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The Importance of Subjective Measurements in Child and Youth Well-Being Studies

Ergebnisse aus dem Arbeitspaket 2 des European Cohort Development Project

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Abstract

Considering changing political landscapes and societies' needs in Europe, we argue for establishing a European longitudinal study on child and youth well-being revealing new trends in a longterm perspective. As a part of an international research team, we worked on preparing this study, called EuroCohort. By doing so, we were concerned with choosing theoretical as well as measurement concepts to capture (child and youth) well-being in a way that is needed in order to shed light on Europe's future generation.

In this paper, we present our considerations on suitable theoretical approaches and their interrelation to measurement concepts. Thereby, our focus lies on the question how subjective measurement concepts can provide added value to child and youth well-being surveys. Although the relevance of subjective measures of well-being is recognised, so far hardly any comparative and longitudinal studies have incorporated corresponding indicators. This paper emphasises the need for implementing subjective measurements in studies on child and youth well-being, respecting their value for different well-being domains.

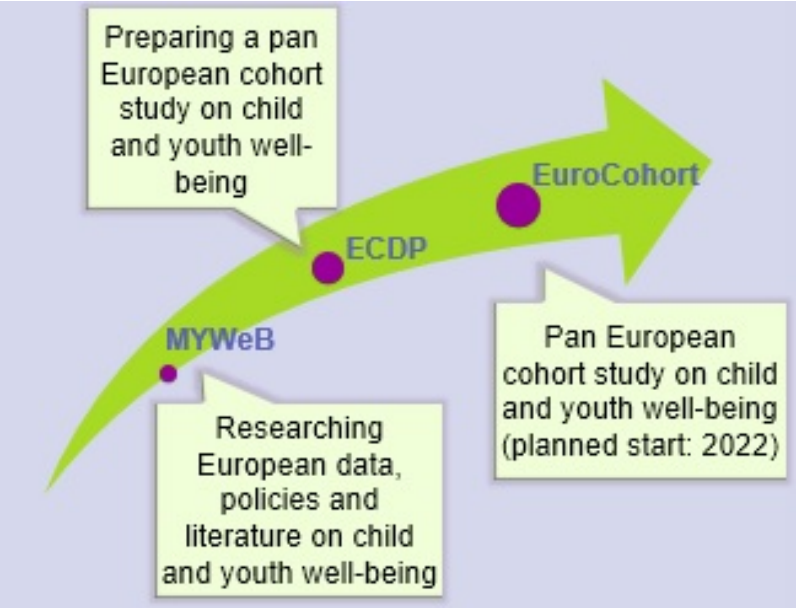
Contents

1 Background of our study: development and aims

From MYWeB to ECDP to EuroCohort

From 2014 to 2016 the EU funded project *Measuring Youth Well-Being* (MYWeB)[1] was carried out by 14 research institutes in 12 European countries[2]. This project was the kick-off for an ongoing international cooperation aiming at shedding light on children and young people growing up in modern Europe.
While MYWeB was focused on capturing existing data and literature sources as well as politics and political interests, the follow-up *European Cohort Development Project* (ECDP)[3] aimed at preparing the infrastructure and methodological research settings for setting up a comparative European Cohort study (*EuroCohort*) accompanying children and young people in their process of growing up. This paper focusses on selected results the iaw team (University of Bremen) produced for the ECDP.

The future step (starting EuroCohort) aims at the identification of decisive factors for children developing resilience or vulnerability. EuroCohort is therefore meant as a valuable resource for counseling child and youth related politics on national as well as the European level. Currently, several institutions carry on with the preparation of EuroCohort.



Picture 1: Project Development from MYWeB to EuroCohort

In the following, we will first briefly recapture the basis from MYWeB and then turn to the follow-up steps prepared in the ECDP. Above all, we will present the work, which was coordinated by the iaw team.

[1] European Union's Seventh Framework Programme for research, technological development and demonstration, grant agreement no 613368; for more details see: https://www.fp7-myweb.eu
[2] Croatia, Estonia, Finland, Germany, Georgia, Greece, Hungary, Latvia, Portugal, Slovakia, Spain, UK
[3] European Union's Horizon 2020 research and innovation programme under grant agreement No 777449; for more details see: https://www.eurocohort.eu

Starting with the MYWeB Project …

For the MYWeB *data gathering* we generated a data bank providing information on existing quantitative and qualitative studies as well as administrative data carried out in European countries. The studies and administrative data covered at least one important well-being domain and aimed at target persons who were 25 years old at maximum. In total, we found 370 studies of which the vast majority was quantitative (284). Additionally, 457 administrative datasets were listed. Thus, data linkage seems a promising approach for enriching studies that cannot cover every domain of well-being. When it comes to the studies, some characteristics seemed to be covered well already (e.g. cross-sectional paper and pencil surveys; classic approaches to education, socio-demographics or economical aspects of well-being). Nevertheless, some gaps in available data came to the fore. These refer to:

- Country coverage: Small countries (e.g. Denmark, Ireland, Malta) and East European countries (Bulgaria, Czech Republic, Hungary, Romania, Lithuania, Poland) are not represented well in child and youth well-being studies, compared to other countries.
- Inclusion of children's/young people's perspectives: A child centric approach, taking regard of the children's and young people's perspectives in the study design, was not used often. Closely linked to this is the above mentioned fact that qualitative studies are underrepresented.
- Survey mode: Quantitative surveys are most often conducted in paper and pencil or face-to-face mode. Thus, possibilities to motivate and keep in touch with young people (e. g. the use of avatars), which e.g. online surveys can offer, are neglected.
- Survey design: Longitudinal surveys are clearly underrepresented, even though only they can offer insights into the process of growing up in Europe.
- Operationalization: Certain topics (environment, risk behaviour, safety, culture and participation) are not examined in depth in the existing studies. Also, psychological aspects of well-being are not covered by many studies.

Moreover, we worked on *policy gathering*. This sub task resulted in an overview over existing policies promoting a positive child and youth well-being. Summed up, basic needs of children and young people are covered well by laws (protection of young workers, juvenile justice, guarantee of National Youth Councils, child protection, non-discrimination). Expert interviews, which were also carried out in this work package pointed out that:

- Subjective aspects of child and youth well-being are missing in available studies.
- Studies need to address positive factors of well-being as well.
- More data is needed on care leavers.
- More data is needed for young children (10 years old or younger).
- The children's perspective should be taken into regard in studies on their well-being.
- Thematically the following fields need to be addressed by future studies informing politicians: mental health conditions, living environment and children's body concepts.

These insights were complemented by the work the Hungarian team had a lead on. They provided a systematic review on how well-being is conceptualised and how the concept is used by scholars. Partners collected studies on youth well-being that were published in their own language and in English between 2009 and 2014. The inclusion criteria also covered the origin of the study being a partner country of the project, the type and age of the target groups (10-25 years, no special target population), the availability of full-text articles, and the methodological robustness of the study. Four hundred and ninety three papers were selected and after a three-phase exclusion procedure, 95 papers remained for the review. The literature review showed that scholars utilize the concept of well-being in a variety of ways, but most of them frequently constructed and used a psychological concept of well-being in their investigation. Most of the documents defined well-being as a phenomenon that was at least partly subjective in its nature and should be measured with subjective measurement devices ac-

cordingly. Thus, subjective measures seem to gain precedence over objective ones in conceptualization of well-being.

… Carrying on with the European Cohort Development Project

Within the European Cohort Development Project (initiated in January 2018), we extended the above described results from MYWeB by going into more detail with examining measurement concepts used in the existing studies. Moreover, we updated the research on policy needs in order to take regard of recent changes that might have an impact on national and European wide child and youth policies.

The overall aim of the work package supervised by the University of Bremen was to provide a basic list of measurement instruments that could be included in the operationalization of EuroCohort. The list of measurement concepts is neither exhaustive nor mandatory. It is rather meant to support the development of the study design by providing examples for helpful measurement concepts in the context of questionnaire implementation, analytics and – above all – policies. Since MYWeB emphasized the growing importance of subjective measurements in child and youth well-being studies, we analysed the extent of added value the implementation of subjective measurement instruments could mean for certain well-being domains.

In this paper, we argue for the relevance of subjective measurements of children's and adolescents' well-being in international long-term studies, using results of the ECDP. After indicating the need for politics being informed on child and youth well-being including subjective views, we continue with presenting different theoretical approaches to conceptualize well-being. Thereby, we distinguish between subjective and objective measurement concepts of this subject area. Subsequently, we introduce our idea of a new pan European longitudinal study on child and youth well-being (EuroCohort) and justify the need of including subjective measurements when examining different well-being domains. We describe a prioritization procedure carried out within the ECDP to emphasise variances in the impact level different topics hold for children's and young people's well-being. In particular, we assess which domains benefit most from subjective measurements. After summarizing the results of the prioritization exercise, we discuss challenges of including subjective measurements in international longitudinal studies on child and youth well-being.

2 The need for subjective views in well-being research

In the last decades, there has been growing evidence that an important goal, which societies should strive for is a high degree of their population's subjective well-being (Diener 2006). Researchers found that a "level of integration of people in the society can be reflected through subjective measures" (Eurostat 2015: 57). Thus, measurements of subjective well-being can offer great benefits in assessing the need for specific policies and in measuring the outcomes of policy interventions (Eurostat 2015).

Moreover, it has become increasingly recognised that especially young people's well-being is fundamental to that of a whole society (Goswami/Pollock 2016). Young people's well-being does not just affect their current life, but is rather a basis for their future (adult) well-being (The Childrens Society 2012). Consequently, in many European countries, the well-being of its children and young people is considered as a key concept in national policy programs (Backeberg/Busse 2018; Goswami et al. 2015) while it has become also a relevant topic of the European political agenda (Goswami/Pollock 2016).

Transitions in Europe affecting children and young people

Currently, the European Union faces many changes that both, directly and indirectly, affect children's and young people's lives: the Great Recession and its consequences (since 2010), the migration crisis (starting in 2015), the rise of populist (anti-democratic) parties in several European countries, challenges posed by Brexit (set off in 2016), the Corona outbreak (2020) and its consequences.

These transitions within the EU directly affect children and adolescents in a variety of ways, which are related to their well-being. Two examples are given by the following statistics.

In 2013, the youth unemployment rate[4] was 23 percent in the EU, which was the highest rate since 10 years (Eurostat 2015). In the same year, the unemployment rate was higher for young age groups in every EU member state (Eurostat 2015). In the years after the financial crisis (2008 until 2013) the youth unemployment rate within the EU grew by eight percent (Eurostat 2015). Additionally, the percentage of young people who were long-term unemployed increased every year during this period (Eurostat 2015).

Other Europe wide developments reflecting the influence of political changes on children's and young people's well-being are poverty and social exclusion. In 2013, almost three out of ten children lived at risk of poverty[5] and social exclusion[6]. This was one fifth of the whole population living at poverty risk in the European Union (Eurostat 2015).

Focus shift on child and youth well-being among academics and policy makers

These two aspects of economic nature demonstrate how recent developments in the EU might affect child and youth well-being in every EU country. Thus, child and youth well-being receives increasingly attention in European policies; more and more national policy makers acknowledge that young peo-

[4] The youth unemployment rate used here, refers to the age group of 15-24 years
[5] The risk of poverty is defined by living in a household with an equalized disposable income below the poverty threshold (Eurostat 2015). This threshold is a relative measure which is set at 60 percent of the national median equalized disposable income after social transfers (Eurostat 2015).
[6] Social Exclusion is prevalent when at least one of three conditions are given: risk of poverty, material deprivation or the circumstance of living in a household with low work intensity (Eurostat 2015).

ple's well-being represents the level of well-being of the whole society (Goswami/Pollock 2016). A positive level of well-being in adolescence is important, not only for young people's present lives, but rather for their further development (Goswami/Pollock 2016). On account of the fact that children's and young people's well-being is a crucial aspect for the political agenda of the European Union, a task force on child poverty and child well-being was established in 2007 (Goswami/Pollock 2016). On the global scale, the Organization for Economic Co-operation and Development (OECD) initiated the Better Life Initiative in 2011 to measure, understand and improve the well-being of citizens and to underline the relevance of experiences and living conditions (van Zanden et al. 2014). In this context, the OECD also published guidelines to measure subjective well-being in 2013 (OECD 2013) and states:

> "To be most useful to governments and other decision-makers […] subjective well-being data need to be collected with large and representative samples and in a consistent way across different population groups and over time." (OECD 2013: 3).

Gaps in existing studies about child and youth well-being

Although the interest in children's and young people's well-being has increased among academics and policy makers, there are hardly any international comparative studies on this topic, in particular with regard to the longitudinal level. Existing longitudinal studies on child and youth well-being, usually focus on a specific domain (e.g. education in the case of the National Education Panel Study in Germany or health in the I.Family study), but do not yield on reflecting a holistic view of well-being (Busse/Backeberg 2018; Goswami et al. 2015). Thus, Goswami and Pollock (2016) state that one of the biggest challenges for the EU is to find and use robust empirical means in order to measure and improve the well-being of its children and young people.

3 Theoretical concepts

Well-being is a multidimensional construct covering diverse domains. Thus, measuring well-being is a challenging assignment. Different approaches to capture well-being are expressed in different theoretical models as well as different measurement concepts. In the following, we will shortly describe the most common theoretical and measurement concepts, which are also relevant for the idea of EuroCohort. Thereby, the interrelation between theoretical basis and the operationalization of well-being is emphasised.

3.1 Well-being concepts

In general, a distinction is made between the hedonic and the eudaimonic approach. The *hedonic* approach refers to the assessment of happiness in combination with pleasure and displeasure. For operationalization purposes, hedonic well-being approaches most often use the concept of happiness covering life satisfaction as well as positive and negative moods (Diener 2009). Thus, the hedonic approach relies on subjective measurements.

The *eudaimonic* approach focusses on self-realization and is also referred to as *psychological well-being*. It uses the dimensions of self-acceptance, personal development, relationships, autonomy and coping with everyday life and life goals (Deci and Ryan 2008). It is plausible that these dimensions need to be assessed by including a person's evaluation with respect to his/her own position. Nevertheless, eudaimonic concepts may as well be captured by objective means. Although there are relevant differences between the hedonic and the eudaimonic concept, there is an overlap, which often makes it difficult to distinguish between them precisely (ibid.)

Some researchers argue that theoretical concepts developed to measure adults' well-being are hardly transferable to young people's well-being concepts (Goswami/Pollock 2016). Topics that affect adults, differ from the issues that are relevant for children or young people. For instance, while adults ascribe their job major importance, questions referring to work satisfaction seem not stand to reason for questionnaires on young peoples' well-being (The Children's Society 2012). Children and young people, however, are strongly affected by conditions in their crèche or school, which are not included in questionnaires for adults (The Children's Society 2012). Thus, although young people's and adults' well-being is interconnected in two ways (1, both live in and shape the same society and 2, young people's well-being has effects on their adult life), concepts and domains need to be catered to children, young people or adults.

3.2 Objective and subjective measurement concepts

In scientific research, a distinction is made between objective and subjective measurement concepts. *Objective measurements*, on the one hand, are not filtered by perceptions and, therefore, independent of personal ratings. In social survey research, objective indicators initially include variables that relate to objective living conditions or dimensions of social structure, such as life expectancy, unemployment rates or measures of equal opportunities in the education system (Noll 2000). They are based on measurable criteria ideally collected by external observers (cf. Rammstedt 2009). Obvious advantages objective measurements offer are the following:

- They can be collected in administrative data and complement a survey with information without stretching interview length.
- Data coming from objective measurements is less prone to doubts about the validity and reliability compared with data from subjective measurements (Noll 2000).

- In case of adding information to surveys by data linkage from administrative data, there is no risk of false answers because of social desirability or other reasons.

Subjective measurements of well-being on the other hand, refer to a person's positive and negative perceptions (Diener 2006). Unlike objective indicators, which can be obtained in a variety of ways, subjective indicators can only be obtained by interviews (Noll 2000). Subjective criteria have the advantage that they allow the individual to decide what is crucial regarding their lives (Goswami et al. 2015). They offer a new type of information that reveals another dimension of reality (Fletcher 1983). Particularly in sociological and psychological research, it is considered important not only to investigate people and their behaviour, but rather to integrate their views and perceptions into research. An essential basis for the now common comparison of objective and subjective indicators is the fact that objectively identical situations and circumstances can be perceived and evaluated differently by different persons (Noll 2000). Imagine, for instance, two households with the same household income, which could be perceived as satisfying by a member of household 1, while a member of household 2 considers the same income as insufficient.

Thus, some studies recognise the importance of subjective measurement instruments for well-being and related concepts, such as happiness. Examples for self-reported surveys including subjective measurements are the *Helsinki Birth Cohort Study,* the *Tellus Study* and *Understanding Society* (Rees et al. 2010). Measurements of subjective well-being based on self-reports on one's own life satisfaction have become increasingly frequent (Alexandrova 2005). In many countries, even statistical offices make use of subjective measurements regularly, for example, Statistics Canada (e.g. *General Social Survey*), the Italian Statistical Office (various multipurpose surveys) and the statistical offices of Austria (e.g. *Microcensus*) and Switzerland (Noll 2000). However, in most cases this refers only to individual questions, but not to comprehensive surveys on the general subject of well-being. Moreover, there is no internationally comparative and comprehensive cohort study including the subjective assessment of one's own well-being.

However, it should be noted that, as it is the case with all self-reported measurements, the survey-based measurements of subjective well-being are prone to measurement and reporting errors (OECD 2018). Additionally, Noll (2000) describes criticism relating to doubts about the validity and reliability of subjective data. For this reason, subjective indicators are often described as "soft" in contrast to "hard" objective indicators. However, there is hardly any evidence that subjective indicators are less reliable than objective ones (Noll 2000). Similarly, there is no evidence that measurement errors in subjective indicators are more likely to occur or that their validity should be questioned (Noll 2000).

Challenges to consider while collecting subjective and objective data

Nevertheless, there are some challenges to be considered regarding the collection of both, subjective and objective data. Although objective measurements mainly reflect explicit criteria and can mostly be performed by external observers, objective criteria are often evaluated by individual assessment, which makes the clear distinction between objective and subjective measurements in surveys ambiguous (Rammstedt 2009). Conversely, one could also think of subjective criteria that can be evaluated by objective measures: "[…] manifestations of subjective well-being can be observed objectively in verbal and nonverbal behaviour, actions, biology, attention, and memory" (Diener 2006: 153).

In contrast to questioning adolescents, measuring the well-being of children holds some additional restrictions. Nico and colleagues (2018) suggest using a mixed mode approach since children found it

easier to participate in qualitative research. Additionally, the authors recommend the inclusion of children in the early phase of questionnaire development, so they could participate in standardized interviews as well. However, cognitive interviews with seven and eight year olds in several European countries demonstrated that these questionnaires need to be constructed as simple as possible and focus on children's subjective views only (Franc et al. 2018).

Considering the given definitions, we argue when studying children's and young people's well-being, it is inevitable to include psychological concepts as focused in eudaimonic approaches as well as feelings and levels of satisfaction reflected in a hedonic approach. As stated above, it is possible to use subjective measurements even when surveying children directly. Supplementary, questionnaires for significant adults (e.g. parents) could be used for getting information on a more complex level as well as objective statements. Thus, including both theoretical approaches described here and objective as well as subjective measurement concepts should be used in order to receive a holistic view on child and youth well-being. This what the EuroCohort study aims at.

4 Subjective measurements in a longitudinal international study on child and youth well-being: EuroCohort

Currently, the EuroCohort study is in preparation. The overall goal is a study that will be conducted over the course of 25 years and accompany children and young people through their whole childhood and adolescence. In order to capture children's and young people's views and feelings directly, a child centric approach will be used in EuroCohort. Therefore, it is inevitable to implement subjective measurements in the study. For measurement design, this means that ideally, a combination of objective and subjective measurements should be implemented. Thus, it is necessary to decide for which well-being domains subjective measurements can bring most added value compared to using only objective ones. In the following, we will describe a prioritization procedure that was done for preparing the EuroCohort survey design development in order to detect child well-being domains which would benefit most from the inclusion of subjective measurements.

From script to suggestions

In a first step, we prepared a basic list of subjective and objective measurement instruments that could be included in the operationalization of EuroCohort. Therefore, we analysed studies on child and youth well-being already in existence with a focus on longitudinal and international European studies. In a second step, we linked measurement instruments to domains and subdomains related with subjective and objective well-being. Based on this list, each of the 16 partners involved in EuroCohort[7] was asked to undertake a prioritization exercise by rating the importance of each domain and subdomain for the inclusion into the questionnaires of EuroCohort. This was done in two steps: first, partners were asked to give in total three ratings (each from 1 = not very important to 3 = very important) for each sub domain listed. They evaluated the sub domains on with reference to the following contexts:

- the domain's importance for a general understanding of well-being,
- the domain's importance for national policy makers, and
- the domain's importance for the international policy environment.

The results were used to calculate a weight reflecting the general importance for each well-being sub domain listed. In a second step partners were – again – asked to assess the sub domains' importance from one to three, however this time for 1, a birth cohort and 2, a child cohort (age 8). By integrating this step, we yielded at a cohort sensitive evaluation of sub domains' significance. Finally, we multiplied the cohort sensitive evaluations by the weights received from step one and received a prioritized list of well-being domains for surveys with a birth cohort as well as a child cohort. Further on, partners were asked to imply which well-being (sub)domains could be captured more adequately when using subjective measurements.

[7] ECDP partner teams formed an interdisciplinary and international consortium with experiences in researching child and youth sociology and psychology, survey research methodology and ethnography: Manchester Metropolitan University (UK), Ivo Pilar Institute of Social Science (Zagreb, Croatia), Tallinn University (Estonia), University of Bremen (Germany), Catalan Youth Agency (Barcelona, Spain), Panteion University of Social and Political Sciences (Athens, Greece), University of Debrecen (Hungary), University of Essex (UK), University of Saints Cyril and Methodius in Trnava (Slovakia), Daugavpils University (Latvia), University Institute of Lisbon (Portugal), University of Jyväskylä (Finland), University of Bologna (Italy), University College London (UK), Royal Netherlands Academy of Arts and Sciences and the European Social Survey

5 Results

When we started working on the questions which well-being domains will be most important for future surveys with children and young people, we first gathered well-being domains, tested instruments measuring them and existing surveys using these instruments. The result is depicted in the annex.

Since we needed to narrow down this list to suggest a feasible questionnaire implementation, we identified ten domains for capturing child and youth well-being and 77 subdomains during the project. These domains and subdomains are depicted in table 1. In the following, the results of the prioritization exercise are described and the relevance of subjective measurements is discussed. In each case, measurement instruments that were used in relevant studies are shown. If available, studies which have become highly relevant in the respective subject area (e.g. through longitudinal design) are mentioned. The order of the domains discussed represents our partner's assessment of their importance, starting with Health.

Table 1: Domains and subdomains considered in the ECDP rating procedure

Domain	Subdomains
Health	Physical Health; Mental Health; Health-Related Quality of Life
Psychological Well-being	Happiness; Anxiety; Psychological Well-being
	Satisfaction; Affects and Emotions; Self-Esteem; Optimism; Autonomy; Strengths and Difficulties
Social Environment	Family Environment; Relationships with Parents; Parenting Stress; Family Composition/Model; Behaviour Problems; Relationships with Peers; Social Climate; Social Support
Future	Confidence about the Future; Aspirations for Self and Society, Believe in Opportunities to Make the School a Better Place; Hopes for Starting a Family and Being a Good Parent
Safety/Crime	Parents' Substance Abuse/Addictions; Exposure to Violence; Victimization; Addictions Children (Induced by Parents); Risk Behaviour; Contact with Police and/or Crime
Participation	Perceived Chances to Participate in Decision-Making (Society); Cultural Participation; Perceived Chances in Decision-Making: School and Education; Perceived Chances in Decision-Making: Immigration and Asylum Proceedings for Children of Immigrants/Asylum Seekers/Unattended Minors; Perceived Right to Participate in Decision-Making (Society)
Culture	Cultural Integration; Cultural Isolation; Culture, Cultural Dissimilarity, Cultural Divergence
Leisure Time	Friends; Time Usage; Sports; Information and Communication Technologies; other Hobbies; Music

Spatial Environment	
I. Neighborhood	Infrastructure; Availability of Playgrounds; Parks, Green Spaces, Forest; Structural Disadvantage; Cohesion; Perceived Neighbourhood Safety; Neighbourhood Satisfaction; Neighbouring Behaviours; Air Pollution; Informal Social Control; Confidence in Communities; Collective Efficacy; Neighbourhood Incivilities and Disorder; Builded Environment; Local Community Participation; Residential Mobility
II. School/Kindergarten/ Crèche	Relation to other Pupils/Kids; Relation to Teachers/Educators; School/Kindergarten/Crèche Culture; Structural Disadvantage; School/Kindergarten/Crèche Satisfaction; School/Kindergarten/Crèche Climate; Level of Engagement; Available Equipment of the School/Kindergarten/Crèche; Feelings of Efficacy or Empowerment; Scores in Different Subjects; Type of Property
Income/Wealth/Earnings	Household Consumption; Parents' Income; Access to Services; Parents' Employment Status; Housing; Malnutrition; Parents' Education Profile

Domain 1: Health

The domain rated as most important to be measured in a Pan-European cohort study is Health. This is in line with Eurostat, where this topic was mentioned as a key measure for the quality of life (Eurostat 2015). Health is a broad and multidimensional domain, which contains questions about the physical as well as the mental health status and its development. Furthermore, the health related quality of life plays an important role in this domain. In its constitution, the World Health Organization defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." (WHO 2005: 1) Within the ECDP project, it was expressed that using subjective measurements can bring added value to the understanding of children's and young people's well-being on physical health. Similarly, mental health and the health-related quality of life were evaluated as subdomains that need subjective measurements. ECDP partners thereby underline that the issue of health is not only a matter of the physical condition, but also of the psychological one and the question how to deal with both of them. It is not only about objective measurable characteristics of body and mind and the classification whether these are considered as healthy but also about the subjective perception of people, whether they *feel* ill or not. This feeling is not necessarily a result of the objective health status: "Subjective health is a complex indicator predicting longevity independent of objective health." (Franz et al. 2017: 149) For example, people can feel ill even though they are considered healthy after objective observation of physical symptoms and medical tests.

In most existing studies on well-being, objective health indicators like life expectancy or mortality rates are used (Eurostat 2015). Examples for subjective health domains that could be implemented are: 'self-related health', 'health compared with others' and 'health interfering with activities' (Eurostat 2015).

Domain 2: Psychological Well-being

As physical and mental health are closely linked, many studies on health use measurement instruments that at the same time also integrate the Psychological Well-being (for example the *My World Survey*). As the same factors can have different emotional effects in different age groups, the psycho-

logical well-being of adolescents and children is likely to be influenced by other aspects compared to adults' psychological well-being. In particular, a positive psychological well-being enables young people to meet the challenges of adolescence and facilitates the transition from childhood to adolescence and adulthood (Currie et al. 2012). With respect to young people, psychological well-being is strongly influenced by previous experiences and relationships. WHO has published evidence for the importance of prevention approaches for conveying stable health conditions. Promoting psychological well-being and preventing mental disorders can help maintain or even improve health and quality of life of children and young people (ibid.).

There are different psychological concepts capturing mental states and developments, such as anxiety, autonomy or self-esteem. According to the ECDP rating, the most important subdomains of this concept to be measured with subjective means are the concepts of positive and negative affects, such as happiness or satisfaction. A subjective measurement of happiness often used is the *Subjective Happiness Scale* (Lyubomirsky/Lepper 1999), which was inter alia used in the *European Social Survey* of 2012. Considering that psychological well-being and physical health are interconnected, some surveys integrate both dimensions of well-being, as for example the *Short Form Health Survey* (Ware/Sherbourne 1992) and the *General Health Questionnaire* (Goldberg/Williams 1988).

Domain 3: Social Environment

Closely linked with psychological well-being, particularly in the life passage of childhood and youth, is the Social Environment. This domain includes information on the perceived social climate as well as obtained social support or experienced parenting stress (e.g. caused by a divorce). For children and young people, the social environment refers primarily to family members and the peer group. According to many studies, there is a separation from parents and at the same time a turn to the peer group in the second decade of life. As a result, the influence of friends on the behaviour of adolescents partly replaces that of parents (Hoffmann et al. 2006). Family structures have undergone major changes in recent decades as a result of higher divorce rates and the increasing number of patchwork families (Goswami/Pollock 2016). Since these changes could have an impact on children's and young people's well-being, it is relevant to keep an eye on the development of the social environment in the following decades. Again, a discrepancy between objective social circumstances and their perception is likely under certain circumstances (e.g. the same social climate within a family could be rated as negative for one child while a sibling might evaluate it rather positively).

Young people's subjective well-being within their family can be measured with the help of the *Parental Bonding Instrument* (Parker et al. 1979) or the *Parental Stress Scale* (Berry/Jones 1995). In addition to this, the relation with not only family members, but also peers and the satisfaction regarding mutual social interactions can be measured with the help of the *Inventory of Parent and Peer Attachment*. This questionnaire tool is a self-report instrument including the behavioural and affective/cognitive dimensions of well-being to use for adolescents (Armsden/Greenberg 1987). Applications of this subjective measurement method came predominantly to the conclusion that the attachments with both, parents and peers, were related to general life satisfaction (Armsden/Greenberg 1987). A prominent longitudinal study that investigated possible influences of the social environment on well-being is the *British Cohort Study*.

Domain 4: Future

Another important domain regarding the theoretical construction of well-being is children's and young people's confidence in their own Future. This can, for example, be believing in having opportunities to make school a better place or the confidence in starting an own family and being a good parent. All

subdomains within the topic of Future are to be captured by subjective means, since there are no reliable – and therefore objectively measureable - forecasts for subjective well-being in future times.

Future confidence and similar indicators were surveyed, for example, in the *Shell Youth Study*. The *Ageing Survey* by the German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ) also surveyed subjective assessments of one's own future, such as the expectation of a change in the future with regard to one's professional situation, one's partnership and one's housing situation.

Domain 5: Safety and Crime

Since adolescence is the life passage where deviant behaviour appears most often, another important well-being domain for children and young people is Safety and Crime. This domain includes, for example, parents', children's and young people's (anti) risk behaviour, their exposure to crime and violence as well as their past contact with persons representing the police or the judicial system. As children and young people can be offenders, but also victims of offence and crime, those subdomains that are covering past criminal victimization experiences as well as the perceived risk of victimization are also captured here, as well as preventive behaviours. Moreover, substance abuse of both, young people and parents is included. Some subdomains, which refer to countable actions of the past or present are important to be measured in objective ways, which are for instance parents' and children's substance abuse and addictions as well as contact with the police and crime. Victimization can be measured in objective ways by asking for the number of past criminal victimization experiences and in subjective ways by asking for the perceived risk of victimization.

A popular subjective concept in criminological studies is called *fear of crime* and describes "the interplay between emotion, risk perception and environmental perception" (Jackson 2004: 297). This concept can be measured with the popular *Fear of Crime Questionnaire* (e.g. Garofalo 1979). The majority of last decades' criminological and social science studies came to the conclusion that the individual level of fear of crime does not depend to a considerable extent on real and actual crime rates, but seems to be a product of individuals' perceptions of their environment (Garofalo 1979). This means that, personal and social indicators generate more fear of crime than real crime levels (Ito 1993). This example shows the importance of the integration of countable events as well as the perceived reality of individuals that can differ from the objective measurements.

A few of the most important longterm surveys regarding questions on crime, fear of crime and victimization are the *British Crime Survey,* the *European Survey on Crime and Safety* and the *International Criminal Victimization Survey*.

Domain 6: Participation

The domain Participation comprises societal areas in which children and young people should have the right to participate and the knowledge how to do so. Opportunities for young people to participate in political decisions can convey their feeling of being a part of the society, and accordingly their positive well-being (Eurostat 2015). "Social and political participation of young people is considered one means of encouraging a more inclusive and democratic society." (Eurostat 2015: 62). Particularly for the target group of minors, the Council of Europe developed the *Child Participation Assessment Tool* in order to have a comparable measurement for participation at hand. According to its own specifications, the tool serves the purpose of states being able to meet their obligations to children (Council of Europe 2016). Another opportunity to measure democratic participation of young people are statistics of people who reached the legal voting age and voted in the most recent elections (Eurostat 2015). In

many studies on social participation, individuals are asked which activities – that can be of political nature but also organized activities such as sports (Eurostat 2015) – they engage in and how frequently (O'Toole et al. 2003). Particularly opportunities of young people's political participation have received more and more attention in recent years (O'Toole et al. 2003). White, Bruce and Ritchie (2000) criticise the objective measurements such as the voting behaviour, party identification and knowledge of parliamentary politics, as they do not reflect how young people conceptualize participation in politics. For that reason, it is important to integrate subjective measurement instruments, such as the perceived participation options in different contexts of decision-making (e.g. at school or in other institutions).

The *Young Children's Participation and Environment Measure* (YC-PEM) is a tool, which combines the assessment of participation of young children, environmental supports and barriers to participation (Lim et al. 2015).

Domain 7: Culture

Culture is another topic to consider when analysing child and youth well-being. Here, different information about experienced and perceived cultural dissimilarity, cultural divergence, cultural integration and cultural isolation are included. Our prioritization procedure stressed that a subjective measurement of cultural dissimilarity and divergence could bring added value to EuroCohort. One example for integrating a concept of culture in a survey is the *European Social Survey* (ESS), which contains the *Index on Cultural Similarity.* This index clarifies how culturally similar (or not) the populations of two compared countries can be. Although migration currently plays an important role in the EU, it has not yet been sufficiently researched by which mechanisms migration and related factors affect the well-being of children and adolescents (Harttgen/Klasen 2008). This suggests the need for openness towards objective as well as subjective concepts. Another dimension of culture, which has gained major importance during the last years in Europe is migration, which has been included in several studies.

Immigrant integration is, for example, measured by the *Index of Immigrant Assimilation,* developed by the Manhattan Institute for Policy Research (2008). Furthermore, it can be captured by the *Multidimensional Immigration Policy Lab (IPL) Integration Index* (Harder et al. 2018). One study that focusses on this topic is the *Longitudinal Immigrant Student Adaptation Study* that recruited students between 9 and 14 years in the Boston and San Francisco area schools.

Domain 8: Leisure Time

Furthermore, Leisure Time arrangements contribute to child and youth well-being. The quantity and quality of leisure time can be measured by asking for time usage in general or by picking particular activities such as sports, music or the usage of information and communication technologies. Every subdomain of leisure time was recommended to be important in its subjective measurement. In many studies, leisure time is viewed from an objective perspective, with researchers determining which activities are defined as *leisure time* and which ones as *work*. One disadvantage coming with coding activities is that individuals and their subjective views are not taken into account. Some activities are seen as leisure activities for some people while others categorize them as work (Clark et al. 1990). Another problem for the classification of different activities into the two categories "leisure time" and "work" is the fact that activities are also judged by the context:

> "The same individual participating in the same activity may consider it to be leisure at one particular time or location, whereas at another time or location he or she may consider it to be work, or at least non-leisure." (Clark et al. 1990: 339).

For example, learning an instrument at school can be perceived as burden or work, whereas playing the piano at home can mean fun (leisure time).

One aspect belonging to the category leisure time that has gained more importance during the last years is daily internet use (Eurostat 2015). Problematic use of the internet can for example be measured by the *Compulsive Internet Use Scale* (CIUS) or the *Internet Addiction Test* (IAT).

Domain 9: Spatial Environment

Another crucial domain for child and youth well-being describes the Spatial Environment. According to the literature, the two geographic locations, which are most important for children and young people are the neighbourhood on the one hand and the school respectively early childhood educational institutions on the other hand (Oberwittler 2010). For young people, the residential area and the school represent the most central socialisation contexts, providing them with resources and opportunities for experience, interaction and teaching processes (Oberwittler 2010). These spatial areas include different social indicators, constructional properties as well as sociostructural conditions. Social indicators describe the relation of Ego to other people inside of the respective locations, which are in these cases neighbours, pupils and teachers. Social indicators can for example be the level of trust in each other, practiced or perceived social control or the social climate (Müller 2008; Oberwittler 2010; Schneider/Mohnen 2016).

Sociostructural conditions include in particular the level of disadvantage in geographic areas and of the people living there. It is possible to find out more about quantity and quality of disadvantage in specific areas by asking questions on the type of properties of the built environment or the availability of green spaces and playgrounds. Another approach is analyzing geo data at hand. The results of our prioritization procedure imply that it is also important to measure the perceived social effects of spatial areas. This is also stressed by the urban sociological research, which developed concepts like the collective efficacy or the informal social control in communities – concepts that only rely on the residents' perceptions. One longitudinal study integrating diverse subjective (e.g. the perceived neighbourhood safety) as well as objective (e.g. the residential mobility) neighbourhood characteristics is the *Los Angeles Family and Neighborhood Survey* which has existed since 2000.

Domain 10: Income/Wealth/Earnings

The socio-economic situation plays a role, not only at the spatial level, when it comes to people's well-being, but also at the personal and family level. The domain of Income/Wealth/Earnings contains subdomains that refer to patterns of household consumption, information on housing, parents' income, employment status and education profiles as well as general access to different services such as health care or social services. Regarding the household consumption, only few ECDP partners indicated that a subjective measurement could bring added value compared to more common and easier to handle objective measurement methods. Except for the subdomains of the parents' income and access to services, no other component of this domain was considered to be measured more adequately with the inclusion of subjective means than with objective ones only.

In order to assess child poverty, ergo the consequences of family poverty on children, the focus should be on the question how the respective poverty conditions of the family affect the children. In other words, child poverty should refer to children, rather than to their families (Holz 2008). Usually, "family poverty" is measured by objective means (e.g. family income or wealth). However, these modules could be supplemented by objective assessments referring to children's or adolescents' direct environment (e.g. do they have a room of their own at home or do they always have enough money for buying school material).

6 Summary and discussion

Objective or subjective?

We reviewed existing major studies on well-being to identify relevant well-being dimensions and the respective measurement instruments in use. This was groundwork for the prioritization procedure completed by an international and interdisciplinary expert team, which resulted in a prioritized list of well-being subdomains for birth and child cohorts. Furthermore, we emphasised the role of subjective measurements in child and youth well-being studies. We described child and youth well-being domains that can only be captured adequately by subjective measurements (e.g. Fear of Crime). Additionally, there are domains for which subjective measurements bring a significant added value (as opposed to purely objective measurements) such as Health. Further on, we showed that there are domains for which objective measurements were completely sufficient and those for which the additional efforts subjective measurements needed (e.g. expressed by more time needed for doing a survey or assuring the results' validity and reliability), would not be reflected in a corresponding added value of the results (e.g. most subdomains belonging to Wealth/Income/Earnings).

Our results show that a subjective measurement tended to be rated as less relevant for domains that allow for quantified ascertainment. At the same time, attitudes and assessments concerning the Future obviously need to be captured with subjective means. Additionally, taking into account personal perceptions and feelings can change the view on a person's well-being significantly. We therefore underline the relevance of subjective measures in well-being research, since a holistic view on well-being cannot be captured by objective indicators only. Moreover, subjective and objective factors are strongly interlinked and mutually interrelated. We also argue that a child centric approach needs the implementation of subjective measurements for capturing children's own views. Thus, we support the idea of integrating both measurement concepts in surveys on child and youth well-being. For the observation and analysis of well-being, the connections between objective and subjective welfare components and indicators are of particular interest, because subjective well-being is only partially determined by external circumstances (Noll 2000).

> "Descriptions of the quality of life in our society in both `objective´ and `subjective´ terms are readily available, but the relationship, or lack thereof, between these two classes of indicators, either cross-sectionally or over time, remains largely mysterious." (Fletcher 1983: 2 f.).

In the end, "[…] `objective´ indicators need to be supplemented by `subjective´ indicators based on people's opinions of the quality of their situations" (Fletcher 1983: 20).

Open questions in the context of survey planning

What remains to be discussed is the question *how* should we design EuroCohort best in order to capture the most important domains for today's (and future) children and young people. How can we give them a voice? Since EuroCohort is planned as a longitudinal survey, it offers some space for variety. It would,for instance, be possible to let certain (less important) domains only be part of questionnaire modules coming up less frequently than other parts. In that case it would still be necessary to decide on the question which topics would fulfil the requirements of

- being considered less important than others by all participating countries and
- is it reasonable for these respective domains to be addressed to in an interval of, for example, 6 years.

Another crucial issue to discuss is harmonization. This refers to different levels in the case of EuroCohort. First, in order to follow the development of children and young people closely, it is necessary to harmonize questionnaires for parents, children and young people. Questions referring to

certain topics that should be followed up or connected to each other need to be harmonized beforehand. It will not be possible to do that ex post without losing credibility. Undertaking this kind of harmonization is particularly challenging since young children can only be confronted with simplified phrases and in best case, subjective assessments in a questionnaire, whereas young people and adults have the cognitive skills to answer more complex questions.

Moreover, in order to receive international comparability, there is a need to handle cultural differences in the questionnaires, which includes language differences. Here, we are confronted with open questions regarding e.g.

1, Permitting national variances in the questionnaires (or not)? If so: To which extent?

2, The use of translation protocols (which one fits best)?

3, Permitting variations in the field work accounting for different cultures?

On the one hand, every variation permitted endangers the comparability of the data. On the other hand, some compromises will have to be made in order to establish the opportunity for diverse countries to join EuroCohort. The more (diverse) countries join, the more complicated planning and organising EuroCohort will get.

In the context of the value of subjective measurements, we emphasised that only these enable us to directly integrate children in a survey. One of the strengths of EuroCohort is the child centric approach. However, it is to discuss in what ways children should be integrated, e.g.:

1, Should they be part of the design processes (e.g. as a controlling instance for questionnaire modules)?

2, Should they act as an expert group for their own needs and views that should advise EuroCohort in diverse areas (not just design issues)?

3, Should they have an advisory role or also make decisions?

4, Should there be children involved in all participating countries or just a few?

5, At which age do children usually have the cognitive skills needed for different forms of involvement?

In the end, there will always be a gap between ideal ideas and feasibility when it comes to establishing an international cohort survey on child and youth well-being. The challenge is to keep the gap as small as possible.

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Annex: Examples for linking well-being domians and subjective measurements in studies

(By far not an exhaustive list …)

**: Questionnaire available for free via study website

*: No Questionnaire available (at least not available for free), however other information on the study available

Well-being Domains	Measurement Tool	Used in…
Affects and Emotions	**Positive and Negative Affect Schedule** (PANAS) (Watson et al. 1988)** PANAS-X (Expanded version)*	• **Tracking Adolescents' Individual Lives Survey (TRAILS)*** *https://www.trails.nl/en*
	Scale of Positive and Negative Experience (SPANE) (Diner et al. 2010)**	• The Positive and Negative Experience Scale. Adaption for Turkish University Students.*
	Delighted-Terrible Scale (DTS) (Andrews and Withey 1976)**	• Using the "Delighted/Terrible Scale" to Measure Feelings about Income.*
Anxiety	**Beck Anxiety Inventory** (BAI) (Beck 1988)**	• Factor Structure, Reliability, and Validity of the Beck Anxiety Inventory in Adolescent Psychiatric inpatients. • Cluster structure of the Beck Anxiety inventory with a nonclinical sample: Dimensions of anxiety.
Happiness	**Subjective Happiness Scale** (SHS) (Lyubomirsky and Lepper 1999)**	• Sport Participation and Subjective Well-being among University Students in the Hungarian-Romanian-Ukrainian Cross-border Area. • Integration of Young People with Migration Origin and Their Perception by Autochthonous Youth. • The Impact of the German Child Benefit on Child Well-Being • **ESS 2012**** *www.europeansocialsurvey.org*
	Oxford Happiness Inventory (OHI) (Argyle, Martin & Crossland 1989) and **Oxford Happiness Questionnaire** (OHQ) (Argyle & Brookes 2002)**	• Personality and happiness. Personality and Individual Differences. • Life Events, Happiness and Depression: The Half Empty Cup. • Happiness as Stable Extraversion: Across-Cultural Examination of the Reliability and Validity of the Oxford Happiness Inventory among Students in the UK.

	Pemperton Happiness Index (PHI) (Hervás & Vázquez 2013)*	• Construction and Validation of a Measure of Integrative Well-Being in Seven Languages: The Pemberton Happiness Index.
Satisfaction	**Cantril Ladder** (Cantril 1965)*	• **Gallup World Poll*** *www.gallup.com* • Very-Old Rural Adults: Functional Status and Social Support.
	Satisfaction with Life Scale (SWLS) (Diener et al. 1985)**	• Patterns of Home Leaving and Subjective Well-Being in Emerging Adulthood: The Role of Motivational Processes and Parental Autonomy Support • Failure to Launch, Failure to Achieve Criteria for Adulthood? • Integration of Young People with Migration Origin and Their Perception by Autochthonous Youth • The Impact of the German Child Benefit on Child Well-Being • **My World Survey**** *https://myworld2030.org/* • **Understanding Society** (Formerly British Household Panel Survey) [Young People's Part Only]** *https://www.understandingsociety.ac.uk*
	Student Life Satisfaction Scale (SLSS) (Huebner 1991)**	• A First Study of the Multidimensional Students' Life Scale with Adolescents.* • Validity and reliability of the Multidimensional Students' Life Satisfaction Scale with Canadian children. • Life Satisfaction and Happiness.
	Multidimensional Student Life Satisfication Scale (MSLSS) (Huebner 2001)**	• The Students' Life Satisfaction Scale: An Assessment of Psychometric Properties with Black and White Elementary School Students.
	Basic Psychological Need Satisfaction Scale (BPN)*	• Basic Need Satisfaction and Identity Formation: Bridging Self-Determination Theory and Process-Oriented Identity Research. • Integration of Young People with Migration Origin and their Perception by Autochthonous Youth.
Psychological Well-being	**Affect Balance Scale** (ABS) (also known as Bradburn Scale of Psychologic Well-Being)**	• Monitoring of Children's Rights and Parenting.*

	Ryff's Psychological Well-Being Scales (PWB) (Ryff 1989)**	• Explorations of Subjective Wellbeing and character strengths among a Greek University student sample. • Sport Participation and Subjective Well-being among University Students in the Hungarian-Romanian-Ukrainian Cross-border Area. • **Youth, Sex and the Internet**
	Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) (Tennant et al. 2007) and **Short Warwick-Edinburgh Mental Well-being Scale** (SWEMWBS)**	• **Scottish Health Survey** (2008 & 2012)** *http://www.gov.scot/Topics/Statistics/Browse/Health/scottish-health-survey* • **Scottish Government Cross-Sectional Surveys**.** • **Scottish Schools Adolescent Lifestyle and Substance Use Survey** (SALSUS)** *http://www.gov.scot/Topics/Research/by-topic/health-community-care/social-research/SALSUS* • **Understanding Society** (Wave 1) *https://www.understandingsociety.ac.uk*
	Flourishing Scale (FS) (Diener et al. 2009)**	• Validation of the Flourishing Scale in a Sample of People with Suboptimal Levels of Mental Well-Being. • New Well-Being Measures: Short Scales to Assess Flourishing and Positive and Negative Feelings.
	Australian Unity Index of Subjective Well-Being (Cummins et al. 2003)*	• **Australian Quality of Life Survey**** *www.acqol.com.au/*
	Personal Well-Being Index (PWI)** • Adult Version (PWI-A) • Intellectual Disability (PWI-ID) • School Children (PWI-SC)	• **2010 Survey on Perceptions** ('Onderzoek Belevingen') (Statistics Netherlands) *https://www.cbs.nl/nl-nl/deelnemers-enquetes/deelnemers-enquetes/personen/onderzoek/lopend/belevingen* • The Subjective Wellbeing of High-School Students: Validating the Personal Wellbeing Index – School Children. • Spirituality and Subjective Well-Being: Evidences for a New Domain in the Personal Well-Being Index. • Personal Well-being in Urban China.
	Better Life Index (BLI) (OECD 2011)*	• Integration of young people with migration origin and their perception by autochthonous youth. • **How's Life?** (OECD)* http://www.oecd.org/statistics/how-s-life-23089679.htm

	General Well-Being Schedule (GWB) (Fazio 1977)**	• Effect of positive well-being on incidence of symptomatic coronary artery disease.
	Gallup-Sharecare Well-Being Index (Gallup and Sharecare 2012)*	• **The Gallup-Sharecare Study** *https://www.cnbc.com/2018/02/12/gallup-sharecare-study-well-being-worsened-in-nearly-half-of-states.html* • **Gallup World Poll 2013*** *http://www.gallup.com/analytics/213704/world-poll.aspx*
	Child and Youth Well-being Index (CWI)*	• **Child and Youth Well-Being Index Project** (Duke – Center for Child and Family Policy)
Self-Esteem	**Rosenberg Self-Esteem Scale (RSES)** (Rosenberg 1965)**	• The impact of hope, self-esteem, and attributional style on adolescents' school grades and emotional well-being: A longitudinal study.
	Coopersmith Self-Esteem Inventory (CSEI)**	• The Coopersmith Self-Esteem Inventory as a Predictor of Feelings and Communication Satisfaction Toward Parents Among Learning Disabled, Emotionally Disturbed, and Normal Adolescents. • Self-Esteem of American and Chinese Children: A Cross-Cultural Comparison.
Optimism	**Life Orientation Test/Scale** (LOT) (Scheier and Carver 1985) and **Revised Life Orientation Test** (LOT-R)**	• Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. • Construct Validity of the Life Orientation Test. • A Translation and Validation Study of the Life Orientation Test Revised in the Greek Speaking Population of Nurses among Three Hospitals in Athens and Ioannina.
Mental Health	**Mental Health Continuum Short Form** (MHC-SF) (Keyes et al. 2008)**	• The relationship of level of positive mental health with current mental disorders in predicting suicidal behavior and academic impairment in college students.
Physical and Mental Health	**Short Form Health Survey** (SF-36) (Ware and Sherbourne 1992)**	• **The Scale of Positive and Negative Experience (SPANE)**: Psychometric Properties and Normative Data in a Large Chinese Sample.
	General Health Questionnaire (GHQ) (Goldberg and Williams 2006)* Versions: • GHQ-60 (60-item questionnaire)	• A Comparative Study of Resilience in Greece and Cyprus: the Effects of Negative Life Events, Self-Efficacy, and Social Support on Mental Health. • **My World Survey**** *https://myworld2030.org/* • **Youth, Sex and the Internet**

	• GHQ-30: a short form without items relating to physical illness • GHQ-28: a 28 item scaled version – assesses somatic symptoms, anxiety and insomnia, social dysfunction and severe depression • GHQ-12: a quick, reliable and sensitive short form – ideal for research studies.	• **Understanding Society** (Formerly British Household Panel Survey) [Young People's Part Only] *https://www.understandingsociety.ac.uk* • **Health Behavior in School-Aged Children** • **The Longitudinal Study of Young People in England** (2005 and 2014, 10 years Grade) (LSYPE) ** *http://www.cls.ioe.ac.uk/page.aspx?&sitesectionid=1246&sitesectiontitle=Welcome+to+the+Longitudinal+Study+of+Young+People+in+England+*
	The International Classification of Functioning, Disability, and Health (ICF)	*http://www.who.int/classifications/icf/en/*
Depression	**Center for Epidemiologic Studies Depression Scale** (CES-D) (Radloff 1977)**	• **ESPAD** 2007 (Substance Use Among Students in 35 European Countries)** *http://www.espad.org/* • **Growing up in Ireland. A Longitudinal Study of Children**** *www.esri.ie/growing-up-in-ireland/*
	Mood and Feelings Questionnaire (MFQ)** (Costello and Angold 1988) <u>6 versions:</u> • Child Self Report (long) • Child Self Report (short) • Parent Report on Child (long) • Parent Report on Child (short) • Adult Self-Report (long) • Adult Self-Report (short)	• Symptoms of Depression as Reported by Norwegian Adolescents on the Short Mood and Feelings Questionnaire. • Predicting Future depression in Adolescents using the Short Mood and Feelings Questionnaire: a two-nation study. • **Growing Up in Ireland. A Longitudinal Study of Children**** *http://www.esri.ie/growing-up-in-ireland/* • **Avon Longitudinal Study of Parents and Children (ALSPAC)****
	Composite International Diagnostic Interview (CIDI) (see above)*	• **Tracking Adolescents' Individual Lives Survey (TRAILS)***
	Beck's Depression Inventory (BDI) (Beck et al. 1961)**	• **Kuopio Breast Cancer Study**
	Children's Depression Inventory (CDI) (Kovacs	• A Confirmatory Comparison of the Factor Structure of the Children's Depression Inventory be-

	1979)*	tween European American and African American youth. • Evaluation of Subclinical Depression in Children • The Children's Depression Inventory (CDI) as Measure of Depression in Swedish Adolescents. A Normative Study.
	Reynolds's Adolescent Depression Scale (RADS-2)**	• **Research on Adolescent Development and Relationships (RADAR)*** *https://www.uu.nl/onderzoek/radar*
	Hamilton Depression Scale (HAM-D) (Hamilton 1960)**	• Screening and Treating Depressed Patients: a Comparison of two Controlled Citalopram trials across Treatment Settings: Hospitalized Patients vs Patients Treated by Their Family Doctors. • Computerized Assessment of Depression and Anxiety over the Telephone Using Interactive Voice Response. • Evaluating the Continuity of Symptomatology between Depressed and Nondepressed Individuals.
Family Environment	**Family Affluence Scale** (FAS)*	• **Health Behavior in School-aged Children (HBSC)*** • A New Version of the HBSC Family Affluence Scale - FAS III: Scottish Qualitative Findings from the International FAS Development Study.
	Parental Bonding Instrument (PBI) (Parker et al. 1979)**	• The Parental Bonding Instrument: A Psychometric Measure to Assess Parenting Practices in the Homes in Bangladesh.* • **Pittsburgh Cold Study 3**** *https://www.cmu.edu/common-cold-project/pittsburgh-cold-study-3/index.html*
Parenting Stress	**Parental Stress Scale** (Berry & Jones 1995)**	• **Growing Up in Ireland. A Longitudinal Study of Children**** *http://www.esri.ie/growing-up-in-ireland/*
	Parenting Stress Index (PSI)*	• **The Sparcle Study** (Longitudinal study on Children with Cerebral Palsy Living in Europe*) • Psychometric Properties of the Parenting Stress Index-Short Form (PSI-SF) in a High-Risk Sample of Mothers and their Infants.
Relationships with Parents/ Peers/Partners	**The Inventory of Parent and Peer Attachment (IPPA)** (Armsden & Greenberg	• The Inventory of Parent and Peer Attachment (IPPA): A Study of the Validity of Styles of Adolescent Attachment to Parents and Peers in an

	1987) and **The Inventory of Parent and Peer Attachment - Revised** (IPPA-R)**	Italian Sample.
	Dyadic Adjustment Scale (DAS)** and **Revised Dyadic Adjustment Scale** (RDAS)**	• Alcohol Abuse in Clients Presenting with Marital Problems • Relationship Factors in the Treatment of Sexual Dysfunction.* • Predicting who Will Benefit from Behavioral Marital Therapy. • The Long-Term Marriage: Perceptions of Stability and Satisfaction. • Assessing Marital Quality with Distressed and Non-Distressed Couples: A Comparison and Equivalency Table for three Frequently Used Measures.
	Inclusion of the Other in the Self Scale (IOS) (Aron, Aron & Smollan 1992)**	• The Experimental Generation of Interpersonal Closeness: A Procedure and some Preliminary Findings. • When Harry and Sally met Dick and Jane: Creating closeness between couples.* • Perspective-Taking: Decreasing Stereotype Expression, Stereotype Accessibility, and In-Group Favoritism. • Confusions of Self With Close Others.*
	Contact with family	• **1970 British Cohort Study (BCS70)**** https://bcs70.info/
Social Support	**Multidimensional Scale of Perceived Social Support** (MSPSS) (Zimet et al. 1988)**	• Measuring Perceived Social Support in Mexican American Youth: Psychometric Properties of the Multidimensional Scale of Perceived Social Support
Wellness	**Perceived Wellness Survey (PWS)** (Adams et al. 1997)**	• Validation of Perceived Wellness Survey (PWS) in a Sample of Iranian Population. • The Validation of the Perceived Wellness Survey in the South African Police Service
Autonomy	**Autonomy Index**	• **World Values Survey****
Strength and Difficulties	**Strengths and Difficulties Questionnaire** (SDQ) (Goodman 1997)**	• **Amsterdam Born Children and their Development** • **Examination Survey for Children and Adolescents (KiGGS)*** • **South East Sweden Birth Cohort-study (SESBiC study)** • **The Sparcle Study - Longitudinal study on Children with Cerebral Palsy Living in Europe.** *

Behavior Problems	**Child Behavior Checklist/4-18 (CBCL/4-18) (Achenbach 1991) and CBCL (CBCL-6-18)** (Achenbach and Rescorla 2001)**	• **South East Sweden Birth Cohort-study (SESBiC study)**
	The Teacher's Report Form (TRF)**	• **South East Sweden Birth Cohort-study (SESBiC study)**
	Revised Behavior Problem Checklist (Quay 1983)**	• The Revised Behavior Problem Checklist and Severely Emotionally Disturbed Adolescents: Relationship to Intelligence, Academic Achievement, and Sociometric Radings.
	Youth Self Report (YSR) (Achenbach & Rescorla 2001)**	• The Youth Self-Report Inventory: A study of its measurement fidelity. • The Youth Self Report: Applicability and Validity Across Younger and Older Youths. • Emotional/Behavioral Problems in Clinic and Nonclinic Children: Correspondence among Child, Parent and Teacher Reports.
	Conners Comprehensive Behavior Rating Scales (Conners CBRS)** <u>versions:</u> • for Parents • for Teachers • a Self-Report to be Completed by the Child	• A Study on the Psychometric Properties of Conners Comprehensive Behavior Rating Scales-Self Report Scores in African Americans with Juvenile Court Contact.
	Autism	• **National Children's Study (NCS)*** https://www.nichd.nih.gov/research/supported/NCS/researchers#overview
	Comprehensive Quality of Life Scale (ComQoL) (Cummins 1991)**	• The Comprehensive Quality of Life Scale: A psychometric evaluation with an adolescent sample. • The Effects of Social Integration and Stress on the Quality of Life of Greek-Australians. • The Assessment of Quality of Life in Refugees.
	WHO Quality of Life Scale (WHOQOL) (WHOQOL Group 1998) and WHOQOL-100 and WHOQOL-BREF**	• **The Nottingham Health Profile (NHP)*** • World Health Organization Quality-of-Life Scale (WHOQOL-BREF): Analyses of Their Item Response Theory Properties Based on the Graded Responses Model. • How satisfied are you with your Relationships?

		Quality of Life in Adults with Cerebral Palsy. • Psychometric Properties of the Iranian Interview-Administered Version of the World Health Organization's Quality of Life Questionnaire (WHOQOL-BREF): a Population-Based Study.
	Assessment of Quality of Life-8D (AQoL)**	• Population Norms and Meaningful Differences for the Assessment of Quality of Life (AQoL) Measure.
	Quality of Life Inventory (QOLI) (Frisch 1994)**	• Evaluation of Quality of Life Therapy for Parents of Children with Obsessive-Compulsive Disorders in Iran.
	Good Childhood Index*	• **The Good Childhood Report*** *https://www.childrenssociety.org.uk/the-good-childhood-report*
HRQoL	**KIDSCREEN-52** (the ten HRQoL dimensions) (Ravens-Sieberer 2005)** **KIDSCREEN-27** (five HRQoL dimensions)** **KIDSCREEN-10-Index** (Ravens-Sieberer et al. 2014)**	• **The Sparcle Study - Longitudinal study on Children with Cerebral Palsy Living in Europe.** *
	KINDL-R (different versions for age groups 4-6,7-14 and 14-17, each as a self-interrogation and a third-party survey version) (Ravens-Sieberer and Bullinger 1998)**	• **German National Health Interview and Examination Survey for Children and Adolescents (KiGGS)**.* *https://www.kiggs-studie.de/english/home.html*
	Pediatic Quality of Life Inventory (PedsQL) (Varni et al. 1999)** • Child Report (ages 8-12 • Parent Report for Children (ages 8-12)	• An Evaluation of the Factors that Affect the Health-Related Quality of Life of Children following **.Myelosuppressive Chemotherapy**. • **An Observational Study of Patient Versus Parental Perceptions of Health-related Quality of Life in Children and Adolescents with Chronic Pain Condition**.
Poverty	• Household consumptions • income • living conditions • social indicators • access to services • household living standards	• **Poverty and Social Exclusion in the UK (PSE: UK)*** *http://www.poverty.ac.uk/pse-research* • **Annual Poverty Indicators Survey (APIS)*** *https://psa.gov.ph/content/annual-poverty-indicators-survey-apis*

	• illness patterns • malnutrition • education profile	
	(Multidimensional) Living Conditions Index (LCI)*	• **European Social Survey (ESS)**** *www.europeansocialsurvey.org*
	Sustainable Society Index (SSI)* *http://www.ssfindex.com/* *http://www.sustainablesocietyindex.com/*	
Crime/Safety	**Fear of Crime Questionnaire*** • *Single Item Measures (Standard item)* • *Fear of Specific Crime (e. g. Fisher & May 2009)* • *Fear of Crime Interpretation Victimization Risk scale*	• **Fast Track Project** *https://fasttrackproject.org/* • **National Crime Victimization Survey (NCVS)**** • **General Social Survey (GSS)*** *http://gss.norc.org/* • **Canadian General Social Survey*** *https://www.statcan.gc.ca/pub/89f0115x/89f0115x2013001-eng.htm*
	Victimization • *Perceived Risk of Victimization* • *Past Criminal Victimization Experiences*	• **International Criminal Victimization Survey** (ICVS)** *http://www.unicri.it/services/library_documentation/publications/icvs/* • **European Survey on Crime Safety (EU ICS)*** • **The New Estonian National Victimization Survey** • **The New Swedish Crime Survey** • **The Italian National Victimization Survey** • **The British Crime Survey** • **Australian Community Capacity Study (ACCS)***, Wave 1 • **British Crime Survey/ The Crime Survey for England and Wales (CSEW)*** *http://www.crimesurvey.co.uk/* • **Canadian General Social Survey*** *https://www.statcan.gc.ca/pub/89f0115x/89f0115x2013001-eng.htm*
	Substance Abuse	• **Project on Human Development in Chicago Neighborhoods (PHDCN)**** *https://www.icpsr.umich.edu/icpsrweb/PHDCN/* • **National Survey on Drug Use and Health**

		(NSDUH)* *https://nsduhweb.rti.org/respweb/homepage.cfm*
	Self-report of Offending	• **Project on Human Development in Chicago Neighborhoods (PHDCN)**** https://www.icpsr.umich.edu/icpsrweb/PHDCN/ • **British Crime Survey/ The Crime Survey for England and Wales (CSEW)*** *http://www.crimesurvey.co.uk/*
	Exposure to Violence	• **Project on Human Development in Chicago Neighborhoods (PHDCN)**** *https://www.icpsr.umich.edu/icpsrweb/PHDCN/*
	Risky Behavior	• **The Los Angeles Family and Neighborhood Survey (L.A.FANS)**** http://lasurvey.rand.org/
	Contact with the police and crime	• **1970 British Cohort Study (BCS70)**** *https://bcs70.info/*
Neighborhood /Local Area	**Collective Efficacy**	• **Australian Community Capacity Study (ACCS)***, Wave 1 *https://accs.project.uq.edu.au/*
	Informal Social Control	• **Australian Community Capacity Study (ACCS)***, Wave 1 *https://accs.project.uq.edu.au/*
	Cohesion	• **Australian Community Capacity Study (ACCS)***, Wave 1: *https://accs.project.uq.edu.au/* • **The Los Angeles Family and Neighborhood Survey (L.A.FANS)**: *http://lasurvey.rand.org/*
	Social Capital	• **Australian Community Capacity Study (ACCS)***, Wave 1 *https://accs.project.uq.edu.au/*1970 British Cohort Study (BCS70)** https://bcs70.info/ • **National Longitudinal Survey of Children and Youth (NLSCY)**** *http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=4632* • **National Longitudinal Study of Adolescent Health (Add Health)** *http://www.cpc.unc.edu/projects/addhealth*
	Local Community Participation	• **The Los Angeles Family and Neighborhood Survey (L.A.FANS)**** http://lasurvey.rand.org/ • **National Children's Study** (NCS)*

		https://www.nichd.nih.gov/research/supported/NCS/researchers#overview
	Neighborhood Satisfaction	• **The Los Angeles Family and Neighborhood Survey (L.A.FANS)**** *http://lasurvey.rand.org/*
	Perceived Neighborhood Safety	• **The Los Angeles Family and Neighborhood Survey (L.A.FANS)**:** http://lasurvey.rand.org/
	Disorder	• **Project on Human Development in Chicago Neighborhoods (PHDCN)*** *https://www.icpsr.umich.edu/icpsrweb/PHDCN/* • **The Los Angeles Family and Neighborhood Survey (L.A.FANS)**** *http://lasurvey.rand.org/*
	Structural Disadvantage	• **1979 National Longitudinal Survey of Youth** *https://www.nlsinfo.org/ (https://www.nlsinfo.org/content/cohorts/nlsy97/other-documentation/questionnaires)*
	Infrastructure	• **RESIDential Environment Study (RESIDE)** *http://www.see.uwa.edu.au/research/cbeh/projects/reside*
	Residential Mobility	• **The Los Angeles Family and Neighborhood Survey (L.A.FANS)**:** *http://lasurvey.rand.org/*
	Neighborhood Incivilities	• **Australian Community Capacity Study (ACCS)***, Wave 1 *https://accs.project.uq.edu.au/*
	Fear of Crime	• **British Crime Survey/ The Crime Survey for England and Wales (CSEW)*** http://www.crimesurvey.co.uk/
	Neighbouring Behaviors	• **Australian Community Capacity Study (ACCS)***, Wave 2 *https://accs.project.uq.edu.au/*
Participation	**Cultural Participation**	• **Eurobarometer 2001 and Eurobarometer 2003** *http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm* • **The Cultural Participation Activities Survey (CAPS)** *http://www.nso.go.th/sites/2014/* • **The American Time Use Survey (ATUS)**** *https://www.bls.gov/tus/*
	Child Participation Assessment Tool** *https://www.coe.int/en/web/children/child-participation-*	• **Child and Youth Participation in Republic of Moldava** (2012)* • **Child and Youth Participation in Slavak Republik** (2011)*

	assessment-tool	• **Child and Youth Participation in Finland** (2010)*
	Assessment of Preschool Children's Participation (APCP)	
	Children Participation-Questionnaire (CPQ)*	
	Participation and Environment Measure for Children and Youth (PEM-CY)** *https://www.canchild.ca/en/resources/248-participation-and-environment-measure-for-children-and-youth-pem-cy*	
	Young Children's Participation and Environment Measure (YCPEM)*	
	Assistance to Participate Scale (APS)**	
	Child Engagement in Daily Life Measure**	
	The Child and Adolescent Scale of Participation (CASP)** http://sites.tufts.edu/garybedell/measurement-tools/	
Integration	**Migrant Integration Policy Index (MIPEX)****	• **MIPEX** *http://www.mipex.eu/*
	The Canadian Index for Measuring Integration	

	(CIMI)* *https://www.integrationindex.ca/*	
	Integration and "Welcome-ability" Index (IWA)	• **Canadian General Social Survey** (2008)* • **Canadian Census** (2006) • **Canadian Community Health Survey** (2006) • **Ontario 2011**
	Migrant Integration Policy Index (MIPEX)** *www.mipex.eu*	• **Study of Immigrant Integration at the University of Southern California**
	California Immigrant Integration Scorecard (CIIS)* *http://www.mipex.eu/california-immigrant-integration-scorecard*	• **Manhattan Institute's Immigrant Assimilation study (MIIA)**
	Index of Dissimilarity	
	Kullback–Leibler (KL) Divergence*	
	Lieberson's isolation index*	• **American Community Survey(ACS)**** *https://www.census.gov/programs-surveys/acs/*
Culture	**Index of Culture and Opportunity** *https://www.heritage.org/2017-index-culture-and-opportunity*	
	NCAR Arts Vibrancy Index	• **NCAR Study***
	Cultural Transformation Tools (CTT) → Barrett Values Methodology	• **Team Performance Studies** *https://teamperformanceus.com/about-ellen-miller/*
	Organizational Culture Assessment Instrument (OCAI)* *https://www.ocai-online.com/about-the-Organizational-Culture-Assessment-Instrument-OCAI*	
ICT	**ICT Curriculum Integration Performance Measurement**	

Instrument
The Media and Technology Usage and Attitudes Scale*

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