Females (n=498) PR	TS	Adolescents 12-18 Males (n=516) PR	TS	Adolescents 12-18 All (n=1014) PR	TS	Children & Adolescents 8-18 Females (n=773) PR	TS	Children & Adolescents 8-18 Males (n=781) PR	TS	Children & Adolescents 8-18 All (n=1554) PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**	0.6	8.5			0.3	8.2							0.2	15.4			0.1	13.2
19	**22.50**	0.6	10.4			0.5	10.1	0.3	18.6			0.2	16.4	0.3	17.1			0.2	15.0
20	**25.00**	0.6	12.2			0.5	12.0	0.5	20.4			0.3	18.2	0.5	18.9			0.2	16.9
21	**27.50**	0.9	14.1			0.5	13.9	0.9	22.2			0.4	20.0	0.8	20.6			0.4	18.7
22	**30.00**	0.9	16.0	0.6	15.5	0.7	15.8	1.6	24.0			0.8	21.9	1.3	22.4	0.2	18.1	0.7	20.5
23	**32.50**	1.3	17.9	1.0	17.5	1.0	17.8	2.2	25.7	0.3	20.9	1.2	23.7	1.8	24.1	0.4	20.0	1.1	22.3
24	**35.00**	1.3	19.8	1.0	19.5	1.0	19.7	2.8	27.5	0.8	22.8	1.8	25.5	2.2	25.9	0.8	21.9	1.5	24.1
25	**37.50**	1.7	21.7	1.3	21.4	1.4	21.6	3.8	29.3	1.4	24.7	2.6	27.3	3.0	27.6	1.3	23.8	2.1	25.9
26	**40.00**	2.3	23.6	1.3	23.4	1.7	23.5	4.8	31.1	2.3	26.6	3.6	29.1	3.9	29.4	1.9	25.7	2.9	27.7
27	**42.50**	2.3	25.5	1.7	25.3	2.0	25.4	6.2	32.9	3.9	28.5	5.0	31.0	4.8	31.2	3.1	27.6	3.9	29.6
28	**45.00**	2.7	27.4	2.4	27.2	2.4	27.4	8.2	34.7	4.8	30.4	6.5	32.8	6.2	32.9	4.0	29.5	5.1	31.4
29	**47.50**	3.4	29.3	3.1	29.2	3.1	29.3	11.4	36.5	6.2	32.3	8.8	34.6	8.5	34.7	5.1	31.4	6.8	33.2
30	**50.00**	4.4	31.2	4.9	31.1	4.6	31.2	13.2	38.2	8.7	34.2	10.9	36.4	10.1	36.4	7.4	33.3	8.7	35.0
31	**52.50**	5.8	33.1	6.4	33.1	6.1	33.1	16.9	40.0	11.4	36.2	14.1	38.3	12.9	38.2	9.7	35.3	11.3	36.8
32	**55.00**	8.4	35.0	7.0	35.0	7.6	35.0	23.3	41.8	14.5	38.1	18.8	40.1	18.0	39.9	11.9	37.2	14.9	38.6
33	**57.50**	11.3	36.9	9.4	37.0	10.3	36.9	27.2	43.6	17.6	40.0	22.3	41.9	21.6	41.7	14.8	39.1	18.2	40.5
34	**60.00**	15.3	38.8	13.6	38.9	14.4	38.9	33.5	45.4	23.0	41.9	28.1	43.7	27.0	43.4	19.8	41.0	23.4	42.3
35	**62.50**	18.9	40.7	20.4	40.9	19.6	40.8	38.9	47.2	27.8	43.8	33.3	45.6	31.8	45.2	25.3	42.9	28.5	44.1
36	**65.00**	22.9	42.6	26.4	42.8	24.6	42.7	46.0	49.0	34.0	45.7	39.9	47.4	37.8	46.9	31.4	44.8	34.6	45.9
37	**67.50**	30.2	44.5	32.4	44.7	31.3	44.6	54.3	50.7	41.0	47.6	47.5	49.2	45.7	48.7	38.1	46.7	41.9	47.7
38	**70.00**	34.9	46.4	40.0	46.7	37.4	46.5	61.7	52.5	48.2	49.5	54.8	51.0	52.2	50.4	45.4	48.6	48.8	49.5
39	**72.50**	41.4	48.3	48.6	48.6	45.0	48.5	68.9	54.3	55.2	51.4	61.9	52.8	59.1	52.2	53.0	50.5	56.0	51.3
40	**75.00**	52.0	50.2	55.1	50.6	53.5	50.4	74.9	56.1	63.2	53.3	68.9	54.7	66.8	53.9	60.4	52.4	63.6	53.2
41	**77.50**	59.3	52.1	62.2	52.5	60.7	52.3	81.3	57.9	72.5	55.2	76.8	56.5	73.5	55.7	69.0	54.3	71.2	55.0
42	**80.00**	65.1	54.0	67.9	54.5	66.5	54.2	84.7	59.7	78.9	57.1	81.8	58.3	77.8	57.4	75.1	56.2	76.4	56.8
43	**82.50**	74.5	55.9	75.8	56.4	75.2	56.1	89.6	61.5	83.5	59.0	86.5	60.1	84.2	59.2	80.9	58.1	82.6	58.6
44	**85.00**	79.3	57.8	81.5	58.4	80.4	58.1	93.0	63.2	89.2	60.9	91.0	62.0	88.1	60.9	86.6	60.0	87.3	60.4
45	**87.50**	86.2	59.7	87.4	60.3	86.8	60.0	95.2	65.0	93.4	62.9	94.3	63.8	92.0	62.7	91.4	61.9	91.7	62.2
46	**90.00**	90.9	61.6	89.4	62.3	90.2	61.9	97.8	66.8	96.3	64.8	97.1	65.6	95.3	64.4	94.0	63.8	94.7	64.0
47	**92.50**	95.3	63.5	94.3	64.2	94.8	63.8	98.8	68.6	97.9	66.7	98.3	67.4	97.5	66.2	96.7	65.7	97.1	65.9
48	**95.00**	98.5	65.4	97.0	66.2	97.8	65.7	99.8	70.4	98.5	68.6	99.1	69.2	99.4	67.9	98.0	67.6	98.7	67.7
49	**97.50**	99.3	67.3	98.5	68.1	98.9	67.7	100.0	72.2	99.2	70.5	99.6	71.1	99.7	69.7	99.0	69.5	99.4	69.5
50	**100.00**	100.0	69.2	100.0	70.0	100.0	69.6	100.0	74.0	100.0	72.4	100.0	72.9	100.0	71.4	100.0	71.4	100.0	71.3

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-4:
DE - Germany. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=294)		Males (n=292)		All (n=586)		Females (n=561)		Males (n=511)		All (n=1072)		Females (n=855)		Males (n=803)		All (n=1658)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**							0.3	9.8			0.1	6.4	0.2	7.4			0.1	4.4
18	**20.00**							0.3	11.6			0.1	8.3	0.2	9.2			0.1	6.3
19	**22.50**							0.3	13.4			0.1	10.2	0.2	11.0			0.1	8.1
20	**25.00**							0.5	15.2			0.2	12.1	0.3	12.8			0.2	10.0
21	**27.50**							0.5	17.0			0.2	14.0	0.3	14.6			0.2	11.9
22	**30.00**							0.8	18.7			0.4	15.9	0.5	16.4			0.3	13.8
23	**32.50**							0.8	20.5			0.4	17.8	0.5	18.2			0.3	15.7
24	**35.00**							1.5	22.3			0.8	19.6	1.0	19.9			0.5	17.6
25	**37.50**							2.2	24.1	0.5	17.6	1.3	21.5	1.4	21.7	0.3	16.5	0.9	19.5
26	**40.00**			0.8	15.0	0.4	14.3	3.2	25.9	0.5	19.7	1.9	23.4	2.1	23.5	0.5	18.6	1.3	21.4
27	**42.50**			0.8	17.1	0.4	16.4	4.3	27.7	0.8	21.7	2.6	25.3	2.8	25.3	0.8	20.6	1.8	23.3
28	**45.00**	0.5	17.7	1.3	19.2	0.7	18.5	5.7	29.4	1.2	23.8	3.6	27.2	3.9	27.1	1.1	22.6	2.5	25.2
29	**47.50**	0.9	19.8	1.3	21.3	1.0	20.6	6.8	31.2	3.3	25.8	5.1	29.0	4.7	28.9	2.5	24.7	3.6	27.1
30	**50.00**	1.5	22.0	1.3	23.4	1.3	22.7	7.3	33.0	4.7	27.9	6.1	30.9	5.3	30.7	3.4	26.7	4.4	29.0
31	**52:.50**	2.8	24.1	2.1	25.5	2.4	24.9	8.5	34.8	5.7	29.9	7.2	32.8	6.6	32.5	4.4	28.7	5.5	30.9
32	**55.00**	3.5	26.2	3.1	27.6	3.3	27.0	10.9	36.6	6.9	32.0	9.0	34.7	8.3	34.3	5.5	30.8	7.0	32.8
33	**57.50**	4.5	28.4	4.8	29.7	4.6	29.1	13.9	38.4	8.3	34.0	11.2	36.6	10.6	36.1	7.0	32.8	8.9	34.7
34	**60.00**	6.5	30.5	5.9	31.8	6.1	31.2	17.8	40.2	10.8	36.1	14.5	38.5	13.9	37.9	9.0	34.8	11.5	36.6
35	**62.50**	8.5	32.7	8.2	33.9	8.3	33.3	19.8	41.9	13.6	38.1	16.8	40.4	15.9	39.7	11.6	36.9	13.8	38.5
36	**65.00**	10.2	34.8	10.9	36.0	10.6	35.4	24.7	43.7	17.7	40.2	21.4	42.2	19.8	41.5	15.2	38.9	17.6	40.3
37	**67.50**	12.3	36.9	15.4	38.1	13.8	37.5	29.5	45.5	22.8	42.3	26.3	44.1	23.6	43.3	20.1	40.9	21.9	42.2
38	**70.00**	16.0	39.1	20.2	40.2	18.1	39.7	37.7	47.3	27.5	44.3	32.8	46.0	30.3	45.1	24.8	43.0	27.7	44.1
39	**72.50**	18.4	41.2	25.0	42.3	21.7	41.8	44.3	49.1	35.3	46.4	40.0	47.9	35.4	46.9	31.5	45.0	33.5	46.0
40	**75.00**	22.4	43.3	28.5	44.4	25.4	43.9	50.2	50.9	42.7	48.4	46.7	49.8	40.7	48.6	37.5	47.0	39.2	47.9
41	**77.50**	30.6	45.5	35.7	46.5	33.1	46.0	60.1	52:.6	52:.1	50.5	56.3	51.7	49.9	50.4	46.1	49.1	48.1	49.8
42	**80.00**	40.1	47.6	43.9	48.6	42.0	48.1	67.9	54.4	61.3	52:.5	64.8	53.5	58.4	52:.2	55.0	51.1	56.7	51.7
43	**82.50**	50.4	49.8	50.4	50.7	50.4	50.2	74.8	56.2	67.9	54.6	71.6	55.4	66.5	54.0	61.6	53.1	64.1	53.6
44	**85.00**	57.2	51.9	59.7	52:.8	58.4	52:.4	81.1	58.0	75.8	56.6	78.6	57.3	72.9	55.8	69.9	55.2	71.5	55.5
45	**87.50**	64.7	54.0	69.3	54.9	67.0	54.5	87.3	59.8	84.0	58.7	85.7	59.2	79.6	57.6	78.6	57.2	79.1	57.4
46	**90.00**	73.9	56.2	78.2	57.0	76.0	56.6	91.6	61.6	89.4	60.7	90.6	61.1	85.5	59.4	85.3	59.2	85.4	59.3
47	**92.50**	81.7	58.3	83.3	59.1	82.5	58.7	95.7	63.4	94.1	62.8	95.0	63.0	90.9	61.2	90.2	61.3	90.6	61.2
48	**95.00**	88.2	60.4	91.1	61.2	89.7	60.8	98.7	65.1	97.2	64.8	98.0	64.9	95.1	63.0	95.0	63.3	95.1	63.1
49	**97.50**	94.9	62.6	96.2	63.3	95.6	62.9	99.6	66.9	99.0	66.9	99.3	66.7	98.0	64.8	98.0	65.3	98.0	65.0
50	**100.00**	100.0	64.7	100.0	65.4	100.0	65.0	100.0	68.7	100.0	68.9	100.0	68.6	100.0	66.6	100.0	67.4	100.0	66.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-5:
EL - Greece. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=xxx)		Males (n=xxx)		All (n=xxx)		Females (n=681)		Males (n=454)		All (n=1135)		Females (n=xxx)		Males (n=xxx)		All (n=xxx)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	0.00																		
11	2.50																		
12	5.00																		
13	7.50																		
14	10.00																		
15	12.50																		
16	15.00																		
17	17.50																		
18	20.00									0.3	13.5	0.1	18.0						
19	22.50									0.3	15.3	0.1	19.7						
20	25.00							0.2	23.2	0.3	17.2	0.2	21.4						
21	27.50							0.4	24.9	0.3	19.0	0.3	23.1						
22	30.00							0.8	26.6	0.6	20.8	0.6	24.8						
23	32.50							1.5	28.3	0.9	22.6	1.2	26.5						
24	35.00							3.4	30.0	1.2	24.4	2.5	28.2						
25	37.50							5.0	31.7	1.4	26.2	3.5	30.0						
26	40.00							6.5	33.4	2.8	28.0	5.0	31.7						
27	42.50							8.5	35.1	3.3	29.8	6.4	33.4						
28	45.00							10.4	36.8	3.8	31.7	7.7	35.1						
29	47.50							15.2	38.5	5.9	33.5	11.5	36.8						
30	50.00							19.8	40.2	8.1	35.3	15.1	38.5						
31	52:.50							24.5	41.9	12.5	37.1	19.7	40.2						
32	55.00							30.1	43.6	16.3	38.9	24.5	41.9						
33	57.50							34.7	45.3	20.4	40.8	29.0	43.7						
34	60.00							40.5	47.0	25.7	42.6	34.6	45.4						
35	62.50							47.7	48.7	31.9	44.4	41.4	47.1						
36	65.00							54.9	50.4	38.7	46.2	48.4	48.8						
37	67.50							59.6	52:.1	46.5	48.0	54.4	50.5						
38	70.00							66.8	53.8	51.7	49.9	60.8	52:.2						
39	72.50							73.0	55.5	56.3	51.7	66.3	53.9						
40	75.00							78.0	57.2	62.5	53.5	71.8	55.6						
41	77.50							83.0	58.9	71.8	55.3	78.5	57.4						
42	80.00							86.4	60.6	77.5	57.1	82.8	59.1						
43	82.50							89.2	62.3	81.9	59.0	86.2	60.8						
44	85.00							92.7	64.0	86.9	60.8	90.4	62.5						
45	87.50							94.9	65.7	90.7	62.6	93.2	64.2						
46	90.00							96.8	67.4	95.4	64.4	96.2	65.9						
47	92.50							98.1	69.1	97.1	66.2	97.7	67.6						
48	95.00							99.4	70.8	99.1	68.1	99.3	69.3						
49	97.50							100.0	72.5	99.6	69.9	99.8	71.1						
50	100.00									100.0	71.7	100.0	72.8						

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-6:
ES - Spain. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=132)		Males (n=146)		All (n=278)		Females (n=268)		Males (n=249)		All (n=517)		Females (n=400)		Males (n=395)		All (n=795)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**							0.9	20.3			0.4	16.4	0.6	17.7			0.3	13.6
21	**27.50**							1.6	21.9			0.8	18.2	1.1	19.3			0.5	15.3
22	**30.00**							2.1	23.5			1.1	19.9	1.4	20.9			0.7	17.1
23	**32.50**							2.1	25.1	0.9	15.5	1.4	21.6	1.4	22.5	0.6	13.2	0.9	18.8
24	**35.00**							2.4	26.7	1.7	17.5	2.0	23.3	1.6	24.1	1.1	15.1	1.3	20.5
25	**37.50**							3.1	28.3	1.7	19.5	2.4	25.0	2.1	25.7	1.1	17.0	1.6	22.2
26	**40.00**							3.6	29.9	1.7	21.4	2.6	26.8	2.4	27.2	1.1	19.0	1.7	24.0
27	**42.50**							4.2	31.5	2.3	23.4	3.1	28.5	2.8	28.8	1.4	20.9	2.0	25.7
28	**45.00**	1.2	16.1			0.6	14.4	6.4	33.1	2.3	25.4	4.3	30.2	4.5	30.4	1.4	22.9	2.9	27.4
29	**47.50**	1.2	18.3	1.1	14.8	0.9	16.6	8.2	34.7	2.3	27.3	5.2	31.9	5.8	32.0	1.7	24.8	3.7	29.1
30	**50.00**	1.2	20.4	1.1	17.1	0.9	19.7	10.9	36.3	2.6	29.3	6.8	33.6	7.5	33.6	1.9	26.8	4.7	30.9
31	**52:.50**	1.2	22.6	1.1	19.5	0.9	22.0	13.8	37.9	4.5	31.2	9.3	35.3	9.5	35.2	3.1	28.7	6.3	32.6
32	**55.00**	1.2	24.7	1.1	21.8	0.9	24.2	18.3	39.5	8.1	33.2	13.4	37.1	12.5	36.8	5.4	30.7	9.0	34.3
33	**57.50**	1.9	26.9	2.2	24.1	1.8	25.5	19.9	41.1	9.0	35.2	14.6	38.8	13.8	38.4	6.4	32.6	10.1	36.1
34	**60.00**	3.9	29.0	3.1	26.4	3.2	27.7	23.2	42.7	11.7	37.1	17.7	40.5	16.8	40.0	8.4	34.6	12.6	37.8
35	**62.50**	6.9	31.2	4.9	28.7	5.8	30.0	31.0	44.3	15.3	39.1	23.4	42.2	23.1	41.6	11.4	36.5	17.3	39.5
36	**65.00**	9.2	33.3	6.3	31.0	7.6	32.2	37.3	45.9	17.7	41.0	27.9	43.9	28.0	43.2	13.4	38.5	20.8	41.2
37	**67.50**	13.6	35.5	9.0	33.4	11.1	34.4	41.5	47.5	23.7	43.0	32.9	45.7	32.3	44.8	18.2	40.4	25.3	43.0
38	**70.00**	16.7	37.6	12.4	35.7	14.4	36.7	45.6	49.1	30.9	45.0	38.5	47.4	36.0	46.4	24.1	42.4	30.1	44.7
39	**72.50**	20.4	39.8	15.1	38.0	17.6	38.9	50.0	50.7	38.6	46.9	44.5	49.1	40.3	48.0	29.9	44.3	35.1	46.4
40	**75.00**	23.5	41.9	17.2	40.3	20.1	41.1	56.4	52:.3	47.9	48.9	52:.3	50.8	45.5	49.6	36.5	46.3	41.0	48.1
41	**77.50**	25.8	44.1	21.9	42.6	23.7	43.4	65.3	53.9	55.9	50.8	60.8	52:.5	52:.2	51.2	43.3	48.2	47.8	49.9
42	**80.00**	30.3	46.2	33.5	45.0	32.0	45.6	72.3	55.5	62.2	52:.8	67.5	54.3	58.5	52:.8	51.6	50.2	55.1	51.6
43	**82.50**	41.8	48.4	35.6	47.3	38.5	47.8	76.8	57.1	68.6	54.8	72.9	56.0	65.3	54.4	56.4	52:.1	60.8	53.3
44	**85.00**	53.1	50.6	46.4	49.6	49.6	50.1	80.9	58.7	78.3	56.7	79.6	57.7	71.8	56.0	66.5	54.1	69.1	55.0
45	**87.50**	57.6	52:.7	56.0	51.9	56.8	52:.3	86.5	60.3	82.3	58.7	84.5	59.4	77.0	57.6	72.6	56.0	74.8	56.8
46	**90.00**	65.1	54.9	69.1	54.2	67.2	54.5	91.0	61.9	87.5	60.7	89.3	61.1	82.5	59.1	80.7	58.0	81.6	58.5
47	**92.50**	72.8	57.0	76.6	56.5	74.8	56.8	92.9	63.5	91.1	62.6	92.1	62.9	86.3	60.7	85.8	59.9	86.0	60.2
48	**95.00**	87.1	59.2	82.1	58.9	84.5	59.0	95.9	65.1	97.2	64.6	96.5	64.6	93.0	62.3	91.6	61.9	92.3	61.9
49	**97.50**	93.2	61.3	88.9	61.2	90.9	61.2	99.2	66.7	99.2	66.5	99.2	66.3	97.3	63.9	95.4	63.8	96.3	63.7
50	**100.00**	100.0	63.5	100.0	63.5	100.0	63.5	100.0	68.3	100.0	68.5	100.0	68.0	100.0	65.5	100.0	65.8	100.0	65.4

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-7:
FR - France. Individual Norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=186)		Males (n=186)		All (n=372)		Females (n=324)		Males (n=293)		All (n=617)		Females (n=510)		Males (n=479)		All (n=989)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**							0.5	14.0			0.3	11.8	0.3	12.4			0.2	10.4
15	**12.50**							0.5	15.6			0.3	13.5	0.3	14.0			0.2	12.0
16	**15.00**							0.5	17.2			0.3	15.1	0.3	15.6			0.2	13.7
17	**17.50**							0.8	18.8			0.4	16.8	0.5	17.2			0.3	15.3
18	**20.00**							1.1	20.5			0.6	18.5	0.7	18.8			0.4	16.9
19	**22.50**							1.1	22.1	0.5	17.6	0.7	20.2	0.8	20.4	0.3	16.2	0.5	18.6
20	**25.00**							1.4	23.7	0.5	19.4	0.9	21.9	0.9	21.9	0.3	17.9	0.6	20.2
21	**27.50**							1.8	25.3	0.5	21.1	1.1	23.5	1.1	23.5	0.3	19.6	0.7	21.8
22	**30.00**							2.3	26.9	0.9	22.9	1.5	25.2	1.4	25.1	0.6	21.3	0.9	23.5
23	**32.50**							2.7	28.5	1.8	24.6	2.1	26.9	1.7	26.7	1.1	23.1	1.3	25.1
24	**35.00**	0.8	21.3			0.4	20.0	3.2	30.1	2.2	26.4	2.6	28.6	2.2	28.2	1.4	24.8	1.7	26.7
25	**37.50**	0.8	23.1	0.9	20.2	0.7	21.8	4.4	31.8	3.1	28.2	3.7	30.3	3.0	29.8	2.1	26.5	2.5	28.4
26	**40.00**	1.8	24.8	1.4	22.1	1.4	23.6	5.3	33.4	4.5	30.0	4.9	31.9	3.9	31.4	3.1	28.2	3.5	30.0
27	**42.50**	2.9	26.6	1.9	23.9	2.2	25.3	7.8	35.0	5.5	31.7	6.7	33.6	5.9	33.0	4.0	29.9	5.0	31.6
28	**45.00**	3.6	28.3	2.5	25.8	2.8	27.1	9.9	36.6	6.5	33.5	8.3	35.3	7.5	34.6	4.8	31.6	6.2	33.3
29	**47.50**	4.1	30.1	3.0	27.6	3.3	28.9	13.9	38.2	8.5	35.3	11.3	37.0	10.2	36.1	6.3	33.3	8.3	34.9
30	**50.00**	4.7	31.8	4.4	29.5	4.3	30.7	17.3	39.8	11.3	37.1	14.4	38.6	12.5	37.7	8.6	35.0	10.6	36.5
31	**52:.50**	7.6	33.6	5.1	31.3	6.2	32.5	21.0	41.5	14.4	38.8	17.8	40.3	16.1	39.3	10.7	36.7	13.5	38.1
32	**55.00**	9.8	35.3	7.5	33.2	8.6	34.3	27.4	43.1	18.4	40.6	23.1	42.0	21.0	40.9	14.2	38.4	17.7	39.8
33	**57.50**	12.0	37.1	10.2	35.0	11.1	36.1	32.7	44.7	23.2	42.4	28.2	43.7	25.1	42.5	18.2	40.1	21.7	41.4
34	**60.00**	17.3	38.8	11.9	36.9	14.5	37.9	37.4	46.3	29.0	44.1	33.4	45.3	30.0	44.0	22.3	41.8	26.3	43.0
35	**62.50**	23.2	40.6	14.0	38.7	18.6	39.7	41.1	47.9	36.5	45.9	38.9	47.0	34.5	45.6	27.8	43.5	31.3	44.7
36	**65.00**	25.4	42.3	18.7	40.6	22.1	41.5	50.6	49.5	44.0	47.7	47.5	48.7	41.4	47.2	34.2	45.2	37.9	46.3
37	**67.50**	31.3	44.1	22.0	42.4	26.7	43.3	57.1	51.1	49.8	49.5	53.6	50.4	47.7	48.8	39.0	47.0	43.5	47.9
38	**70.00**	37.2	45.8	28.4	44.3	32.8	45.1	64.1	52:.8	56.6	51.2	60.6	52:.1	54.3	50.4	45.7	48.7	50.1	49.6
39	**72.50**	39.9	47.6	36.5	46.1	38.2	46.9	68.1	54.4	64.4	53.0	66.4	53.7	57.8	51.9	53.6	50.4	55.8	51.2
40	**75.00**	47.9	49.4	41.8	48.0	44.9	48.7	72.4	56.0	70.6	54.8	71.6	55.4	63.5	53.5	59.5	52:.1	61.5	52:.8
41	**77.50**	53.8	51.1	52:.0	49.8	52:.9	50.5	78.6	57.6	77.5	56.5	78.1	57.1	69.6	55.1	67.6	53.8	68.6	54.5
42	**80.00**	57.6	52:.9	57.5	51.7	57.5	52:.3	83.9	59.2	82.9	58.3	83.5	58.8	74.3	56.7	73.1	55.5	73.7	56.1
43	**82.50**	63.5	54.6	65.0	53.5	64.2	54.1	88.0	60.8	86.4	60.1	87.2	60.4	79.0	58.2	78.1	57.2	78.6	57.7
44	**85.00**	71.6	56.4	71.4	55.4	71.5	55.9	91.1	62.5	89.4	61.9	90.3	62.1	83.9	59.8	82.5	58.9	83.2	59.4
45	**87.50**	80.1	58.1	78.4	57.2	79.3	57.7	93.8	64.1	91.1	63.6	92.5	63.8	88.8	61.4	86.2	60.6	87.6	61.0
46	**90.00**	87.1	59.9	82.7	59.1	84.9	59.4	95.7	65.7	95.9	65.4	95.8	65.5	92.5	63.0	90.8	62.3	91.7	62.6
47	**92.50**	91.4	61.6	85.4	60.9	88.4	61.2	97.2	67.3	97.0	67.2	97.1	67.2	95.1	64.6	92.5	64.0	93.8	64.3
48	**95.00**	93.6	63.4	91.3	62.8	92.4	63.0	98.7	68.9	99.0	68.9	98.9	68.8	96.8	66.1	96.0	65.7	96.4	65.9
49	**97.50**	97.3	65.1	95.1	64.6	96.2	64.8	99.7	70.5	99.7	70.7	99.7	70.5	98.8	67.7	97.9	67.4	98.4	67.5
50	**100.00**	100.0	66.9	100.0	66.5	100.0	66.6	100.0	72.1	100.0	72.5	100.0	72.2	100.0	69.3	100.0	69.2	100.0	69.2

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-8:
HU - Hungary. Individual norm data for KIDSCREEN-10 Index

		Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
Raw-	0-100	Females (n=743)		Males (n=605)		All (n=1348)		Females (n=1115)		Males (n=717)		All (n=1832)		Females (n=1858)		Males (n=1322)		All (n=3180)	
Score	Score	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**							0.1	15.2			0.1	14.8	0.1	13.9			0.0	12.7
15	**12.50**							0.1	16.9			0.1	16.4	0.1	15.4			0.0	14.3
16	**15.00**							0.2	18.5	0.2	16.4	0.2	18.0	0.1	16.9	0.1	13.6	0.1	15.8
17	**17.50**							0.4	20.1	0.4	18.0	0.3	19.6	0.2	18.5	0.2	15.2	0.2	17.3
18	**20.00**							0.6	21.7	0.5	19.6	0.5	21.2	0.4	20.0	0.3	16.7	0.3	18.8
19	**22.50**							0.8	23.4	0.6	21.2	0.7	22.8	0.5	21.5	0.3	18.3	0.4	20.3
20	**25.00**							1.5	25.0	0.8	22.8	1.2	24.4	0.9	23.0	0.4	19.9	0.7	21.9
21	**27.50**	0.2	11	0.4	12.6	0.2	11.8	1.8	26.6	1.4	24.3	1.6	26.0	1.1	24.5	0.9	21.4	1.0	23.4
22	**30.00**	0.4	12.9	0.4	14.4	0.4	13.6	2.5	28.3	2.1	25.9	2.3	27.6	1.7	26.0	1.3	23.0	1.5	24.9
23	**32.50**	0.4	14.8	0.6	16.2	0.5	15.4	3.3	29.9	2.9	27.5	3.2	29.2	2.2	27.5	1.8	24.6	2.0	26.4
24	**35.00**	0.6	16.6	0.8	18.0	0.6	17.3	4.4	31.5	3.8	29.1	4.1	30.8	2.9	29.0	2.3	26.1	2.6	27.9
25	**37.50**	0.6	18.5	1.2	19.8	0.8	19.1	6.6	33.1	4.7	30.7	5.9	32.3	4.2	30.5	3.1	27.7	3.7	29.5
26	**40.00**	1.1	20.4	1.2	21.6	1.1	21.0	8.6	34.8	6.0	32.3	7.6	33.9	5.6	32.0	3.8	29.3	4.8	31.0
27	**42.50**	1.3	22.2	1.8	23.4	1.5	22.8	10.5	36.4	8.3	33.9	9.6	35.5	6.8	33.5	5.3	30.8	6.2	32.5
28	**45.00**	1.5	24.1	2.7	25.2	2.0	24.6	13.9	38.0	10.3	35.5	12.5	37.1	8.9	35.0	6.8	32.4	8.1	34.0
29	**47.50**	2.8	26.0	3.5	27.0	3.1	26.5	16.8	39.7	12.0	37.0	14.9	38.7	11.2	36.5	8.1	34.0	9.9	35.6
30	**50.00**	3.6	27.9	5.1	28.8	4.3	28.3	21.6	41.3	14.4	38.6	18.8	40.3	14.4	38.0	10.2	35.5	12.6	37.1
31	**52:.50**	5.1	29.7	6.3	30.6	5.7	30.2	26.5	42.9	18.5	40.2	23.4	41.9	18.0	39.6	13.0	37.1	15.9	38.6
32	**55.00**	6.1	31.6	6.8	32.4	6.4	32.0	31.7	44.5	23.3	41.8	28.4	43.5	21.5	41.1	15.8	38.6	19.1	40.1
33	**57.50**	7.8	33.5	9.5	34.2	8.5	33.8	37.1	46.2	27.0	43.4	33.2	45.1	25.4	42.6	19.0	40.2	22.7	41.7
34	**60.00**	9.7	35.4	11.3	36.0	10.4	35.7	43.2	47.8	30.9	45.0	38.4	46.7	29.8	44.1	21.9	41.8	26.5	43.2
35	**62.50**	13.2	37.2	13.3	37.8	13.2	37.5	49.7	49.4	36.4	46.6	44.5	48.3	35.1	45.6	25.8	43.3	31.2	44.7
36	**65.00**	16.3	39.1	15.8	39.6	16.1	39.4	55.1	51.1	41.5	48.2	49.8	49.9	39.6	47.1	29.7	44.9	35.5	46.2
37	**67.50**	19.4	41.0	20.9	41.4	20.1	41.2	60.1	52:.7	47.0	49.7	55.0	51.5	43.8	48.6	35.0	46.5	40.2	47.7
38	**70.00**	23.3	42.9	24.9	43.2	24.0	43.0	66.8	54.3	53.4	51.3	61.5	53.1	49.4	50.1	40.3	48.0	45.6	49.3
39	**72.50**	28.4	44.7	29.2	45.0	28.8	44.9	71.6	55.9	60.3	52:.9	67.2	54.7	54.3	51.6	46.1	49.6	50.9	50.8
40	**75.00**	35.1	46.6	33.9	46.8	34.6	46.7	78.1	57.6	67.2	54.5	73.8	56.3	60.9	53.1	52:.0	51.2	57.2	52:.3
41	**77.50**	42.6	48.5	40.9	48.7	41.8	48.6	83.5	59.2	73.3	56.1	79.5	57.9	67.1	54.6	58.5	52:.7	63.5	53.8
42	**80.00**	51.1	50.4	48.1	50.5	49.7	50.4	88.0	60.8	80.5	57.7	85.1	59.5	73.2	56.1	65.7	54.3	70.1	55.4
43	**82.50**	57.2	52:.2	55.2	52:.3	56.3	52:.2	91.5	62.5	85.1	59.3	89.0	61.1	77.8	57.6	71.5	55.8	75.2	56.9
44	**85.00**	65.7	54.1	64.0	54.1	64.9	54.1	94.8	64.1	88.9	60.9	92.5	62.7	83.2	59.1	77.5	57.4	80.8	58.4
45	**87.50**	72.1	56.0	72.1	55.9	72.1	55.9	96.7	65.7	92.8	62.4	95.2	64.3	86.9	60.7	83.3	59.0	85.4	59.9
46	**90.00**	79.8	57.9	79.7	57.7	79.8	57.8	98.2	67.3	95.2	64.0	97.0	65.9	90.9	62.2	88.1	60.5	89.7	61.4
47	**92.50**	86.8	59.7	87.6	59.5	87.2	59.6	99.1	69.0	96.6	65.6	98.1	67.5	94.2	63.7	92.5	62.1	93.5	63.0
48	**95.00**	92.1	61.6	92.1	61.3	92.1	61.4	99.5	70.6	98.2	67.2	99.0	69.1	96.6	65.2	95.4	63.7	96.1	64.5
49	**97.50**	95.7	63.5	96.7	63.1	96.1	63.3	99.8	72.2	99.0	68.8	99.5	70.7	98.2	66.7	98.0	65.2	98.1	66
50	**100.00**	100.0	65.3	100.0	64.9	100.0	65.1	100.0	73.9	100.0	70.4	100.0	72.3	100.0	68.2	100.0	66.8	100.0	67.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-9:
IE - Ireland. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=160)		Males (n=148)		All (n=308)		Females (n=564)		Males (n=330)		All (n=894)		Females (n=724)		Males (n=478)		All (n=1202)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**													0.2	14.5			0.1	11.5
17	**17.50**													0.3	16.1			0.2	13.3
18	**20.00**													0.4	17.7			0.2	15.0
19	**22.50**													0.5	19.4			0.3	16.7
20	**25.00**							0.5	21.7			0.3	19.2	0.5	21.0			0.3	18.4
21	**27.50**							0.8	23.4	0.5	14.2	0.6	20.9	0.7	22.6	0.3	14.2	0.5	20.1
22	**30.00**					0.8	14.1	1.6	25.1	0.7	16.2	1.1	22.7	1.4	24.2	0.5	16.1	1.0	21.8
23	**32.50**	1.6	17.1			1.2	16.0	2.2	26.8	0.8	18.2	1.6	24.4	1.9	25.9	0.7	18.0	1.4	23.5
24	**35.00**	1.8	18.9			1.3	17.8	2.4	28.4	1.0	20.2	1.7	26.2	2.1	27.5	0.8	19.9	1.5	25.2
25	**37.50**	2.0	20.7			1.4	19.7	3.6	30.1	1.1	22.2	2.6	27.9	3.1	29.1	0.9	21.8	2.2	26.9
26	**40.00**	2.2	22.5			1.5	21.5	5.2	31.8	2.2	24.2	4.0	29.7	4.4	30.8	1.7	23.8	3.3	28.6
27	**42.50**	2.4	24.3			1.7	23.4	7.8	33.5	2.6	26.2	5.8	31.4	6.5	32.4	2.0	25.7	4.7	30.3
28	**45.00**	2.7	26.2			1.9	25.3	9.4	35.2	3.1	28.2	7.1	33.2	7.7	34.0	2.4	27.6	5.6	32.0
29	**47.50**	2.9	28.0	1.8	25.9	2.1	27.1	13.0	36.8	4.0	30.2	9.6	35.0	10.7	35.7	3.2	29.5	7.7	33.7
30	**50.00**	3.5	29.8	2.4	27.8	2.7	28.9	16.3	38.5	5.5	32.2	12.3	36.7	13.4	37.3	4.4	31.4	9.8	35.4
31	**52:.50**	4.2	31.6	4.2	29.8	3.9	30.8	19.9	40.2	7.0	34.2	15.1	38.5	16.3	38.9	6.1	33.3	12.3	37.1
32	**55.00**	5.8	33.4	6.3	31.7	5.9	32.6	23.4	41.9	8.8	36.2	18.0	40.2	19.5	40.6	8.0	35.2	14.9	38.8
33	**57.50**	7.1	35.2	7.7	33.6	7.2	34.5	26.8	43.6	12.7	38.2	21.6	42.0	22.4	42.2	11.1	37.1	17.9	40.5
34	**60.00**	8.9	37.0	9.1	35.5	8.8	36.4	32.3	45.3	17.5	40.2	26.8	43.7	27.1	43.8	14.9	39.1	22.2	42.2
35	**62.50**	15.7	38.9	12.3	37.4	14.0	38.2	38.0	46.9	24.2	42.2	32.9	45.5	33.0	45.5	20.5	41.0	28.1	43.9
36	**65.00**	19.5	40.7	16.3	39.3	17.9	40.1	43.8	48.6	30.2	44.2	38.8	47.2	38.4	47.1	25.9	42.9	33.5	45.7
37	**67.50**	23.3	42.5	19.7	41.2	21.6	41.9	51.3	50.3	38.4	46.2	46.5	49.0	45.1	48.7	32.6	44.8	40.1	47.4
38	**70.00**	29.5	44.3	25.8	43.1	27.7	43.8	58.5	52:.0	46.3	48.2	54.0	50.7	52:.1	50.4	40.0	46.7	47.3	49.1
39	**72.50**	36.3	46.1	33.3	45.0	34.9	45.6	65.1	53.7	52:.9	50.2	60.6	52:.5	58.8	52:.0	46.9	48.6	54.0	50.8
40	**75.00**	45.7	47.9	40.6	47.0	43.3	47.5	71.2	55.4	60.2	52:.2	67.1	54.2	65.5	53.6	54.2	50.5	61.0	52:.5
41	**77.50**	51.3	49.7	48.1	48.9	49.8	49.3	77.0	57.0	69.3	54.2	74.2	56.0	71.3	55.3	62.8	52:.4	67.9	54.2
42	**80.00**	57.5	51.5	52:.8	50.8	55.3	51.2	82.0	58.7	73.8	56.2	79.0	57.7	76.6	56.9	67.3	54.4	72.9	55.9
43	**82.50**	62.5	53.4	62.2	52:.7	62.4	53.0	87.3	60.4	81.4	58.2	85.1	59.5	81.8	58.5	75.5	56.3	79.3	57.6
44	**85.00**	68.7	55.2	69.0	54.6	68.8	54.9	90.4	62.1	87.5	60.2	89.4	61.2	85.6	60.2	81.8	58.2	84.1	59.3
45	**87.50**	72.4	57.0	75.0	56.5	73.7	56.7	94.7	63.8	90.9	62.2	93.3	63.0	89.8	61.8	86.0	60.1	88.3	61.0
46	**90.00**	82.4	58.8	81.0	58.4	81.7	58.6	96.5	65.4	93.9	64.2	95.5	64.8	93.4	63.4	89.9	62.0	92.0	62.7
47	**92.50**	87.4	60.6	85.7	60.3	86.6	60.4	98.2	67.1	97.3	66.2	97.9	66.5	95.8	65.1	93.7	63.9	95.0	64.4
48	**95.00**	93.1	62.4	90.5	62.2	91.8	62.3	99.3	68.8	99.1	68.2	99.2	68.3	97.9	66.7	96.4	65.8	97.3	66.1
49	**97.50**	96.9	64.2	93.2	64.2	95.1	64.2	99.8	70.5	99.4	70.2	99.7	70.0	99.2	68.3	97.5	67.7	98.5	67.8
50	**100.00**	100.0	66.0	100.0	66.1	100.0	66.0	100.0	72.2	100.0	72.2	100.0	71.8	100.0	70.0	100.0	69.7	100.0	69.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-10:
NL - Netherlands. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11 Females (n=322) PR	TS	Children 8-11 Males (n=327) PR	TS	Children 8-11 All (n=649) PR	TS	Adolescents 12-18 Females (n=613) PR	TS	Adolescents 12-18 Males (n=546) PR	TS	Adolescents 12-18 All (n=1159) PR	TS	Children & Adolescents 8-18 Females (n=935) PR	TS	Children & Adolescents 8-18 Males (n=873) PR	TS	Children & Adolescents 8-18 All (n=1808) PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**																		
22	**30.00**																		
23	**32.50**																		
24	**35.00**							0.4	16.3			0.2	14.7	0.2	15.1			0.1	13.0
25	**37.50**							0.4	18.4	0.3	13.8	0.3	16.8	0.2	17.1	0.2	12.3	0.2	15.1
26	**40.00**							0.7	20.5	0.3	15.9	0.5	18.8	0.5	19.0	0.2	14.4	0.3	17.1
27	**42.50**							1.2	22.5	0.3	18.1	0.7	20.9	0.8	21.0	0.2	16.6	0.4	19.2
28	**45.00**			0.5	14.5	0.2	14.3	1.8	24.6	0.5	20.2	1.1	23.0	1.2	23.0	0.4	18.7	0.8	21.2
29	**47.50**	0.5	16.3	0.8	16.8	0.5	16.6	2.3	26.7	0.9	22.3	1.6	25.0	1.6	25.0	0.8	20.8	1.2	23.2
30	**50.00**	1.3	18.5	1.1	19.00	1.1	18.8	3.3	28.7	1.2	24.4	2.2	27.1	2.6	27.0	1.1	23.0	1.8	25.3
31	**52:.50**	1.7	20.8	1.9	21.3	1.7	21.1	4.6	30.8	1.7	26.6	3.2	29.2	3.5	29.0	1.7	25.1	2.7	27.3
32	**55.00**	2.1	23.0	2.3	23.5	2.1	23.3	6.5	32.9	2.4	28.7	4.5	31.2	4.9	31.0	2.3	27.2	3.6	29.4
33	**57.50**	2.1	25.3	2.3	25.8	2.1	25.6	8.8	34.9	4.2	30.8	6.6	33.3	6.4	33.0	3.4	29.4	5.0	31.4
34	**60.00**	3.7	27.5	3.1	28.0	3.4	27.8	11.4	37.0	6.6	33.0	9.1	35.4	8.8	35.0	5.3	31.5	7.1	33.5
35	**62.50**	5.0	29.8	4.6	30.3	4.8	30.0	15.6	39.1	10.8	35.1	13.3	37.4	12.0	36.9	8.5	33.7	10.3	35.5
36	**65.00**	6.5	32.0	6.2	32.5	6.3	32.3	21.9	41.1	14.2	37.2	18.3	39.5	16.6	38.9	11.2	35.8	14.0	37.6
37	**67.50**	8.4	34.3	10.1	34.8	9.3	34.5	27.7	43.2	17.4	39.4	22.8	41.6	21.0	40.9	14.6	37.9	17.9	39.6
38	**70.00**	12.4	36.5	13.8	37.0	13.1	36.8	33.9	45.3	21.2	41.5	27.9	43.6	26.5	42.9	18.4	40.1	22.6	41.7
39	**72.50**	14.0	38.8	18.4	39.3	16.2	39.0	40.3	47.3	28.0	43.7	34.5	45.7	31.2	44.9	24.4	42.2	27.9	43.7
40	**75.00**	18.9	41.0	23.3	41.5	21.1	41.3	48.9	49.4	37.3	45.8	43.4	47.8	38.6	46.9	32.1	44.3	35.4	45.7
41	**77.50**	26.4	43.3	27.3	43.8	26.8	43.5	57.1	51.5	44.1	47.9	50.9	49.8	46.5	48.9	37.8	46.5	42.3	47.8
42	**80.00**	33.2	45.5	31.8	46.0	32.5	45.8	64.2	53.6	53.1	50.1	59.0	51.9	53.5	50.9	45.1	48.6	49.5	49.8
43	**82.50**	42.9	47.8	42.0	48.3	42.4	48.0	72.5	55.6	59.3	52:.2	66.3	54.0	62.3	52:.9	52:.8	50.8	57.7	51.9
44	**85.00**	49.4	50.0	49.6	50.5	49.5	50.3	79.6	57.7	66.2	54.3	73.3	56.0	69.2	54.9	60.0	52:.9	64.7	53.9
45	**87.50**	56.2	52:.3	59.7	52:.8	57.9	52:.5	85.8	59.8	74.3	56.5	80.4	58.1	75.6	56.8	68.8	55.0	72.3	56.0
46	**90.00**	66.2	54.5	69.2	55.0	67.7	54.8	90.8	61.8	80.9	58.6	86.2	60.2	82.3	58.8	76.5	57.2	79.5	58.0
47	**92.50**	74.6	56.8	78.3	57.3	76.5	57.0	95.1	63.9	88.1	60.7	91.8	62.2	88.0	60.8	84.4	59.3	86.3	60.1
48	**95.00**	83.6	59.0	86.3	59.5	84.9	59.3	97.6	66.0	92.7	62.9	95.3	64.3	92.7	62.8	90.3	61.5	91.5	62.1
49	**97.50**	91.0	61.3	93.0	61.8	92.0	61.5	99.2	68.0	96.4	65.0	97.9	66.4	96.4	64.8	95.1	63.6	95.8	64.1
50	**100.00**	100.0	63.5	100.0	64.0	100.0	63.8	100.0	70.1	100.0	67.1	100.0	68.4	100.0	66.8	100.0	65.7	100.0	66.2

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-11:
PL - Poland. Individual norm data for KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=293)		Males (n=258)		All (n=551)		Females (n=622)		Males (n=496)		All (n=1118)		Females (n=915)		Males (n=754)		All (n=1669)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**							0.3	21.2			0.1	18.9	0.2	19.8			0.1	17.2
19	**22.50**							0.5	22.9			0.3	20.6	0.4	21.4			0.2	18.9
20	**25.00**							0.9	24.5	0.3	18.7	0.6	22.3	0.6	23.0	0.2	16.7	0.4	20.6
21	**27.50**							1.1	26.2	0.5	20.5	0.7	24.1	0.7	24.6	0.3	18.6	0.5	22.3
22	**30.00**	0.5	16.7			0.3	14.1	2.3	27.8	0.5	22.4	1.4	25.8	1.7	26.2	0.3	20.4	1.0	23.9
23	**32.50**	0.5	18.5			0.3	16.1	3.4	29.5	0.9	24.2	2.3	27.5	2.4	27.7	0.6	22.2	1.6	25.6
24	**35.00**	0.5	20.3			0.3	18.0	5.0	31.1	1.6	26.1	3.5	29.2	3.5	29.3	1.1	24.1	2.4	27.3
25	**37.50**	0.5	22.2			0.3	20.0	6.6	32.7	3.0	28.0	5.0	30.9	4.6	30.9	2.0	25.9	3.4	29.0
26	**40.00**	0.5	24.0	0.6	18.9	0.5	21.9	8.2	34.4	3.5	29.8	6.1	32.7	5.7	32.5	2.4	27.8	4.2	30.7
27	**42.50**	0.9	25.8	0.6	21.0	0.7	23.9	11.1	36.0	5.0	31.7	8.4	34.4	7.8	34.1	3.5	29.6	5.8	32.4
28	**45.00**	1.2	27.7	1.3	23.1	1.1	25.8	13.8	37.7	6.8	33.6	10.7	36.1	9.7	35.7	4.9	31.4	7.5	34.0
29	**47.50**	3.8	29.5	1.3	25.3	2.6	27.8	16.8	39.3	8.9	35.4	13.3	37.8	12.7	37.3	6.2	33.3	9.8	35.7
30	**50.00**	6.2	31.3	1.3	27.4	3.8	29.7	20.7	41.0	12.7	37.3	17.2	39.6	16.1	38.9	8.8	35.1	12.8	37.4
31	**52:.50**	8.2	33.1	2.4	29.6	5.5	31.7	25.2	42.6	16.3	39.2	21.3	41.3	19.8	40.5	11.6	36.9	16.1	39.1
32	**55.00**	10.6	35.0	3.9	31.7	7.4	33.6	31.1	44.3	21.3	41.0	26.7	43.0	24.5	42.1	15.4	38.8	20.4	40.8
33	**57.50**	13.3	36.8	7.8	33.8	10.7	35.6	34.9	45.9	26.8	42.9	31.3	44.7	28.0	43.7	20.3	40.6	24.5	42.5
34	**60.00**	17.0	38.6	9.0	36.0	13.3	37.5	40.4	47.6	31.5	44.7	36.4	46.4	32.9	45.3	23.8	42.5	28.8	44.1
35	**62.50**	19.1	40.5	15.6	38.1	17.4	39.5	47.6	49.2	37.8	46.6	43.3	48.2	38.5	46.9	30.2	44.3	34.7	45.8
36	**65.00**	22.9	42.3	21.8	40.2	22.4	41.5	54.2	50.9	45.2	48.5	50.2	49.9	44.2	48.4	37.2	46.1	41.0	47.5
37	**67.50**	29.3	44.1	28.0	42.4	28.7	43.4	61.0	52:.5	53.5	50.3	57.7	51.6	50.9	50.0	44.8	48.0	48.1	49.2
38	**70.00**	36.2	46.0	33.8	44.5	35.1	45.4	67.8	54.2	60.6	52:.2	64.6	53.3	57.7	51.6	51.4	49.8	54.8	50.9
39	**72.50**	41.6	47.8	40.0	46.7	40.9	47.3	73.0	55.8	66.6	54.1	70.2	55.1	63.0	53.2	57.5	51.7	60.5	52:.5
40	**75.00**	48.5	49.6	46.6	48.8	47.6	49.3	80.4	57.5	74.1	55.9	77.6	56.8	70.2	54.8	64.7	53.5	67.7	54.2
41	**77.50**	57.0	51.5	55.9	50.9	56.5	51.2	83.9	59.1	82.1	57.8	83.1	58.5	75.3	56.4	73.2	55.3	74.4	55.9
42	**80.00**	63.5	53.3	64.0	53.1	63.8	53.2	88.0	60.8	87.0	59.7	87.5	60.2	80.1	58.0	79.1	57.2	79.7	57.6
43	**82.50**	71.4	55.1	69.8	55.2	70.6	55.1	91.7	62.4	90.4	61.5	91.1	62.0	85.2	59.6	83.4	59.0	84.3	59.3
44	**85.00**	75.1	57.0	79.5	57.4	77.2	57.1	93.7	64.1	92.6	63.4	93.2	63.7	87.8	61.2	88.1	60.8	87.9	61
45	**87.50**	79.9	58.8	86.8	59.5	83.1	59.1	96.3	65.7	95.6	65.2	96.0	65.4	91.1	62.8	92.6	62.7	91.8	62.6
46	**90.00**	86.4	60.6	90.6	61.6	88.4	61.0	97.8	67.4	97.0	67.1	97.4	67.1	94.1	64.4	94.8	64.5	94.4	64.3
47	**92.50**	90.4	62.4	92.6	63.8	91.4	63.0	98.4	69.0	98.0	69.0	98.2	68.8	95.9	66.0	96.1	66.4	96.0	66.0
48	**95.00**	96.6	64.3	96.1	65.9	96.4	64.9	99.0	70.7	98.8	70.8	98.9	70.6	98.3	67.5	97.9	68.2	98.1	67.7
49	**97.50**	99.0	66.1	97.2	68.0	98.2	66.9	99.4	72.3	99.8	72.7	99.6	72.3	99.2	69.1	98.9	70.0	99.1	69.4
50	**100.00**	100.0	67.9	100.0	70.2	100.0	68.8	100.0	74.0	100.0	74.6	100.0	74.0	100.0	70.7	100.0	71.9	100.0	71.1

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-12:
SE - Sweden. Individual norm data KIDSCREEN-10 Index

		Adolescents 12-18					
Raw-	0-100	Females (n=1510)		Males (n=1587)		All (n=3097)	
Score	Score	PR	TS	PR	TS	PR	TS
10	**0.00**						
11	**2.50**						
12	**5.00**	0.1	19.1			0.1	19.1
13	**7.50**	0.1	19.1			0.1	19.1
14	**10.00**	0.1	19.1	0.1	19.1	0.1	19.1
15	**12.50**	0.1	19.1	0.1	19.1	0.1	19.1
16	**15.00**	0.1	19.1	0.1	19.1	0.1	19.1
17	**17.50**	0.1	19.1	0.1	19.1	0.1	19.1
18	**20.00**	0.2	21.2	0.1	19.1	0.1	19.1
19	**22.50**	0.4	23.5	0.2	21.2	0.3	22.5
20	**25.00**	0.6	24.9	0.2	21.2	0.4	23.5
21	**27.50**	0.7	25.4	0.2	21.2	0.5	24.2
22	**30.00**	1.1	27.1	0.3	22.5	0.7	25.4
23	**32.50**	1.3	27.7	0.5	24.2	0.9	26.3
24	**35.00**	1.9	29.3	0.5	24.2	1.2	27.4
25	**37.50**	2.3	30.1	0.9	26.3	1.6	28.6
26	**40.00**	3.6	32.0	1.3	27.7	2.5	30.4
27	**42.50**	4.8	33.4	1.8	29.0	3.3	31.6
28	**45.00**	5.9	34.4	2.3	30.1	4.1	32.6
29	**47.50**	7.4	35.5	2.9	31.0	5.1	33.7
30	**50.00**	9.2	36.7	3.6	32.0	6.3	34.7
31	**52.50**	11.4	37.9	4.8	33.4	8.0	36.0
32	**55.00**	14.6	39.5	6.2	34.6	10.3	37.4
33	**57.50**	17.3	40.6	8.4	36.2	12.8	38.6
34	**60.00**	21.1	42.0	10.4	37.4	15.6	39.9
35	**62.50**	25.5	43.4	13.9	39.2	19.5	41.4
36	**65.00**	31.3	45.1	17.6	40.7	24.3	43.0
37	**67.50**	36.5	46.6	22.1	42.3	29.1	44.5
38	**70.00**	42.7	48.2	28.2	44.2	35.3	46.2
39	**72.50**	49.0	49.8	34.3	46.0	41.4	47.8
40	**75.00**	54.7	51.2	40.6	47.6	47.5	49.4
41	**77.50**	62.5	53.2	48.0	49.5	55.1	51.3
42	**80.00**	69.2	55.0	54.9	51.2	61.9	53.0
43	**82.50**	75.1	56.8	62.7	53.2	68.7	54.9
44	**85.00**	80.2	58.5	70.8	55.5	75.4	56.9
45	**87.50**	84.9	60.3	77.4	57.5	81.1	58.8
46	**90.00**	88.2	61.9	84.6	60.2	86.3	60.9
47	**92.50**	92.1	64.1	89.2	62.4	90.6	63.2
48	**95.00**	95.9	67.4	93.8	65.4	94.8	66.3
49	**97.50**	98.4	71.4	97.4	69.4	97.9	70.3
50	**100.00**	100.0	75.5	100.0	73.5	100.0	74.4

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

Table A4-13:
UK - United Kingdom. Individual norm data KIDSCREEN-10 Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=420)		Males (n=462)		All (n=882)		Females (n=436)		Males (n=444)		All (n=880)		Females (n=856)		Males (n=906)		All (n=1762)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**	0.4	11.3			0.2	8.8							0.2	14.4			0.1	11.8
17	**17.50**	0.4	12.9			0.2	10.6							0.2	16.0			0.1	13.5
18	**20.00**	0.4	14.6	0.3	9.8	0.3	12.3							0.2	17.6	0.2	12.1	0.1	15.1
19	**22.50**	0.6	16.2	0.6	11.6	0.5	14.0	0.5	20.5			0.3	18.3	0.5	19.2	0.3	13.9	0.3	16.8
20	**25.00**	0.6	17.9	0.6	13.4	0.5	15.7	0.8	22.1			0.4	20.0	0.7	20.8	0.3	15.7	0.4	18.5
21	**27.50**	0.6	19.5	0.6	15.3	0.5	17.5	1.4	23.8	0.4	18.9	0.8	21.7	1.0	22.4	0.4	17.4	0.6	20.2
22	**30.00**	1.0	21.2	0.6	17.1	0.7	19.2	1.7	25.5	0.7	20.7	1.1	23.4	1.3	24.0	0.6	19.2	0.9	21.9
23	**32.50**	1.3	22.8	0.8	18.9	0.9	20.9	2.1	27.1	1.0	22.5	1.5	25.1	1.7	25.7	0.8	21.0	1.2	23.5
24	**35.00**	1.7	24.4	1.1	20.7	1.4	22.7	3.0	28.8	1.6	24.3	2.3	26.8	2.3	27.3	1.3	22.8	1.8	25.2
25	**37.50**	1.7	26.1	1.6	22.5	1.6	24.4	3.3	30.5	1.9	26.0	2.5	28.6	2.5	28.9	1.7	24.6	2.0	26.9
26	**40.00**	3.1	27.7	2.0	24.4	2.5	26.1	4.1	32.1	3.4	27.8	3.7	30.3	3.6	30.5	2.6	26.3	3.1	28.6
27	**42.50**	3.9	29.4	2.6	26.2	3.2	27.8	5.0	33.8	4.9	29.6	5.0	32.0	4.4	32.1	3.7	28.1	4.1	30.3
28	**45.00**	4.8	31.0	3.9	28.0	4.3	29.6	7.5	35.5	5.6	31.4	6.6	33.7	6.2	33.7	4.7	29.9	5.4	32.0
29	**47.50**	6.5	32.7	4.6	29.8	5.5	31.3	10.1	37.1	6.5	33.2	8.3	35.4	8.3	35.3	5.5	31.7	6.9	33.7
30	**50.00**	9.6	34.3	5.4	31.6	7.4	33.0	14.2	38.8	7.8	35.0	11.0	37.1	11.9	36.9	6.6	33.5	9.2	35.3
31	**52.50**	11.7	36.0	7.4	33.5	9.4	34.8	20.2	40.5	10.5	36.8	15.3	38.8	16.0	38.5	8.9	35.3	12.4	37.0
32	**55.00**	13.6	37.6	9.5	35.3	11.5	36.5	25.4	42.1	14.8	38.5	20.1	40.5	19.6	40.2	12.1	37.0	15.8	38.7
33	**57.50**	15.8	39.2	11.9	37.1	13.7	38.2	31.8	43.8	18.2	40.3	25.0	42.2	23.9	41.8	15.0	38.8	19.3	40.4
34	**60.00**	19.6	40.9	14.9	38.9	17.1	39.9	37.1	45.5	23.4	42.1	30.2	43.9	28.5	43.4	19.1	40.6	23.6	42.1
35	**62.50**	24.1	42.5	18.8	40.8	21.3	41.7	42.8	47.1	29.5	43.9	36.1	45.6	33.6	45.0	24.0	42.4	28.7	43.8
36	**65.00**	28.8	44.2	23.8	42.6	26.2	43.4	48.3	48.8	35.1	45.7	41.6	47.3	38.8	46.6	29.3	44.2	33.9	45.4
37	**67.50**	33.8	45.8	28.1	44.4	30.8	45.1	52.9	50.5	39.6	47.5	46.2	49.0	43.6	48.2	33.7	46.0	38.5	47.1
38	**70.00**	38.3	47.5	34.3	46.2	36.2	46.9	58.2	52.1	46.6	49.2	52.4	50.7	48.5	49.8	40.3	47.7	44.3	48.8
39	**72.50**	46.0	49.1	39.9	48.0	42.8	48.6	66.5	53.8	52.4	51.0	59.4	52.4	56.4	51.4	46.0	49.5	51.1	50.5
40	**75.00**	50.9	50.7	47.8	49.9	49.3	50.3	71.8	55.5	62.1	52.8	66.9	54.1	61.6	53.1	54.8	51.3	58.1	52.2
41	**77.50**	57.6	52.4	56.8	51.7	57.2	52.0	78.0	57.1	68.9	54.6	73.4	55.8	68.0	54.7	62.7	53.1	65.3	53.9
42	**80.00**	63.1	54.0	61.8	53.5	62.4	53.8	81.9	58.8	76.8	56.4	79.3	57.5	72.7	56.3	69.1	54.9	70.9	55.6
43	**82.50**	69.5	55.7	70.1	55.3	69.8	55.5	85.8	60.5	82.2	58.2	84.0	59.2	77.8	57.9	76.0	56.7	76.9	57.2
44	**85.00**	78.3	57.3	78.7	57.1	78.5	57.2	90.0	62.1	87.0	60.0	88.5	60.9	84.2	59.5	82.8	58.4	83.5	58.9
45	**87.50**	82.8	59.0	84.8	59.0	83.8	58.9	92.9	63.8	89.9	61.7	91.4	62.7	88.0	61.1	87.3	60.2	87.6	60.6
46	**90.00**	88.3	60.6	90.0	60.8	89.2	60.7	94.5	65.5	93.7	63.5	94.1	64.4	91.5	62.7	91.8	62.0	91.7	62.3
47	**92.50**	93.3	62.3	93.9	62.6	93.6	62.4	97.5	67.1	96.2	65.3	96.9	66.1	95.5	64.3	95.0	63.8	95.2	64.0
48	**95.00**	96.2	63.9	96.8	64.4	96.5	64.1	98.9	68.8	97.8	67.1	98.3	67.8	97.5	65.9	97.3	65.6	97.4	65.7
49	**97.50**	99.0	65.5	99.1	66.3	99.1	65.9	99.8	70.5	99.1	68.9	99.4	69.5	99.4	67.6	99.1	67.4	99.3	67.4
50	**100.00**	100.0	67.2	100.0	68.1	100.0	67.6	100.0	72.1	100.0	70.7	100.0	71.2	100.0	69.2	100.0	69.1	100.0	69.0

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50. SD = 10).

KIDSCREEN Health Related Quality of Life Questionnaires

Appendix A5: Provision of National Norm Proxy Data for Individual Diagnostic Use (KIDSCREEN-10 Index)

Table A5-1:
AT - Austria. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=253)		Males (n=223)		All (n=476)		Females (n=452)		Males (n=398)		All (n=850)		Females (n=705)		Males (n=621)		All (n=1326)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	0.00																		
11	2.50																		
12	5.00																		
13	7.50																		
14	10.00																		
15	12.50																		
16	15.00																		
17	17.50																		
18	20.00																		
19	22.50																		
20	25.00																		
21	27.50																		
22	30.00																		
23	32.50																		
24	35.00																		
25	37.50																		
26	40.00							0.3	17.6	0.4	15.7	0.3	16.8	0.2	14.6	0.3	14.0	0.2	14.3
27	42.50							0.3	19.9	0.4	18.0	0.3	19.1	0.2	16.9	0.3	16.4	0.2	16.7
28	45.00							1.1	22.1	0.6	20.3	0.8	21.3	0.7	19.2	0.4	18.7	0.5	19.0
29	47.50	0.6	11.9			0.3	14.7	1.4	24.3	1.1	22.6	1.2	23.6	1.0	21.5	0.7	21.0	0.8	21.3
30	50.00	0.6	14.7			0.3	17.3	1.7	26.6	1.4	24.8	1.4	25.8	1.2	23.9	0.9	23.3	1.0	23.6
31	52.50	0.6	17.5	1.1	22.2	0.7	19.9	2.9	28.8	2.5	27.1	2.7	28.1	2.0	26.2	1.9	25.7	1.9	26.0
32	55.00	0.6	20.3	1.6	24.7	1.0	22.6	5.7	31.1	3.5	29.4	4.7	30.3	3.8	28.5	2.7	28.0	3.3	28.3
33	57.50	1.0	23.1	2.0	27.2	1.3	25.2	7.5	33.3	5.8	31.7	6.7	32.6	5.1	30.9	4.3	30.3	4.7	30.6
34	60.00	2.0	25.9	4.5	29.7	3.2	27.9	9.1	35.6	8.0	34.0	8.6	34.9	6.5	33.2	6.8	32.7	6.6	33.0
35	62.50	4.0	28.6	6.3	32.2	5.1	30.5	13.1	37.8	10.6	36.3	11.9	37.1	9.8	35.5	9.0	35.0	9.4	35.3
36	65.00	5.2	31.4	9.9	34.7	7.4	33.1	17.7	40.1	15.6	38.6	16.7	39.4	13.2	37.8	13.6	37.4	13.4	37.6
37	67.50	8.3	34.2	13.9	37.2	10.9	35.8	23.2	42.3	20.6	40.8	22.0	41.6	17.9	40.2	18.2	39.7	18.0	40.0
38	70.00	11.5	37.0	18.0	39.7	14.5	38.4	30.9	44.5	27.9	43.1	29.5	43.9	24.0	42.5	24.3	42.0	24.1	42.3
39	72.50	19.8	39.8	23.8	42.2	21.7	41.0	40.7	46.8	35.5	45.4	38.2	46.2	33.2	44.8	31.3	44.4	32.3	44.6
40	75.00	30.4	42.6	32.8	44.7	31.5	43.7	50.2	49.0	42.8	47.7	46.7	48.4	43.1	47.2	39.2	46.7	41.3	46.9
41	77.50	34.4	45.4	44.8	47.2	39.3	46.3	59.8	51.3	51.0	50.0	55.7	50.7	50.7	49.5	48.8	49.0	49.8	49.3
42	80.00	42.4	48.2	53.8	49.7	47.7	48.9	66.8	53.5	59.6	52.3	63.4	52.9	58.1	51.8	57.5	51.4	57.8	51.6
43	82.50	54.7	51.0	57.8	52.2	56.2	51.6	74.8	55.8	69.3	54.5	72.2	55.2	67.6	54.1	65.2	53.7	66.5	53.9
44	85.00	65.8	53.8	67.8	54.7	66.7	54.2	81.4	58.0	76.6	56.8	79.2	57.5	75.8	56.5	73.4	56.1	74.7	56.3
45	87.50	78.8	56.6	77.2	57.2	78.0	56.9	87.4	60.3	85.1	59.1	86.3	59.7	84.3	58.8	82.3	58.4	83.4	58.6
46	90.00	87.4	59.4	85.6	59.7	86.6	59.5	91.0	62.5	89.9	61.4	90.5	62.0	89.7	61.1	88.4	60.7	89.1	60.9
47	92.50	94.1	62.2	92.4	62.2	93.3	62.1	95.4	64.8	94.4	63.7	94.9	64.2	94.9	63.5	93.7	63.1	94.3	63.3
48	95.00	96.8	65.0	96.9	64.7	96.9	64.8	97.3	67.0	97.5	66.0	97.4	66.5	97.2	65.8	97.3	65.4	97.2	65.6
49	97.50	98.4	67.7	99.1	67.2	98.7	67.4	98.5	69.3	99.5	68.3	98.9	68.7	98.4	68.1	99.3	67.7	98.9	67.9
50	100.00	100.0	70.5	100.0	69.7	100.0	70.0	100.0	71.5	100.0	70.5	100.0	71.0	100.0	70.4	100.0	70.1	100.0	70.3

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-2:
CH - Switzerland. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11 Females (n=289) PR	Children 8-11 Females (n=289) TS	Children 8-11 Males (n=257) PR	Children 8-11 Males (n=257) TS	Children 8-11 All (n=546) PR	Children 8-11 All (n=546) TS	Adolescents 12-18 Females (n=570) PR	Adolescents 12-18 Females (n=570) TS	Adolescents 12-18 Males (n=484) PR	Adolescents 12-18 Males (n=484) TS	Adolescents 12-18 All (n=1054) PR	Adolescents 12-18 All (n=1054) TS	Children & Adolescents 8-18 Females (n=859) PR	Children & Adolescents 8-18 Females (n=859) TS	Children & Adolescents 8-18 Males (n=741) PR	Children & Adolescents 8-18 Males (n=741) TS	Children & Adolescents 8-18 All (n=1600) PR	Children & Adolescents 8-18 All (n=1600) TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**																		
22	**30.00**																		
23	**32.50**																		
24	**35.00**																		
25	**37.50**							0.6	13.8			0.3	11.8	0.4	12.0			0.2	10.5
26	**40.00**							0.8	16.1	0.3	11.4	0.5	14.2	0.5	14.3	0.2	11.0	0.3	12.9
27	**42.50**							1.0	18.4	0.3	14.0	0.6	16.6	0.6	16.7	0.2	13.6	0.4	15.4
28	**45.00**			0.6	15.3	0.3	15.2	1.0	20.7	0.5	16.5	0.7	19.0	0.6	19.1	0.5	16.1	0.5	17.8
29	**47.50**	0.5	17.6	0.6	17.9	0.5	17.8	1.2	23.0	0.5	19.1	0.8	21.4	0.9	21.5	0.5	18.7	0.6	20.3
30	**50.00**	0.9	20.2	1.0	20.4	0.8	20.3	1.6	25.3	1.1	21.6	1.3	23.8	1.3	23.9	1.0	21.3	1.1	22.7
31	**52.50**	1.8	22.8	1.4	23.0	1.5	22.9	2.5	27.6	1.7	24.2	2.1	26.2	2.2	26.3	1.5	23.8	1.9	25.2
32	**55.00**	2.5	25.4	2.8	25.6	2.6	25.5	4.0	29.9	2.1	26.7	3.1	28.6	3.5	28.6	2.3	26.4	2.9	27.7
33	**57.50**	4.1	28.0	4.3	28.2	4.2	28.1	6.3	32.2	3.3	29.3	4.9	31.0	5.6	31.0	3.6	28.9	4.7	30.1
34	**60.00**	5.2	30.6	5.8	30.7	5.5	30.7	9.1	34.5	4.9	31.8	7.2	33.4	7.8	33.4	5.2	31.5	6.6	32.6
35	**62.50**	6.6	33.2	7.1	33.3	6.8	33.3	12.9	36.8	8.2	34.4	10.8	35.8	10.8	35.8	7.8	34.0	9.4	35.0
36	**65.00**	9.0	35.8	10.5	35.9	9.7	35.9	16.1	39.1	11.1	36.9	13.8	38.2	13.7	38.2	10.9	36.6	12.4	37.5
37	**67.50**	13.8	38.4	14.4	38.5	14.1	38.4	20.5	41.4	16.9	39.5	18.8	40.6	18.3	40.5	16.1	39.1	17.2	39.9
38	**70.00**	20.4	41.0	19.9	41.0	20.2	41.0	27.0	43.7	24.3	42.0	25.8	43.0	24.8	42.9	22.8	41.7	23.9	42.4
39	**72.50**	27.0	43.6	26.9	43.6	27.0	43.6	35.9	46.0	32.6	44.6	34.4	45.4	32.9	45.3	30.6	44.3	31.9	44.9
40	**75.00**	37.8	46.2	35.9	46.2	36.9	46.2	44.7	48.3	41.3	47.1	43.2	47.8	42.4	47.7	39.4	46.8	41.0	47.3
41	**77.50**	46.8	48.8	48.3	48.8	47.5	48.8	53.3	50.6	52.7	49.7	53.0	50.2	51.1	50.1	51.2	49.4	51.1	49.8
42	**80.00**	58.2	51.4	55.3	51.3	56.9	51.4	62.1	52.9	62.4	52.2	62.2	52.6	60.8	52.5	59.9	51.9	60.4	52.2
43	**82.50**	68.9	54.0	66.2	53.9	67.6	54.0	73.0	55.3	70.9	54.8	72.0	55.0	71.6	54.8	69.2	54.5	70.5	54.7
44	**85.00**	83.1	56.6	79.8	56.5	81.5	56.5	80.6	57.6	78.9	57.3	79.8	57.4	81.4	57.2	79.2	57.0	80.4	57.1
45	**87.50**	87.9	59.2	88.3	59.1	88.1	59.1	87.9	59.9	88.0	59.9	88.0	59.8	87.9	59.6	88.1	59.6	88.0	59.6
46	**90.00**	91.0	61.8	93.0	61.6	91.9	61.7	92.5	62.2	92.6	62.4	92.5	62.3	92.0	62.0	92.7	62.2	92.3	62.0
47	**92.50**	93.4	64.4	95.3	64.2	94.3	64.3	95.8	64.5	96.1	65.0	95.9	64.7	95.0	64.4	95.8	64.7	95.4	64.5
48	**95.00**	97.2	67.0	96.5	66.8	96.9	66.9	98.4	66.8	98.1	67.5	98.3	67.1	98.0	66.8	97.6	67.3	97.8	67.0
49	**97.50**	99.0	69.6	99.2	69.4	99.1	69.5	99.6	69.1	99.2	70.1	99.4	69.5	99.4	69.1	99.2	69.8	99.3	69.4
50	**100.00**	100.0	72.2	100.0	71.9	100.0	72.1	100.0	71.4	100.0	72.6	100.0	71.9	100.0	71.5	100.0	72.4	100.0	71.9

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-3:
CZ - Czech Republic. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11 Females (n=276) PR	TS	Children 8-11 Males (n=264) PR	TS	Children 8-11 All (n=540) PR	TS	Adolescents 12-18 Females (n=502) PR	TS	Adolescents 12-18 Males (n=518) PR	TS	Adolescents 12-18 All (n=1020) PR	TS	Children & Adolescents 8-18 Females (n=778) PR	TS	Children & Adolescents 8-18 Males (n=782) PR	TS	Children & Adolescents 8-18 All (n=1560) PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**							0.3	11.3			0.2	9.5	0.2	10.3			0.1	9.1
22	**30.00**							0.3	13.4			0.2	11.7	0.2	12.5			0.1	11.3
23	**32.50**							0.3	15.6			0.2	14.0	0.2	14.6			0.1	13.5
24	**35.00**			0.6	14.2	0.3	14.2	0.5	17.7	0.3	14.6	0.3	16.2	0.3	16.8	0.3	14.6	0.3	15.7
25	**37.50**	0.8	16.2	1.0	16.5	0.8	16.4	0.5	19.9	0.5	16.9	0.4	18.5	0.5	18.9	0.6	16.9	0.5	17.9
26	**40.00**	1.3	18.4	1.6	18.7	1.3	18.6	1.4	22.0	0.5	19.2	0.9	20.7	1.3	21.0	0.8	19.2	1.0	20.2
27	**42.50**	1.7	20.6	1.6	21.0	1.6	20.8	1.7	24.2	0.7	21.5	1.1	22.9	1.6	23.2	1.0	21.4	1.2	22.4
28	**45.00**	2.9	22.8	1.6	23.2	2.2	23.0	2.0	26.3	1.4	23.9	1.7	25.2	2.3	25.3	1.4	23.7	1.9	24.6
29	**47.50**	3.4	24.9	1.6	25.5	2.5	25.3	3.2	28.5	2.1	26.2	2.6	27.4	3.2	27.5	1.9	26.0	2.6	26.8
30	**50.00**	3.8	27.1	2.4	27.7	3.0	27.5	4.6	30.6	2.7	28.5	3.6	29.6	4.2	29.6	2.6	28.3	3.4	29.0
31	**52.50**	4.8	29.3	3.1	30.0	3.9	29.7	6.1	32.8	3.3	30.9	4.7	31.9	5.6	31.8	3.2	30.6	4.4	31.2
32	**55.00**	5.5	31.5	4.2	32.2	4.8	31.9	8.1	34.9	5.2	33.2	6.7	34.1	7.2	33.9	4.9	32.9	6.0	33.4
33	**57.50**	6.6	33.7	5.7	34.5	6.1	34.1	11.7	37.1	9.7	35.5	10.7	36.3	9.8	36.1	8.3	35.2	9.1	35.7
34	**60.00**	8.7	35.9	11.4	36.7	10.0	36.3	15.7	39.2	14.5	37.8	15.1	38.6	13.2	38.2	13.4	37.5	13.3	37.9
35	**62.50**	11.2	38.1	15.2	39.0	13.1	38.6	21.5	41.4	19.9	40.2	20.7	40.8	17.8	40.3	18.3	39.8	18.1	40.1
36	**65.00**	17.0	40.3	21.3	41.2	19.1	40.8	26.9	43.5	24.1	42.5	25.5	43.0	23.4	42.5	23.2	42.1	23.3	42.3
37	**67.50**	22.8	42.5	28.5	43.5	25.6	43.0	35.2	45.7	31.1	44.8	33.1	45.3	30.8	44.6	30.2	44.4	30.5	44.5
38	**70.00**	29.3	44.7	37.9	45.7	33.5	45.2	44.4	47.8	42.1	47.2	43.2	47.5	39.1	46.8	40.7	46.7	39.9	46.7
39	**72.50**	38.4	46.9	44.3	48.0	41.3	47.4	51.8	50.0	51.3	49.5	51.6	49.7	47.1	48.9	49.0	49.0	48.0	48.9
40	**75.00**	48.5	49.1	55.3	50.2	51.8	49.7	60.4	52.1	61.9	51.8	61.2	52.0	56.2	51.1	59.7	51.3	57.9	51.2
41	**77.50**	55.7	51.3	62.5	52.5	59.0	51.9	69.1	54.3	70.0	54.1	69.6	54.2	64.4	53.2	67.5	53.5	65.9	53.4
42	**80.00**	65.9	53.5	70.8	54.7	68.3	54.1	76.5	56.4	78.4	56.5	77.4	56.4	72.7	55.4	75.8	55.8	74.3	55.6
43	**82.50**	73.9	55.7	77.2	57.0	75.5	56.3	83.9	58.6	84.6	58.8	84.2	58.7	80.3	57.5	82.1	58.1	81.2	57.8
44	**85.00**	82.6	57.9	84.8	59.2	83.7	58.5	89.4	60.7	90.0	61.1	89.7	60.9	87.0	59.6	88.2	60.4	87.6	60.0
45	**87.50**	88.4	60.1	90.1	61.5	89.2	60.7	93.2	62.9	92.8	63.4	93.0	63.1	91.5	61.8	91.9	62.7	91.7	62.2
46	**90.00**	93.9	62.3	93.9	63.7	93.9	63.0	96.2	65.0	95.7	65.8	96.0	65.4	95.4	63.9	95.1	65.0	95.3	64.4
47	**92.50**	95.3	64.5	97.0	66.0	96.1	65.2	97.6	67.2	97.9	68.1	97.7	67.6	96.8	66.1	97.6	67.3	97.2	66.7
48	**95.00**	98.9	66.7	98.5	68.2	98.7	67.4	99.0	69.3	98.4	70.4	98.7	69.8	99.0	68.2	98.5	69.6	98.7	68.9
49	**97.50**	99.6	68.9	99.6	70.5	99.6	69.6	99.2	71.5	99.2	72.8	99.2	72.1	99.3	70.4	99.4	71.9	99.4	71.1
50	**100.00**	100.0	71.1	100.0	72.7	100.0	71.8	100.0	73.6	100.0	75.1	100.0	74.3	100.0	72.5	100.0	74.2	100.0	73.3

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-4:
DE - Germany. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11 Females (n=293) PR	TS	Children 8-11 Males (n=296) PR	TS	Children 8-11 All (n=589) PR	TS	Adolescents 12-18 Females (n=563) PR	TS	Adolescents 12-18 Males (n=506) PR	TS	Adolescents 12-18 All (n=1069) PR	TS	Children & Adolescents 8-18 Females (n=856) PR	TS	Children & Adolescents 8-18 Males (n=802) PR	TS	Children & Adolescents 8-18 All (n=1658) PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**																		
22	**30.00**																		
23	**32.50**	0.5	0.3			0.3	3.4							0.2	7.1			0.1	7.7
24	**35.00**	0.5	3.0			0.3	5.9							0.2	9.5			0.1	10.1
25	**37.50**	0.5	5.6			0.3	8.5							0.2	11.8			0.1	12.4
26	**40.00**	0.9	8.3	0.8	13.1	0.7	11.0			0.3	16.4	0.1	16.4	0.3	14.2	0.4	15.3	0.3	14.8
27	**42.50**	0.9	10.9	0.8	15.5	0.7	13.5	0.4	18.6	0.8	18.7	0.6	18.7	0.5	16.6	0.8	17.7	0.6	17.2
28	**45.00**	0.9	13.6	0.8	18.0	0.7	16.1	1.2	20.9	1.4	21.1	1.3	21.0	1.1	19.0	1.1	20.1	1.1	19.5
29	**47.50**	0.9	16.2	1.2	20.4	1.0	18.6	1.6	23.2	1.7	23.4	1.6	23.3	1.3	21.4	1.4	22.4	1.3	21.9
30	**50.00**	0.9	18.3	1.6	22.8	1.1	21.1	2.5	25.6	2.2	25.7	2.3	25.6	1.9	23.8	1.9	24.8	1.9	24.3
31	**52.50**	0.9	21.5	2.2	25.3	1.4	23.6	3.7	27.9	2.8	28.0	3.3	27.9	2.7	26.2	2.5	27.1	2.6	26.6
32	**55.00**	2.1	24.1	2.8	27.7	2.4	26.1	4.6	30.2	4.5	30.3	4.6	30.3	3.7	28.5	3.9	29.5	3.8	29.0
33	**57.50**	3.4	26.8	4.1	30.2	3.7	28.7	7.3	32.5	6.1	32.7	6.7	32.6	6.0	30.9	5.4	31.8	5.7	31.4
34	**60.00**	4.2	29.4	6.0	32.6	5.1	31.2	9.6	34.8	9.5	35.0	9.5	34.9	7.7	33.3	8.2	34.2	8.0	33.7
35	**62.50**	5.8	32.1	7.7	35.1	6.8	33.7	11.9	37.1	12.2	37.3	12.1	37.2	9.8	35.7	10.6	36.5	10.2	36.1
36	**65.00**	8.6	34.7	14.1	37.5	11.4	36.2	16.3	39.4	18.2	39.6	17.2	39.5	13.7	38.1	16.7	38.9	15.1	38.5
37	**67.50**	10.6	37.3	17.9	39.9	14.3	38.8	21.5	41.7	23.5	41.9	22.4	41.8	17.8	40.5	21.4	41.2	19.5	40.9
38	**70.00**	14.4	40.0	24.3	42.4	19.4	41.3	26.7	44.0	29.5	44.2	28.0	44.1	22.5	42.9	27.6	43.6	24.9	43.2
39	**72.50**	19.8	42.6	30.4	44.8	25.1	43.8	36.1	46.3	37.2	46.6	36.6	46.4	30.5	45.2	34.7	46.0	32.5	45.6
40	**75.00**	29.7	45.3	42.2	47.3	36.0	46.3	45.3	48.7	45.5	48.9	45.4	48.8	40.0	47.6	44.3	48.3	42.1	48.0
41	**77.50**	44.7	47.9	50.3	49.7	47.5	48.9	55.4	51.0	55.8	51.2	55.6	51.1	51.8	50.0	53.8	50.7	52.7	50.3
42	**80.00**	58.4	50.6	61.5	52.2	59.9	51.4	66.1	53.3	66.5	53.5	66.3	53.4	63.5	52.4	64.6	53.0	64.0	52.7
43	**82.50**	71.1	53.2	69.2	54.6	70.1	53.9	73.9	55.6	75.0	55.8	74.4	55.7	72.9	54.8	72.8	55.4	72.9	55.1
44	**85.00**	78.2	55.8	76.7	57.1	77.4	56.4	82.8	57.9	83.0	58.2	82.9	58.0	81.2	57.2	80.7	57.7	81.0	57.4
45	**87.50**	83.6	58.5	86.5	59.5	85.0	59.0	88.3	60.2	89.7	60.5	89.0	60.3	86.7	59.6	88.5	60.1	87.6	59.8
46	**90.00**	91.8	61.1	92.5	61.9	92.2	61.5	93.3	62.5	92.7	62.8	93.0	62.6	92.8	61.9	92.6	62.4	92.7	62.2
47	**92.50**	94.5	63.8	96.6	64.4	95.6	64.0	96.3	64.8	96.1	65.1	96.2	65.0	95.7	64.3	96.3	64.8	96.0	64.5
48	**95.00**	97.3	66.4	98.6	66.8	97.9	66.5	98.0	67.1	99.0	67.4	98.5	67.3	97.8	66.7	98.9	67.2	98.3	66.9
49	**97.50**	98.6	69.1	99.6	69.3	99.1	69.1	99.3	69.4	99.6	69.7	99.4	69.6	99.1	69.1	99.6	69.5	99.3	69.3
50	**100.00**	100.0	71.7	100.0	71.7	100.0	71.6	100.0	71.8	100.0	72.1	100.0	71.9	100.0	71.5	100.0	71.9	100.0	71.7

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-5:
EL - Greece. Individual norm data KIDSCREEN-10-PROXY Index for Greece

		Adolescents 12-18					
Raw-	0-100	Females (n=587)		Males (n=390)		All (n=977)	
Score	Score	PR	TS	PR	TS	PR	TS
10	**0.00**						
11	**2.50**						
12	**5.00**						
13	**7.50**						
14	**10.00**						
15	**12.50**						
16	**15.00**						
17	**17.50**						
18	**20.00**						
19	**22.50**						
20	**25.00**						
21	**27.50**						
22	**30.00**			0.4	12.6	0.2	16.4
23	**32.50**	0.3	20.2	0.4	14.8	0.3	18.4
24	**35.00**	0.4	22.2	0.4	16.9	0.4	20.5
25	**37.50**	0.7	24.2	0.7	19.1	0.6	22.5
26	**40.00**	1.2	26.2	1.3	21.3	1.2	24.6
27	**42.50**	1.9	28.2	1.3	23.5	1.7	26.6
28	**45.00**	2.6	30.2	1.9	25.7	2.3	28.6
29	**47.50**	4.9	32.2	2.4	27.8	3.9	30.7
30	**50.00**	7.0	34.1	3.6	30.0	5.6	32.7
31	**52.50**	10.8	36.1	5.4	32.2	8.6	34.8
32	**55.00**	13.8	38.1	7.2	34.4	11.2	36.8
33	**57.50**	18.8	40.1	10.2	36.5	15.4	38.8
34	**60.00**	24.6	42.1	14.8	38.7	20.7	40.9
35	**62.50**	32.5	44.1	19.9	40.9	27.5	42.9
36	**65.00**	39.4	46.0	25.8	43.1	33.9	45.0
37	**67.50**	45.2	48.0	33.3	45.3	40.4	47.0
38	**70.00**	52.8	50.0	43.2	47.4	49.0	49.0
39	**72.50**	61.6	52.0	52.0	49.6	57.7	51.1
40	**75.00**	68.4	54.0	60.7	51.8	65.3	53.1
41	**77.50**	74.7	56.0	68.6	54.0	72.3	55.2
42	**80.00**	80.9	57.9	75.3	56.2	78.6	57.2
43	**82.50**	85.8	59.9	82.7	58.3	84.6	59.3
44	**85.00**	89.2	61.9	88.9	60.5	89.1	61.3
45	**87.50**	91.8	63.9	91.8	62.7	91.8	63.3
46	**90.00**	95.0	65.9	94.6	64.9	94.9	65.4
47	**92.50**	97.4	67.9	97.2	67.1	97.3	67.4
48	**95.00**	99.0	69.9	99.2	69.2	99.1	69.5
49	**97.50**	99.5	71.8	99.2	71.4	99.4	71.5
50	**100.00**	100.0	73.8	100.0	73.6	100.0	73.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-6:
ES - Spain. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=138)		Males (n=160)		All (n=298)		Females (n=255)		Males (n=235)		All (n=490)		Females (n=393)		Males (n=395)		All (n=788)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**																		
22	**30.00**																		
23	**32.50**																		
24	**35.00**																		
25	**37.50**																		
26	**40.00**							0.6	18.9			0.3	17.5	0.4	16.4			0.2	15.3
27	**42.50**							1.3	21.0	0.7	18.0	0.8	19.7	0.8	18.5	0.4	16.3	0.5	17.5
28	**45.00**							1.3	23.1	1.1	20.3	1.1	21.8	0.8	20.7	0.6	18.6	0.7	19.7
29	**47.50**							2.1	25.1	1.1	22.6	1.5	24.0	1.3	22.8	0.6	20.9	0.9	21.9
30	**50.00**	1.1	18.7			0.5	19.0	3.2	27.2	1.8	24.9	2.5	26.2	2.3	25.0	1.1	23.2	1.7	24.1
31	**52.50**	1.1	21.2			0.5	21.5	3.7	29.2	3.0	27.2	3.3	28.3	2.7	27.1	1.8	25.5	2.2	26.4
32	**55.00**	1.1	23.7	1.0	24.0	0.9	23.9	4.8	31.3	4.3	29.5	4.5	30.5	3.4	29.3	2.8	27.8	3.0	28.6
33	**57.50**	1.1	26.1	3.2	26.4	2.0	26.3	6.0	33.4	6.3	31.8	6.1	32.7	4.1	31.4	5.0	30.1	4.6	30.8
34	**60.00**	3.0	28.6	5.1	28.9	4.0	28.7	10.2	35.4	8.1	34.1	9.2	34.8	7.6	33.6	6.8	32.4	7.2	33.0
35	**62.50**	4.5	31.0	6.4	31.3	5.4	31.2	13.3	37.5	11.9	36.4	12.7	37.0	10.2	35.7	9.6	34.7	9.9	35.2
36	**65.00**	6.6	33.5	9.4	33.7	8.0	33.6	16.9	39.6	14.5	38.6	15.8	39.2	13.2	37.9	12.4	37.0	12.8	37.5
37	**67.50**	11.6	36.0	12.6	36.1	12.1	36.1	22.4	41.6	18.3	40.9	20.4	41.3	18.6	40.0	16.0	39.3	17.3	39.7
38	**70.00**	18.0	38.4	16.3	38.6	17.1	38.5	26.2	43.7	26.0	43.2	26.1	43.5	23.4	42.2	22.0	41.6	22.7	41.9
39	**72.50**	23.0	40.9	20.7	41.0	21.8	41.0	34.1	45.8	35.7	45.5	34.9	45.7	30.2	44.4	29.6	43.9	29.9	44.1
40	**75.00**	28.2	43.4	26.9	43.4	27.5	43.4	43.1	47.8	45.4	47.8	44.2	47.8	37.9	46.5	37.9	46.2	37.9	46.3
41	**77.50**	37.6	45.8	37.5	45.9	37.6	45.8	52.9	49.9	51.8	50.1	52.4	50.0	47.6	48.7	46.0	48.5	46.8	48.6
42	**80.00**	44.1	48.3	45.0	48.3	44.6	48.3	61.6	52.0	60.4	52.4	61.0	52.2	55.4	50.8	54.2	50.8	54.8	50.8
43	**82.50**	55.0	50.7	52.5	50.7	53.7	50.7	67.5	54.1	70.6	54.7	69.0	54.3	63.1	53.0	63.3	53.1	63.2	53.0
44	**85.00**	66.6	53.2	61.9	53.1	64.1	53.2	74.5	56.1	77.0	57.0	75.7	56.5	71.7	55.1	70.9	55.4	71.3	55.2
45	**87.50**	71.7	55.7	70.1	55.6	70.8	55.6	80.8	58.2	83.4	59.3	82.1	58.7	77.6	57.3	78.0	57.7	77.8	57.4
46	**90.00**	79.0	58.1	76.3	58.0	77.5	58.0	86.8	60.3	89.3	61.6	88.0	60.8	84.0	59.4	84.0	60.0	84.0	59.7
47	**92.50**	88.4	60.6	90.0	60.4	89.3	60.5	90.6	62.3	95.3	63.9	92.9	63.0	89.9	61.6	93.1	62.2	91.5	61.9
48	**95.00**	92.0	63.0	95.6	62.8	94.0	62.9	94.5	64.4	98.7	66.1	96.5	65.2	93.7	63.7	97.5	64.5	95.6	64.1
49	**97.50**	97.8	65.5	100.0	65.3	99.0	65.4	98.0	66.5	100.0	68.4	99.0	67.3	98.0	65.9	100.0	66.8	99.0	66.3
50	**100.00**	100.0	68.0			100.0	67.8	100.0	68.5			100.0	69.5	100.0	68.0			100.0	68.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-7:
FR - France. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11						Adolescents 12-18						Children & Adolescents 8-18					
		Females (n=180)		Males (n=185)		All (n=365)		Females (n=308)		Males (n=282)		All (n=590)		Females (n=488)		Males (n=467)		All (n=955)	
		PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS	PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**									0.5	18.0	0.3	18.4			0.3	16.2	0.2	16.1
21	**27.50**							0.5	20.7	0.5	19.9	0.4	20.4	0.3	18.1	0.3	18.1	0.3	18.1
22	**30.00**							0.5	22.7	0.5	21.9	0.4	22.3	0.3	20.1	0.3	20.1	0.3	20.1
23	**32.50**							0.8	24.6	0.5	23.8	0.6	24.2	0.5	22.0	0.3	22.0	0.4	22.0
24	**35.00**							1.4	26.5	0.5	25.8	0.9	26.2	0.9	24.0	0.3	24.0	0.5	24.0
25	**37.50**			0.9	21.5	0.4	20.0	1.8	28.5	2.2	27.7	1.9	28.1	1.1	26.0	1.5	25.9	1.3	26.0
26	**40.00**			1.4	23.6	0.7	22.2	2.4	30.4	2.7	29.6	2.4	30.1	1.5	28.0	2.0	27.9	1.7	27.9
27	**42.50**			2.0	25.7	1.0	24.4	3.9	32.4	3.6	31.6	3.7	32.0	2.5	30.0	2.8	29.8	2.6	29.9
28	**45.00**			2.9	27.8	1.4	26.6	6.2	34.3	7.9	33.5	7.0	33.9	3.9	32.0	5.8	31.8	4.8	31.9
29	**47.50**	0.9	27.5	3.9	29.8	2.2	28.8	10.4	36.2	11.1	35.4	10.7	35.9	6.8	34.0	8.2	33.7	7.4	33.8
30	**50.00**	1.4	29.8	6.0	31.9	3.5	30.9	14.0	38.2	12.9	37.4	13.4	37.8	9.2	35.9	10.1	35.6	9.6	35.8
31	**52.50**	5.1	32.1	7.6	34.0	6.3	33.1	19.1	40.1	16.4	39.3	17.8	39.8	14.0	37.9	12.9	37.6	13.4	37.8
32	**55.00**	9.0	34.4	9.7	36.1	9.3	35.3	26.0	42.1	20.3	41.3	23.3	41.7	19.7	39.9	16.1	39.5	18.0	39.7
33	**57.50**	14.5	36.7	14.1	38.1	14.3	37.5	32.4	44.0	26.1	43.2	29.4	43.6	25.8	41.9	21.3	41.5	23.6	41.7
34	**60.00**	18.4	39.0	18.9	40.2	18.7	39.7	39.9	45.9	33.9	45.2	37.1	45.6	32.0	43.9	28.0	43.4	30.0	43.7
35	**62.50**	24.6	41.3	26.5	42.3	25.6	41.9	47.1	47.9	41.0	47.1	44.2	47.5	38.8	45.9	35.3	45.4	37.1	45.6
36	**65.00**	32.9	43.6	32.5	44.4	32.7	44.0	53.6	49.8	51.2	49.0	52.5	49.5	46.0	47.9	43.8	47.3	44.9	47.6
37	**67.50**	37.9	46.0	40.6	46.4	39.3	46.2	61.4	51.8	59.4	51.0	60.5	51.4	52.8	49.9	52.0	49.3	52.4	49.6
38	**70.00**	45.1	48.3	46.0	48.5	45.5	48.4	66.3	53.7	66.8	52.9	66.5	53.3	58.5	51.9	58.6	51.2	58.5	51.5
39	**72.50**	53.9	50.6	53.6	50.6	53.7	50.6	73.2	55.7	72.5	54.9	72.8	55.3	66.1	53.8	65.0	53.2	65.5	53.5
40	**75.00**	64.0	52.9	59.5	52.7	61.7	52.8	79.6	57.6	78.8	56.8	79.2	57.2	73.8	55.8	71.2	55.1	72.5	55.5
41	**77.50**	74.5	55.2	68.6	54.7	71.5	55.0	84.4	59.5	82.3	58.7	83.4	59.1	80.8	57.8	76.9	57.1	78.9	57.4
42	**80.00**	81.7	57.5	77.2	56.8	79.4	57.1	89.0	61.5	85.5	60.7	87.3	61.1	86.3	59.8	82.2	59.0	84.3	59.4
43	**82.50**	86.7	59.8	82.6	58.9	84.6	59.3	91.6	63.4	90.8	62.6	91.2	63.0	89.8	61.8	87.6	60.9	88.7	61.4
44	**85.00**	91.1	62.2	87.0	61.0	89.0	61.5	94.8	65.4	94.7	64.6	94.8	65.0	93.4	63.8	91.6	62.9	92.6	63.3
45	**87.50**	93.9	64.5	92.9	63.1	93.4	63.7	96.4	67.3	96.5	66.5	96.4	66.9	95.5	65.8	95.1	64.8	95.3	65.3
46	**90.00**	96.1	66.8	96.7	65.1	96.4	65.9	97.7	69.2	97.6	68.5	97.6	68.8	97.1	67.8	97.2	66.8	97.2	67.3
47	**92.50**	97.8	69.1	98.4	67.2	98.1	68.0	99.0	71.2	98.3	70.4	98.7	70.8	98.6	69.7	98.3	68.7	98.4	69.2
48	**95.00**	98.9	71.4	100.0	69.3	99.5	70.2	99.7	73.1	98.9	72.3	99.3	72.7	99.4	71.7	99.4	70.7	99.4	71.2
49	**97.50**	99.4	73.7			99.7	72.4	99.7	75.1	100.0	74.3	99.8	74.7	99.6	73.7	100.0	72.6	99.8	73.2
50	**100.00**	100.0	76.0			100.0	74.6	100.0	77.0			100.0	76.6	100.0	75.7			100.0	75.1

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-8:
HU - Hungary. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11 Females (n=478) PR	TS	Children 8-11 Males (n=362) PR	TS	Children 8-11 All (n=840) PR	TS	Adolescents 12-18 Females (n=675) PR	TS	Adolescents 12-18 Males (n=374) PR	TS	Adolescents 12-18 All (n=1049) PR	TS	Children & Adolescents 8-18 Females (n=1153) PR	TS	Children & Adolescents 8-18 Males (n=736) PR	TS	Children & Adolescents 8-18 All (n=1889) PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**			0.4	5.5	0.2	2.5									0.2	6.4	0.1	7.8
18	**20.00**			0.4	7.4	0.2	4.5	0.2	12.9			0.2	11.7	0.1	10.5	0.2	8.3	0.1	9.7
19	**22.50**			0.4	9.3	0.2	6.5	0.2	14.8			0.2	13.6	0.1	12.4	0.2	10.3	0.1	11.6
20	**25.00**			0.4	11.2	0.2	8.5	0.2	16.6			0.2	15.4	0.1	14.2	0.2	12.2	0.1	13.5
21	**27.50**			0.4	13.1	0.2	10.5	0.2	18.5	0.4	14.5	0.2	17.3	0.1	16.1	0.3	14.1	0.2	15.4
22	**30.00**			0.4	15.1	0.2	12.5	0.2	20.3	0.4	16.5	0.2	19.2	0.1	17.9	0.3	16.0	0.2	17.3
23	**32.50**	0.3	12.2	0.4	17.0	0.3	14.5	0.5	22.2	0.4	18.5	0.4	21.1	0.4	19.8	0.3	18.0	0.3	19.1
24	**35.00**	0.3	14.3	0.4	18.9	0.3	16.5	0.7	24.1	0.7	20.5	0.6	23.0	0.5	21.7	0.5	19.9	0.4	21.0
25	**37.50**	0.3	16.4	0.4	20.8	0.3	18.5	1.0	26.0	0.9	22.4	0.9	24.9	0.7	23.5	0.6	21.8	0.6	22.9
26	**40.00**	0.3	18.5	0.7	22.7	0.4	20.5	1.2	27.8	1.6	24.4	1.3	26.8	0.8	25.4	1.1	23.8	0.9	24.8
27	**42.50**	0.7	20.6	1.4	24.6	1.0	22.5	2.2	29.7	2.2	26.4	2.2	28.7	1.6	27.3	1.8	25.7	1.6	26.7
28	**45.00**	1.1	22.7	1.4	26.5	1.2	24.5	4.0	31.6	2.5	28.3	3.4	30.6	2.8	29.1	2.0	27.6	2.4	28.6
29	**47.50**	1.5	24.7	3.3	28.4	2.3	26.5	5.7	33.4	4.2	30.3	5.1	32.5	3.9	31.0	3.8	29.5	3.9	30.4
30	**50.00**	3.2	26.8	4.4	30.3	3.7	28.5	9.8	35.3	6.1	32.3	8.5	34.4	7.0	32.8	5.3	31.5	6.4	32.3
31	**52.50**	4.0	28.9	5.5	32.2	4.7	30.5	13.8	37.2	8.8	34.2	12.0	36.2	9.7	34.7	7.2	33.4	8.7	34.2
32	**55.00**	6.3	31.0	8.3	34.1	7.2	32.5	18.7	39.0	10.1	36.2	15.6	38.1	13.5	36.6	9.2	35.3	11.9	36.1
33	**57.50**	7.6	33.1	11.9	36.1	9.4	34.5	22.6	40.9	14.4	38.2	19.7	40.0	16.4	38.4	13.2	37.2	15.1	38.0
34	**60.00**	9.0	35.2	14.4	38.0	11.3	36.5	26.2	42.8	17.4	40.2	23.1	41.9	19.1	40.3	15.9	39.2	17.8	39.9
35	**62.50**	12.8	37.3	17.7	39.9	14.9	38.5	32.6	44.6	24.1	42.1	29.6	43.8	24.4	42.2	20.9	41.1	23.0	41.8
36	**65.00**	16.5	39.4	22.6	41.8	19.1	40.5	38.4	46.5	30.5	44.1	35.6	45.7	29.3	44.0	26.6	43.0	28.3	43.6
37	**67.50**	20.9	41.5	27.0	43.7	23.5	42.5	46.0	48.4	36.7	46.1	42.6	47.6	35.6	45.9	31.9	44.9	34.1	45.5
38	**70.00**	25.5	43.6	33.7	45.6	29.0	44.5	52.9	50.2	44.1	48.0	49.8	49.5	41.5	47.8	39.0	46.9	40.5	47.4
39	**72.50**	33.9	45.7	41.2	47.5	37.1	46.5	61.0	52.1	50.8	50.0	57.4	51.4	49.8	49.6	46.1	48.8	48.3	49.3
40	**75.00**	42.1	47.7	48.3	49.4	44.8	48.5	66.7	54.0	56.5	52.0	63.0	53.3	56.5	51.5	52.5	50.7	54.9	51.2
41	**77.50**	50.4	49.8	56.3	51.3	53.0	50.5	73.6	55.8	65.8	54.0	70.8	55.1	64.0	53.3	61.1	52.6	62.9	53.1
42	**80.00**	59.8	51.9	63.0	53.3	61.2	52.5	79.6	57.7	74.9	55.9	77.9	57.0	71.4	55.2	69.0	54.6	70.5	55.0
43	**82.50**	66.3	54.0	69.1	55.2	67.5	54.5	84.5	59.5	80.0	57.9	82.9	58.9	76.9	57.1	74.6	56.5	76.0	56.8
44	**85.00**	73.5	56.1	75.2	57.1	74.2	56.5	88.5	61.4	86.9	59.9	87.9	60.8	82.2	58.9	81.1	58.4	81.8	58.7
45	**87.50**	80.8	58.2	82.1	59.0	81.3	58.5	91.8	63.3	92.2	61.8	92.0	62.7	87.3	60.8	87.2	60.3	87.2	60.6
46	**90.00**	87.7	60.3	89.5	60.9	88.5	60.5	95.3	65.1	95.1	63.8	95.2	64.6	92.1	62.7	92.4	62.3	92.2	62.5
47	**92.50**	93.3	62.4	95.0	62.8	94.0	62.5	97.5	67.0	96.8	65.8	97.2	66.5	95.7	64.5	95.9	64.2	95.8	64.4
48	**95.00**	96.4	64.5	96.7	64.7	96.5	64.5	98.5	68.9	98.1	67.8	98.4	68.4	97.6	66.4	97.4	66.1	97.6	66.3
49	**97.50**	98.3	66.6	98.6	66.6	98.4	66.5	99.6	70.7	99.2	69.7	99.4	70.3	99.0	68.2	98.9	68.0	99.0	68.1
50	**100.00**	100.0	68.7	100.0	68.5	100.0	68.5	100.0	72.6	100.0	71.7	100.0	72.2	100.0	70.1	100.0	69.9	100.0	70.0

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-9:
NL - Netherlands. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11 Females (n=320) PR	TS	Children 8-11 Males (n=322) PR	TS	Children 8-11 All (n=642) PR	TS	Adolescents 12-18 Females (n=593) PR	TS	Adolescents 12-18 Males (n=548) PR	TS	Adolescents 12-18 All (n=1151) PR	TS	Children & Adolescents 8-18 Females (n=913) PR	TS	Children & Adolescents 8-18 Males (n=870) PR	TS	Children & Adolescents 8-18 All (n=1783) PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**																		
22	**30.00**							0.3	9.0			0.1	6.5	0.2	6.7			0.1	4.3
23	**32.50**							0.3	11.2			0.1	8.8	0.2	8.9			0.1	6.6
24	**35.00**							0.3	13.4			0.1	11.0	0.2	11.2			0.1	9.0
25	**37.50**							0.4	15.6			0.2	13.3	0.3	13.4			0.1	11.3
26	**40.00**							0.6	17.8			0.3	15.6	0.4	15.7			0.2	13.6
27	**42.50**							0.6	20.0			0.3	17.9	0.4	17.9			0.2	15.9
28	**45.00**			0.5	12.9	0.2	12.6	0.6	22.2			0.3	20.1	0.4	20.1	0.2	15.7	0.2	18.2
29	**47.50**	0.5	14.7	0.8	15.4	0.5	15.1	1.2	24.4	0.4	19.3	0.8	22.4	0.9	22.3	0.5	18.1	0.7	20.5
30	**50.00**	1.0	17.2	1.1	18.0	0.9	17.6	1.7	26.6	0.8	21.7	1.2	24.6	1.4	24.6	0.8	20.5	1.1	22.8
31	**52.50**	1.4	19.8	1.6	20.5	1.4	20.2	2.8	28.9	1.1	24.1	2.0	26.9	2.3	26.8	1.3	23.0	1.8	25.1
32	**55.00**	2.5	22.3	1.6	23.0	2.0	22.7	4.7	31.1	1.7	26.5	3.2	29.2	3.9	29.0	1.6	25.4	2.8	27.4
33	**57.50**	3.2	24.8	2.0	25.5	2.5	25.2	6.7	33.3	2.7	28.9	4.8	31.5	5.4	31.2	2.4	27.8	4.0	29.7
34	**60.00**	3.6	27.3	3.7	28.0	3.6	27.7	8.4	35.5	4.0	31.3	6.3	33.7	6.6	33.5	3.9	30.2	5.3	32.0
35	**62.50**	4.4	29.9	5.3	30.5	4.8	30.2	12.8	37.7	6.2	33.7	9.6	36.0	9.8	35.7	5.9	32.7	7.9	34.4
36	**65.00**	5.9	32.4	6.6	33.1	6.2	32.7	17.6	39.9	11.1	36.1	14.5	38.3	13.5	37.9	9.4	35.1	11.5	36.7
37	**67.50**	8.1	34.9	10.3	35.6	9.2	35.3	23.7	42.1	15.5	38.5	19.8	40.5	18.2	40.2	13.6	37.5	16.0	39.0
38	**70.00**	11.9	37.4	14.0	38.1	12.9	37.8	32.3	44.3	22.6	40.9	27.7	42.8	25.2	42.4	19.4	39.9	22.4	41.3
39	**72.50**	16.8	40.0	20.0	40.6	18.4	40.3	40.1	46.5	29.0	43.3	34.8	45.1	31.9	44.6	25.6	42.4	28.9	43.6
40	**75.00**	23.1	42.5	24.3	43.1	23.7	42.8	47.4	48.7	38.3	45.7	43.1	47.4	38.9	46.8	33.1	44.8	36.1	45.9
41	**77.50**	31.5	45.0	34.6	45.6	33.0	45.3	56.2	50.9	46.7	48.1	51.6	49.6	47.6	49.1	42.2	47.2	44.9	48.2
42	**80.00**	40.0	47.5	43.6	48.2	41.8	47.8	64.3	53.2	54.9	50.5	59.8	51.9	55.8	51.3	50.7	49.6	53.3	50.5
43	**82.50**	52.2	50.0	54.4	50.7	53.3	50.4	72.5	55.4	62.6	52.9	67.7	54.2	65.3	53.5	59.5	52.1	62.5	52.8
44	**85.00**	62.8	52.6	65.5	53.2	64.1	52.9	81.1	57.6	70.7	55.3	76.1	56.4	74.7	55.8	68.8	54.5	71.8	55.1
45	**87.50**	73.4	55.1	72.7	55.7	73.0	55.4	85.6	59.8	79.8	57.7	82.8	58.7	81.3	58.0	77.1	56.9	79.3	57.4
46	**90.00**	80.3	57.6	81.3	58.2	80.8	57.9	90.2	62.0	86.5	60.1	88.4	61.0	86.7	60.2	84.6	59.3	85.7	59.8
47	**92.50**	87.2	60.1	91.6	60.7	89.4	60.4	94.2	64.2	91.8	62.4	93.1	63.3	91.7	62.4	91.7	61.8	91.7	62.1
48	**95.00**	94.3	62.7	94.7	63.3	94.5	63.0	97.3	66.4	95.6	64.8	96.5	65.5	96.2	64.7	95.3	64.2	95.8	64.4
49	**97.50**	97.8	65.2	98.8	65.8	98.3	65.5	98.8	68.6	97.6	67.2	98.2	67.8	98.5	66.9	98.0	66.6	98.2	66.7
50	**100.00**	100.0	67.7	100.0	68.3	100.0	68.0	100.0	70.8	100.0	69.6	100.0	70.1	100.0	69.1	100.0	69.0	100.0	69.0

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-10:
PL - Poland. Individual norm data KIDSCREEN-10-PROXY Index

Raw-Score	0-100 Score	Children 8-11 Females (n=281) PR	Children 8-11 Females (n=281) TS	Children 8-11 Males (n=254) PR	Children 8-11 Males (n=254) TS	Children 8-11 All (n=535) PR	Children 8-11 All (n=535) TS	Adolescents 12-18 Females (n=599) PR	Adolescents 12-18 Females (n=599) TS	Adolescents 12-18 Males (n=486) PR	Adolescents 12-18 Males (n=486) TS	Adolescents 12-18 All (n=1085) PR	Adolescents 12-18 All (n=1085) TS	Children & Adolescents 8-18 Females (n=880) PR	Children & Adolescents 8-18 Females (n=880) TS	Children & Adolescents 8-18 Males (n=740) PR	Children & Adolescents 8-18 Males (n=740) TS	Children & Adolescents 8-18 All (n=1620) PR	Children & Adolescents 8-18 All (n=1620) TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**																		
22	**30.00**																		
23	**32.50**							0.3	21.2			0.1	20.0	0.2	19.3			0.1	18.1
24	**35.00**							0.4	23.3	0.3	20.5	0.3	22.1	0.3	21.4	0.2	18.7	0.2	20.2
25	**37.50**							0.7	25.4	0.5	22.7	0.6	24.3	0.5	23.5	0.4	20.9	0.4	22.4
26	**40.00**			0.6	17.4	0.3	18.0	1.3	27.5	0.5	24.9	0.9	26.4	0.9	25.6	0.5	23.2	0.7	24.6
27	**42.50**	0.6	20.8	1.0	19.9	0.6	20.4	2.5	29.5	0.9	27.1	1.8	28.5	1.8	27.7	0.8	25.4	1.4	26.7
28	**45.00**	1.2	23.2	1.4	22.3	1.2	22.8	4.5	31.6	1.7	29.4	3.2	30.7	3.4	29.8	1.5	27.6	2.5	28.9
29	**47.50**	1.2	25.6	1.4	24.8	1.2	25.2	6.3	33.7	3.9	31.6	5.2	32.8	4.6	31.9	3.0	29.9	3.9	31.0
30	**50.00**	1.9	27.9	1.8	27.3	1.7	27.6	9.7	35.7	6.6	33.8	8.3	34.9	7.2	34.0	4.9	32.1	6.1	33.2
31	**52.50**	4.0	30.3	3.6	29.7	3.8	30.0	14.7	37.8	9.3	36.0	12.3	37.1	11.2	36.1	7.3	34.4	9.5	35.3
32	**55.00**	5.0	32.7	6.7	32.2	5.8	32.5	17.8	39.9	14.3	38.3	16.2	39.2	13.7	38.1	11.7	36.6	12.8	37.5
33	**57.50**	8.2	35.0	8.7	34.6	8.4	34.9	23.7	41.9	18.6	40.5	21.4	41.3	18.7	40.2	15.2	38.9	17.1	39.6
34	**60.00**	12.8	37.4	9.9	37.1	11.4	37.3	32.7	44.0	27.4	42.7	30.3	43.5	26.3	42.3	21.4	41.1	24.1	41.8
35	**62.50**	16.0	39.8	16.6	39.6	16.3	39.7	39.4	46.1	37.5	44.9	38.5	45.6	31.9	44.4	30.3	43.4	31.2	44.0
36	**65.00**	24.9	42.2	23.3	42.0	24.1	42.1	48.1	48.1	45.9	47.2	47.1	47.7	40.7	46.5	38.2	45.6	39.5	46.1
37	**67.50**	33.4	44.5	31.6	44.5	32.5	44.5	55.2	50.2	53.8	49.4	54.6	49.9	48.2	48.6	46.1	47.9	47.3	48.3
38	**70.00**	43.7	46.9	43.0	46.9	43.3	46.9	61.4	52.3	61.1	51.6	61.3	52.0	55.7	50.7	54.9	50.1	55.4	50.4
39	**72.50**	53.3	49.3	53.2	49.4	53.3	49.3	66.9	54.4	69.3	53.8	68.0	54.1	62.6	52.8	63.8	52.3	63.1	52.6
40	**75.00**	61.5	51.6	62.3	51.8	61.9	51.7	77.3	56.4	75.5	56.0	76.5	56.2	72.2	54.9	71.0	54.6	71.7	54.7
41	**77.50**	70.4	54.0	69.7	54.3	70.1	54.1	82.8	58.5	82.3	58.3	82.6	58.4	78.8	57.0	78.0	56.8	78.5	56.9
42	**80.00**	76.4	56.4	78.0	56.8	77.2	56.6	87.0	60.6	87.9	60.5	87.4	60.5	83.6	59.1	84.5	59.1	84.0	59.1
43	**82.50**	82.1	58.7	84.7	59.2	83.3	59.0	91.0	62.6	90.7	62.7	90.9	62.6	88.1	61.2	88.7	61.3	88.4	61.2
44	**85.00**	89.3	61.1	90.6	61.7	89.9	61.4	94.5	64.7	93.0	64.9	93.8	64.8	92.8	63.2	92.2	63.6	92.5	63.4
45	**87.50**	92.5	63.5	93.7	64.1	93.1	63.8	95.7	66.8	95.9	67.2	95.8	66.9	94.6	65.3	95.2	65.8	94.9	65.5
46	**90.00**	95.0	65.9	96.9	66.6	95.9	66.2	97.8	68.8	97.7	69.4	97.8	69.0	96.9	67.4	97.4	68.1	97.2	67.7
47	**92.50**	97.1	68.2	98.1	69.1	97.6	68.6	99.0	70.9	99.2	71.6	99.1	71.2	98.4	69.5	98.8	70.3	98.6	69.8
48	**95.00**	98.6	70.6	100.0	71.5	99.3	71.0	99.8	73.0	99.4	73.8	99.6	73.3	99.4	71.6	99.6	72.5	99.5	72.0
49	**97.50**	100.0	73.0	100.0	74.0	100.0	73.4	100.0	75.0	99.4	76.1	99.7	75.4	100.0	73.7	99.6	74.8	99.8	74.2
50	**100.00**	100.0	75.4	100.0	76.4	100.0	75.8	100.0	76.9	100.0	78.3	100.0	77.6	100.0	75.8	100.0	77.0	100.0	76.3

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

Table A5-11:
UK - United Kingdom. Individual norm data KIDSCREEN-10 Index

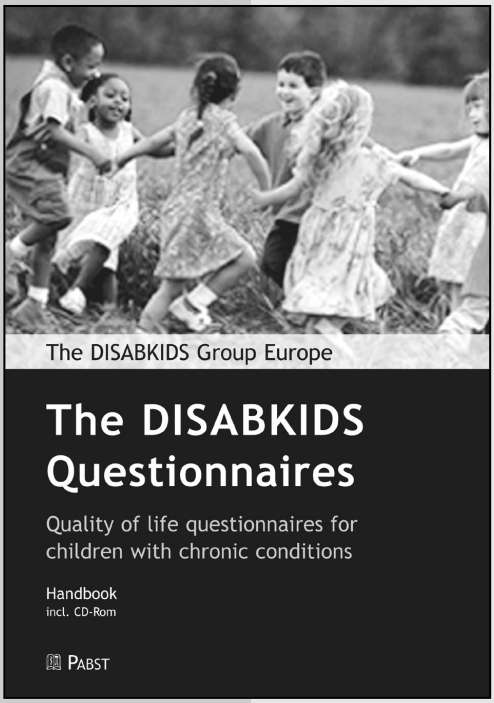
Raw-Score	0-100 Score	Children 8-11 Females (n=331) PR	TS	Children 8-11 Males (n=358) PR	TS	Children 8-11 All (n=689) PR	TS	Adolescents 12-18 Females (n=228) PR	TS	Adolescents 12-18 Males (n=263) PR	TS	Adolescents 12-18 All (n=491) PR	TS	Children & Adolescents 8-18 Females (n=559) PR	TS	Children & Adolescents 8-18 Males (n=621) PR	TS	Children & Adolescents 8-18 All (n=1180) PR	TS
10	**0.00**																		
11	**2.50**																		
12	**5.00**																		
13	**7.50**																		
14	**10.00**																		
15	**12.50**																		
16	**15.00**																		
17	**17.50**																		
18	**20.00**																		
19	**22.50**																		
20	**25.00**																		
21	**27.50**																		
22	**30.00**																		
23	**32.50**																		
24	**35.00**																		
25	**37.50**							1.0	22.0	0.6	20.8	0.6	21.4	0.4	18.0	0.3	17.9	0.3	18.0
26	**40.00**							1.0	24.0	1.3	22.9	1.1	23.5	0.4	20.2	0.5	20.1	0.5	20.2
27	**42.50**			0.4	19.6	0.2	19.2	1.0	26.0	1.3	25.1	1.1	25.6	0.4	22.3	0.8	22.3	0.6	22.4
28	**45.00**	0.7	21.0	0.4	21.9	0.5	21.5	1.6	28.0	1.8	27.2	1.5	27.6	0.9	24.5	0.9	24.5	0.9	24.5
29	**47.50**	1.1	23.4	0.4	24.2	0.7	23.8	2.3	30.0	3.1	29.3	2.7	29.6	1.5	26.7	1.5	26.7	1.4	26.7
30	**50.00**	1.6	25.7	0.9	26.5	1.2	26.2	3.6	32.0	4.6	31.4	4.1	31.7	2.3	28.9	2.4	28.9	2.4	28.9
31	**52.50**	2.2	28.1	1.5	28.9	1.7	28.5	7.0	34.0	6.5	33.5	6.8	33.8	4.1	31.0	3.6	31.1	3.8	31.1
32	**55.00**	3.4	30.4	4.2	31.2	3.8	30.8	9.7	36.1	8.1	35.6	8.8	35.8	5.9	33.2	5.8	33.3	5.9	33.3
33	**57.50**	4.3	32.8	5.9	33.5	5.1	33.2	14.5	38.1	12.6	37.7	13.5	37.9	8.4	35.4	8.7	35.5	8.6	35.4
34	**60.00**	8.7	35.1	10.1	35.8	9.4	35.5	19.4	40.1	18.0	39.8	18.7	39.9	13.1	37.5	13.4	37.7	13.3	37.6
35	**62.50**	12.3	37.5	15.6	38.1	14.0	37.8	25.5	42.1	24.5	41.9	25.0	42.0	17.7	39.7	19.4	39.9	18.6	39.8
36	**65.00**	18.4	39.8	21.8	40.4	20.2	40.1	33.9	44.1	32.1	44.0	32.9	44.1	24.7	41.8	26.1	42.1	25.5	42.0
37	**67.50**	26.3	42.1	27.4	42.8	26.9	42.5	40.0	46.1	39.7	46.1	39.8	46.1	31.9	44.0	32.6	44.3	32.2	44.2
38	**70.00**	34.4	44.5	35.2	45.1	34.8	44.8	47.0	48.2	47.3	48.2	47.1	48.2	39.5	46.2	40.3	46.5	40.0	46.4
39	**72.50**	42.3	46.8	43.7	47.4	43.0	47.1	54.0	50.2	56.4	50.3	55.3	50.2	47.1	48.3	49.0	48.7	48.1	48.5
40	**75.00**	51.9	49.2	53.9	49.7	52.9	49.5	59.7	52.2	61.7	52.4	60.8	52.3	55.1	50.5	57.2	50.9	56.2	50.7
41	**77.50**	60.0	51.5	62.8	52.0	61.5	51.8	68.1	54.2	68.9	54.5	68.5	54.4	63.3	52.7	65.4	53.1	64.4	52.9
42	**80.00**	68.2	53.9	70.4	54.4	69.4	54.1	76.4	56.2	77.2	56.6	76.8	56.4	71.6	54.8	73.3	55.3	72.5	55.1
43	**82.50**	75.6	56.2	78.8	56.7	77.2	56.5	82.5	58.2	82.5	58.7	82.5	58.5	78.4	57.0	80.4	57.5	79.4	57.3
44	**85.00**	82.5	58.6	84.4	59.0	83.5	58.8	86.9	60.2	87.4	60.8	87.2	60.5	84.3	59.2	85.7	59.7	85.0	59.4
45	**87.50**	87.0	60.9	89.4	61.3	88.3	61.1	89.5	62.3	91.6	62.9	90.6	62.6	88.1	61.3	90.3	61.9	89.2	61.6
46	**90.00**	91.3	63.3	91.3	63.6	91.3	63.4	91.7	64.3	95.0	65.0	93.5	64.7	91.4	63.5	92.9	64.1	92.2	63.8
47	**92.50**	95.2	65.6	94.1	65.9	94.6	65.8	96.1	66.3	97.7	67.1	96.9	66.7	95.6	65.7	95.6	66.3	95.6	66.0
48	**95.00**	98.2	68.0	96.9	68.3	97.5	68.1	97.4	68.3	98.5	69.2	98.0	68.8	97.9	67.8	97.6	68.5	97.7	68.2
49	**97.50**	100.0	70.3	99.4	70.6	99.7	70.4	99.1	70.3	99.2	71.3	99.2	70.8	99.7	70.0	99.3	70.7	99.5	70.4
50	**100.00**			100.0	72.9	100.0	72.8	100.0	72.3	100.0	73.4	100.0	72.9	100.0	72.2	100.0	72.9	100.0	72.5

Note: Calculation of scores was restricted to complete cases. PR = percentile; TS = T-score for the particular(sub-)population (M = 50, SD = 10).

The DISABKIDS Group Europe

The DISABKIDS Questionnaires

Quality of life questionnaires for children with chronic conditions



2006, 212 pages + CD-ROM, ISBN 3-89967-166-X, Price: 35,- Euro

Quality of life (QoL) assessment in children with chronic health conditions and disabilities needs to be age-appropriate and address health-related as well as disease-specific concerns of children in a balanced way. The proposed DISABKIDS modular approach has tackled these challenges of international paediatric OoL research by providing modules that are on the one hand applicable for children of specific age groups and specific health conditions, and on the hand can be applied across different subgroups. The DISABKIDS questionnaires have been developed within a European cross-cultural multi-centre study in order to be able to compare different conditions across health care systems from different countries and in order to be able to conduct multinational clinical studies. The DISABKIDS groups used a simultaneous approach towards cross-cultural instrument development that ensures the cross-cultural applicability of the measures. The current handbook describes all relevant user information (e.g. psychometrics or reference data), necessary for applying the DISABKIDS questionnaires.

The authors:
Silke Schmidt, Corinna Petersen, Holger Mühlan, Marie Claude Simeoni, David Debensason, Ute Thyen, Esther Müller-Godeffroy, Athanasios Vidalis, John Tsanakas, Elpis Hatziagorou, Paraskevi Karagianni, Hendrik Koopmann, Rolanda Baars, John Chaplin, Mick Power, Clare Atherton, Peter Hoare, Michael Quittan, Othmar Schuhfried and Monika Bullinger
THE DISABKIDS Group Europe

PABST SCIENCE PUBLISHERS
Eichengrund 28, D-49525 Lengerich
Tel.: ++ 49 (0) 5484-308, Fax: ++ 49 (0) 5484-550
E-mail: pabst.publishers@t-online.de, Internet: http://www.pabst-publishers.de