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Child Well-being in Advanced Economies in the Late 2000s

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CHILD WELL-BEING IN ADVANCED ECONOMIES IN THE LATE 2000S

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Abstract. This paper compares the well-being of children across the most economically advanced countries of the world. It discusses the methodological issues involved in comparing children's well-being across countries and explains how a Child Well-being Index is constructed to rank countries according to their performance in advancing child well-being. The Index uses 30 indicators combined into 13 components, again summarised in 5 dimensions for 35 rich countries. Data from various sources are combined to capture aspects of child well-being: material well-being, health, education, behaviour and risks, housing and environment. The scores for the countries on all variables and combinations of variables are discussed in detail. The Child Well-being Index reveals that serious differences exist across countries suggesting that in many, improvement could be made in the quality of children's lives. This paper is one of the three background papers written as the basis for Report Card 11 (2013), 'Child Well-being in Rich Countries: A Comparative Overview'.

Keywords: Well-being, comparison of rich countries, longitudinal analysis

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1. INTRODUCTION

The Convention on the Rights of the Child (CRC) is accepted and ratified by almost all countries in the world. By adopting and implementing the Convention, countries commit to create conditions that allow all children to develop to their full potential. In the creation of these conditions, countries guarantee a minimum level of child well-being or more generously strive to maximise their well-being. Monitoring the level of children's well-being is therefore important: the exercise not only takes stock of how well-off children are, but also reminds governments and societies around the globe of their obligations towards children and points them towards areas where improvements could and should be made. That applies equally to low- and middle-income countries and to economically advanced countries. This paper compares the well-being of children across the most economically advanced countries of the world. It follows the mandate of UNICEF to advocate for full implementation of the CRC; it is also a follow-up to the tradition of the series of Report Cards by the Innocenti Research Centre (recently renamed as UNICEF's Office of Research at Innocenti). This paper is one of the three background papers written as the basis for Report Card 11 (2013) entitled Child Well-being in Rich Countries: A comparative overview.

2. THEORETICAL AND METHODOLOGICAL FRAMEWORKS

2.1 Theoretical framework

Child well-being is a multifaceted concept which is not easy to measure. In this case the CRC shapes the inspiration, but the technical decisions regarding the construction of a child well-being index and its underlying components are guided by theoretical considerations and the availability of data. Obviously this paper is not the first attempt to measure child well-being comprehensively in economically advanced countries. Major recent contributions are reviewed in Ben-Arieh and Frønes, 2011.

Within the Report Card series of UNICEF's Innocenti Research Centre this paper follows the model of Report Card 7. Since its publication, progress has been made in conceptualising and operationalizing child well-being and this paper (and Report Card 11) reflects some (though not all) of the innovations made. New data have been introduced largely measuring the same underlying concepts; in some cases entirely new data became available offering the possibility to introduce new concepts and in other cases forcing the authors to reconsider indicators or even entire concepts.

Maintaining the same rights-based approach, this paper harks back to Report Card 7 where child well-being was defined as "the realisation of children's rights and the fulfilment of the opportunity for every child to be all she or he can be in the light of a child's abilities, potential and skills" (Bradshaw et al, 2007: 8).

But how can we measure well-being in practice? Although there is an increasing number of studies on this topic, there is no consensus on how to operationalize and measure the concept of child well-being (Ben-Arieh and Frønes, 2011). However, a number of points of convergence are evident in the empirical literature.

Consensus exists around the multi-dimensional nature of child well-being. The intrinsic problem of this approach is, however, related to the selection of the dimensions affecting well-being and to the impossibility of measuring them. For example, the Multi-National Project for Monitoring and Measuring Children's Well-Being (Ben-Arieh et al. 2001 quoted in Bradshaw et al, 2007) identified five components: 1) safety and physical status, 2) personal life, 3) civic life, 4) children's economic resources and contributions and 5) children's activities. However, data availability is a clear constraint especially when comparing the conditions of children across countries. These problems represent an important obstacle and limit the scope of the analysis. For these same reasons, analyses are often country-specific. One of the most relevant examples is the US Child Well-Being Index (CWI). Introduced in the 1970s and updated annually, it covers seven domains: 1) family economic well-being; 2) social relationships; 3) health; 4) risky behaviour; 5) education; 6) participation in community; and 7) emotional/spiritual well-being. Similarly, Bradshaw and Mayhew (2005) tried to analyse child well-being in the UK over a three-year period using 12 dimensions (such as, for example: demography; poverty and deprivation; education; health; lifestyles etc.).

Beyond the data availability, there is a general consensus that the analysis must include both positive and negative measures of children's living conditions. The former defines those aspects that refer to conditions and informs on what society should build to enhance child well-being (OECD, 2009); the latter captures social deficits and highlights the most critical areas in need of attention (OECD, 2009).

Furthermore, as far as possible the analysis must be as child-centered as possible. In most recent years, this has become possible as "the child indicator movement began incorporating child-centred indicators, separating (at least for analytical measurement purposes) the child from his or her family" (Ben-Arieh and Frønes, 2011: 9). This gives us the possibility to monitor directly the well-being of children, avoiding over-reliance on information concerning their environment to indirectly understand their living conditions. Another strain of the literature argues that the best way to measure child well-being is to ask children to report on it directly. The main reason is to give voice to the children and capture directly their point of view and perspective (Redmond, 2009). However, not all researchers agree on the validity and utility of this approach. On one hand, children's answers could be biased by the structure of the questions. On the other hand, the culture and children's limited experience regarding the representation of well-being are considered to introduce considerable bias on the responses. Thus, it is difficult to imagine that subjective dimensions could completely substitute objective dimensions. Instead, it is worth considering that subjective dimensions could complement the objective dimensions widening our understanding of a good life for children.

Lastly, as reported by Fernandes et al. (2010: 3), there is "an increasing reliance on single composite indexes that can summarize children's situations, instead of considering several disparate indicators". Obviously, the elaboration of a singular indicator faces an important trade-off. The process of synthesizing several dimensions into one single index reduces the information available and could conceal important elements that are useful in understanding the real living conditions of children in society. On the other hand, having a single index makes the comparison

easier and offers greater impact of for communication (Ben-Arieh, 2008). Consequently, this gives us the possibility of providing a quantification of well-being which is internationally comparable.

For all these reasons, Report Card 7 represented one of the most interesting and successful examples in terms of quantification and assessment of child well-being in developed societies. Using information from different sources for 21 OECD countries, child well-being was measured on six dimensions: 1) material well-being, 2) education well-being, 3) health and safety, 4) family and peer relationships, 5) behaviours and risks, and 6) subjective well-being. As reported by Bradshaw et al. (2007: 11), "all dimensions focus mainly on children's microsystem, i.e. on the children themselves and the different subsystems that directly impact on their life. Their objective is to represent the conditions children find for their development and participation in society and child outcomes. Belonging to the same system the dimensions are interdependent and interrelated". The robustness of the results was also confirmed by some later works. For example, Heshmati et al. (2007) and Dijkstra (2009) re-computed a child well-being index using more sophisticated algorithms and trying to include more countries and found similar results.

Nonetheless, Report Card 7 presented some important limitations partly driven by the impossibility of measuring some dimensions and partly by the data used for the analysis. Using the most recent data, Report Card 11 repeats and refines the initial experiment of Report Card 7, developing a measure of overall child well-being for selected advanced economies.

2.2 Methodological aspects of Report Card 11

As for Report Card 7, the underlying idea is to build a child well-being index to compare the living conditions of children across advanced economies. The countries under analysis are 35 of which 28 are OECD members. All 27 European Union countries are included, as well as Iceland, Switzerland and Norway, and Australia, Canada, New Zealand, Japan, and United States as non-European countries.

From a methodological point of view, Report Card 11 is built around indicators, components and dimensions. The indicators represent the basis of the analysis and come from different sources. Each component encompasses a group of indicators selected to represent a specific issue, while the dimension is based on an aggregation of components representing a specific area of child well-being.

The analysis is developed in three basic stages:

- First, z scores are computed for each indicator; the z-score shows the distance of each observation from the mean value in standard deviations. This statistic gives us the possibility of ranking countries while also having an indication of the degree of the dispersion. It is, however, necessary to highlight that z scores are sensitive to data availability and could be conditioned by the presence of outliers. To partially cope with these problems, a decision was made to exclude countries with insufficient data establishing a threshold of 75 per cent. In other words, if the total number of indicators employed for our analysis is 30, each country should have data for more than

23 indicators. As a result, six countries are excluded from the computation of the child well-being index: Australia, Bulgaria, Cyprus, Malta, Japan[1] and New Zealand.

- Second, we aggregate the indicators' z scores by component using a simple average. The decision to avoid the use of different weights for the different indicators lies in the awareness that it is extremely difficult to choose the appropriate weight. In addition, there is no literature that could drive this decision. Consequently, the analysis is based on the implicit assumption that all the indicators have equal importance in defining each component and therefore child well-being.

- Third, the z-scores for the different components are again aggregated using a simple average to obtain the dimension value (z-score).

Table 1 *Child well-being structure in Report Card 11*

	DIMENSION	COMPONENT
	Material Well-being	Monetary deprivation
		Material deprivation
	Child health	Health at birth
		Child mortality
		Preventive health services
	Education	Educational achievement
		Participation
CHILD WELL-BEING INDEX	**Behaviour and Risks**	Experience of violence
		Health behaviour
		Risk behaviour
	Housing and environment	Overcrowding
		Environment
		Housing problems

As shown in Table 1, Report Card 11 uses 13 components aggregated in five dimensions: material well-being, health, education, behaviour and risks, housing and environment.

Minor differences between Report Card 7 and 11 in the variables or data used are discussed in the next sections. However, two major differences between the two Report Cards should be mentioned here.

First, for the EU countries (plus Norway and Iceland) it was possible to construct and use a new variable in the dimension of material well-being. Because of the possibilities offered by the 2009 EU-SILC data, a child deprivation index could be constructed for these countries; for Report Card 7 this possibility did not exist.

Second, subjective well-being is not included as a dimension in the child well-being index in this paper, nor in Report Card 11. Instead, subjective well-being and its relationship with the child well-

[1] UNICEF Office of Research at Innocenti and the National Institute of Population and Social Security Research, Tokyo will publish a separate paper on Japan based on newly available data.

being index presented here are discussed in a separate background paper (Bradshaw et al., 2013). There are important conceptual differences between child well-being assessed according to the dimensions in Table 1 and child well-being based on self-assessment by children. In the former case the judgment on the degree of well-being is based on indicators observable by other people; in the latter case the judgment is based on assessment by children themselves. While it is plausible that there is a relationship between the two concepts, it is not necessarily a direct and unidirectional one; it may well be that children who are a situation of "objective" well-being, feel unhappy. Equally the opposite can be true: children in poor "relative" circumstances can still feel happy. Therefore it is important to treat the two concepts as empirically separate; not only do they deserve single and full attention, but we would also be unable to study their interrelations if they were to be grouped together into a single child well-being index.

Finally it should be pointed out that the changes in the Child Well-being Index over time between Report 7 and Report Card 11 (largely the first decade of the 21st century) are discussed in a separate paper (Martorano et al., 2013b).

3. CHILD WELL-BEING

In this section, the main findings from the analysis are presented. Each subsection corresponds to a different dimension. The results for the dimensions are presented at the end of the subsection in a Table which ranks countries according to the z score. For each component the results are summarized in Figures, if there is only one indicator, or in Tables if more than one. In the Tables we use different colours to code the countries according to their ranking for each single indicator. Thus, light blue indicates the best performing group, mid-blue the intermediate performers, while dark blue marks the worst performing group. Countries performing around the average form the intermediate group while the best and the worst groups are formed by countries performing respectively half a standard deviation above or below the average. Finally, each table is ordered according to their ranking for the whole component.

3.1 Children's material well-being

The previous *Report Card* highlighted the necessity to analyse poverty in a multi-dimensional way. Using the same approach, material well-being is represented using two components: monetary deprivation and material deprivation. These provide two different ways of looking at poverty. "While money-metric indicators of poverty give an indication of the financial means of the household to satisfy its needs, deprivation indicators provide information on the degree to which some of these needs are actually met" (de Neubourg et al., 2012: 1). Since monetary and material deprivations are complementary, both are needed to get an overall picture of children's living conditions in the society.

i) Monetary deprivation. The first component is based on two different indicators: relative child poverty and the child poverty gap. Child income poverty has been the topic of two previous *Innocenti Report Cards* (numbers 1 and 6) and a central component of *Report Card* 10. As explained in these publications, the relative approach is crucial for understanding poverty in non-poor countries since it reflects better the cost of social inclusion and equality of opportunity in a specific

time and space. This analysis uses data for 2010 extracted from Eurostat for European countries. For the other countries, we have identified other sources to perform a comparative analysis of child income poverty: for Australia, the 2009 'Household Income and Living Dynamics in Australia' (HILDA); for Canada, the 2009 'Survey on Labour and Income Dynamics' (SLID); for New Zealand, data are taken from Perry (2011) based on the 2009–2010 'Household Economic Survey'; for Japan, information has been derived from Cabinet Office, Gender Equality Bureau (2011) which elaborates the microdata from the 2010 'Comprehensive Survey of Living Conditions' of the ministry of Health, Labor and Welfare; for the United States, the 2007 'Panel Study on Income Dynamics' (PSID). In addition, national sources are integrated with the income data extracted from the Cross National Equivalent File (CNEF) in the case of Australia, Canada and the United States.

The income poverty statistics are based on data for household *disposable income* which is computed by adding the incomes earned by the household from different sources, once taxes have been deducted and public transfers added. The modified-OECD equivalent scale is used in order to be able to compare the incomes of households of different size and composition. According to this equivalent scale, the head of the household is given a score of 1 while each household member aged 14 or more receives a score of 0.5 and each child below 14 is given a score of 0.3. The equivalent household size is obtained by summing up the individual scores. Dividing total household disposable income by the equivalent household size gives the equivalent disposable household income. A household is then considered income poor if the equivalent disposable household income is lower than the set poverty threshold.

For the purposes of this study, for each country the relative poverty line is set at 50 per cent of the median national disposable income. This is not only the threshold most commonly adopted by the OECD for international poverty comparisons, but also the threshold that was used in the previous editions of the *Innocenti Report Card* series. Although, for obvious reasons, poverty calculations are carried out at the household level, most of the results presented refer only to children (individuals aged less than 18).

Table 2 summarises the results of the monetary deprivation component based on two indicators: the child poverty rate and child poverty gap. Relative child poverty varies from 3.6 per cent in Finland to 23.6 per cent in Romania. Fifteen countries show a child poverty rate lower than 10% while four countries show a child poverty rate higher than 20%. Nordic countries show the lowest poverty rates while the United States, some southern European countries (e.g. Italy and Spain) and some of the new EU member states (Bulgaria, Latvia, Lithuania and Romania) show higher rates. On the other hand, the poverty gap[2] ranges between 10 and 40%. In particular, Cyprus shows the lowest child poverty gap at 11% while Spain shows the highest gap at 39%.

The combination of these two indicators provides a picture of the monetary conditions in the countries included in our analysis. Austria, Finland, Germany, the Netherlands, Norway, Slovenia and Sweden are in the best performing group while Italy, Lithuania, Romania, Spain and the United States are in the worst performing group for both indicators. Indeed, countries with a higher

[2] According to the practice of Eurostat, the poverty gap is measured as the distance between the poverty line and the median income of the poor population, where the distance is expressed as a percentage of the value of the poverty line.

poverty rate usually also report a higher poverty gap even though there are interesting exceptions such as Denmark and Ireland.

Table 2 *Monetary deprivation*

	Child poverty rate	Child poverty gap
Finland	3.6	17.0
Netherlands	5.9	15.7
Hungary	10.0	11.7
Austria	7.8	16.5
Luxembourg	11.8	11.3
Norway	6.6	18.7
Sweden	7.3	18.9
Iceland	6.5	20.3
Slovenia	7.2	19.5
France	9.5	18.2
Germany	9.4	19.4
Switzerland	9.4	21.7
Czech Republic	9.7	23.2
United Kingdom	10.0	23.0
Denmark	6.3	29.0
Belgium	10.3	23.7
Canada	14.0	21.8
Poland	13.9	24.1
Estonia	11.9	29.4
Ireland	8.5	34.3
Greece	15.3	25.7
Portugal	15.2	26.5
Slovakia	13.2	30.0
Italy	17.0	31.0
Latvia	20.5	27.3
Lithuania	17.9	35.6
Romania	23.6	30.6
Spain	19.7	39.0
United States	23.1	37.5
Australia	10.9	13.6
Bulgaria	21.6	31.8
Cyprus	6.5	11.0
Japan	14.9	31.1
Malta	9.5	11.8
New Zealand	11.7	16.0

Source: Authors' calculations based on Eurostat, HILDA 2009, SLID 2009, SHP 2009, PSID 2007. Results for New Zealand are from Perry (2011) and refer to 2010, while for Japan the data are derived from Cabinet Office, Gender Equality Bureau (2011).
Note: The light blue indicates the best performing group, the mid-blue the intermediate performers, while the dark blue marks the worst performing group. Lastly, countries are ordered according to their ranking in the whole component (z-score).

b) Material deprivation. As for monetary deprivation, this component is based on two different indicators: the index of 'items lacking' (or deprivation index), and family affluence scale. The former was a central element of *Report Card 10*. Thanks to its introduction, a multi-dimensional perspective was added to the more conventional poverty analysis. The deprivation index was based on the kind of possessions, services and opportunities which could be considered normal for a child growing up in a wealthy country today, such as:

1. Three meals a day
2. At least one meal a day with meat, chicken or fish (or a vegetarian equivalent)
3. Fresh fruit and vegetables every day
4. Books suitable for the child's age and knowledge level
5. Outdoor leisure equipment (bicycle, roller-skates, etc.)
6. Regular leisure activities (swimming, playing an instrument, etc.)
7. Indoor games (computer games etc.)
8. Money to participate in school trips and events
9. A quiet place with enough room and light to do homework
10. An internet connection
11. Some new clothes (i.e. not all second-hand)
12. Two pairs of properly fitting shoes
13. The opportunity, from time to time, to invite friends home to play and eat
14. The opportunity to celebrate special occasions, birthdays, etc.

The data used are from EU-SILC 2009 for 29 European countries. For the remaining countries not covered by EU-SILC (i.e. Australia, Canada, Japan, New Zealand, Switzerland, the United States) no deprivation index could be computed.

In contrast, the family affluence scale (FAS score) is an indicator extracted from Currie et al (2012) which used the HBSC survey 2009/2010. Data are available for all countries included in our analysis with the exception of Australia, Bulgaria, Cyprus, Japan, Malta and New Zealand. In particular, we consider the percentage of children (aged 11, 13 and 15) with a low family affluence score based on questions referring to several material conditions of the family captured by factors such as car ownership, bedroom occupancy, holidays and home computers (Currie et al., 2012). The inclusion of this indicator provides us with a more complete picture of household material deprivation and children's living standards.

Table 3 summarises the results for material deprivation. According to the index of 'items lacking', over 70 per cent of children are deprived in Bulgaria and Romania while the figure is under 3 per cent in Denmark, Finland, Iceland, the Netherlands, Norway and Sweden. The percentage of children reporting a low family affluence score varies widely across countries and ranges between 2 per cent in Iceland and Norway and 40 per cent in Romania. Nordic countries are again in the best performing group while southern, and Central and Eastern European countries have the lowest FAS scores.

The combination of these two indicators provides a picture of material deprivation. It is interesting to observe that countries' rankings are fairly stable across the two indicators since they are highly

correlated. The only exceptions are Ireland and the United Kingdom which fare among the best performing group according to the index of 'items lacking', and in the intermediate group according to the FAS index; the opposite can be seen for France and Slovenia. Finally, the Czech Republic and Estonia are among the intermediate performers according to the index of 'items lacking' but in the worst performing group according to the FAS index; the opposite holds for Portugal.

Table 3 *Material deprivation*

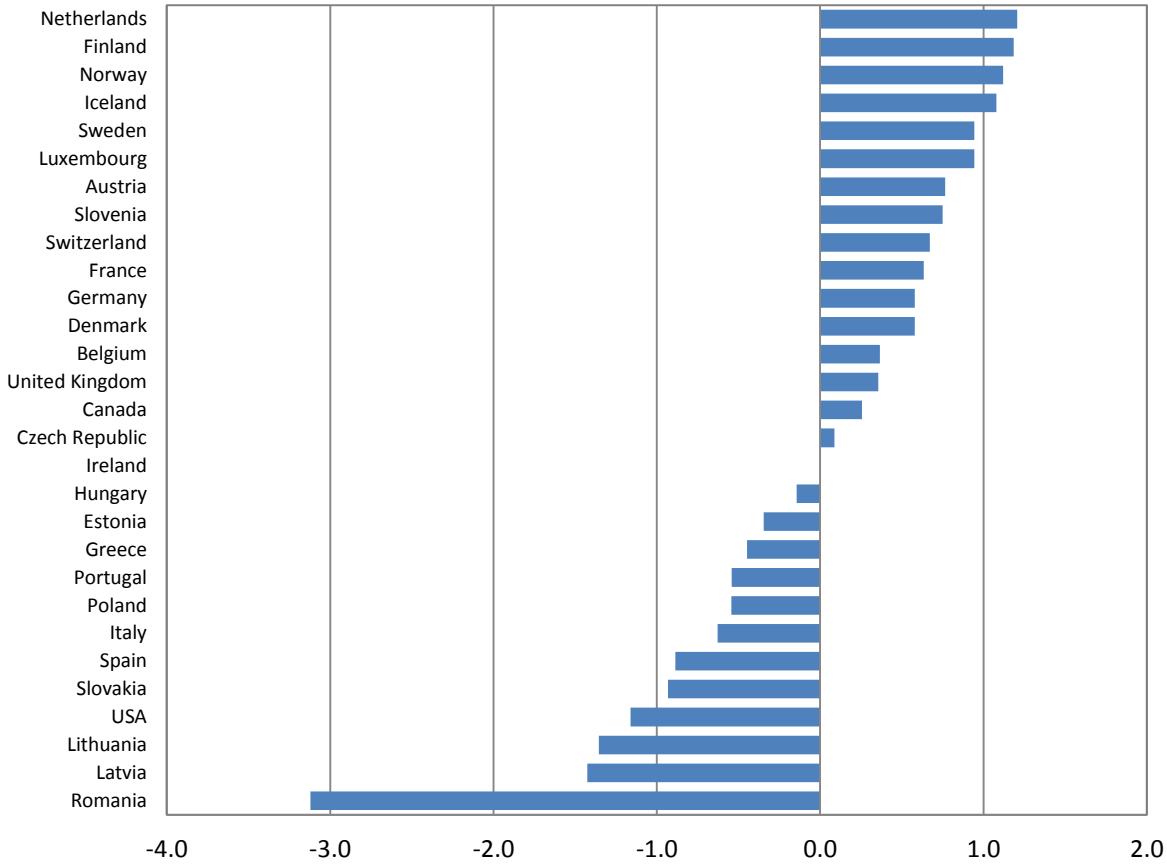
	Lacking child items	Family affluence scale
Iceland	0.9	2.0
Norway	1.9	2.0
Netherlands	2.7	4.0
Denmark	2.6	5.0
Sweden	1.3	6.0
Switzerland		6.0
Finland	2.5	7.0
Luxembourg	4.4	6.0
Canada		8.0
Slovenia	8.3	7.0
Belgium	9.1	7.2
France	10.1	7.0
Ireland	4.9	10.0
Germany	8.8	8.0
Spain	8.1	9.0
Austria	8.7	9.0
United Kingdom	5.5	10.9
United States		11.0
Italy	13.3	13.0
Czech Republic	8.8	17.0
Estonia	12.4	16.0
Greece	17.2	15.0
Portugal	27.4	11.0
Poland	20.9	20.0
Lithuania	19.8	23.0
Slovakia	19.2	26.0
Latvia	31.8	24.0
Hungary	31.9	24.0
Romania	72.6	40.0
Bulgaria	56.6	
Cyprus	7.0	
Malta	8.9	

Source: Authors' calculations based on EU-SILC 2009 and Currie et al (2012).
Note: The light blue indicates the best performing group, mid-blue the intermediate performers, while dark blue marks the worst performing group. Lastly, countries are ordered according to their ranking in the whole component (z- score).

c) Findings on children's material well-being. As reported in Report Card 10, monetary and material deprivations are useful to policymakers, to social scientists, to the media, and to advocates for child well-being. Our analysis is based on a simple aggregation of the two components – monetary and material deprivation – in a new dimension that aims at providing the most complete picture of children's material well-being in advanced economies.

Figure 1 shows the z-scores for the material well-being dimension (i.e. average of z scores of the two components) only for those countries with sufficient data available.3 The results confirm the Netherlands and Nordic countries among the best performers. In contrast, the United States and some Eastern European countries (Romania, Latvia and Lithuania) are in the worst performing group. Finally, Figure 1 visually depicts Romania as an outlier, performing much worse than the other countries.

Figure 1 *Children's material well-being in rich nations*



Source: Authors' calculations based on different sources. For monetary data: Eurostat, HILDA 2009, SLID 2009, SHP 2009, PSID 2007, Perry (2011), and Cabinet Office, Gender Equality Bureau (2011). For deprivation data: EU-SILC 2009 and Currie et al (2012).

[3] For further details see the section on methodology.

3.2 Health

The importance of health as a contributor to the overall well-being of children is undisputed; the health of a country's children is indeed widely recognized as a moral, political, economic, and social imperative.

According to the United Nations Convention on the Rights of the Child (CRC), child health is a fundamental priority, and every child has the right to the highest attainable standards of physical and mental health, with access to the best possible healthcare and support (art. 24). As children represent the future, societies should be concerned with ensuring the healthy growth and development of their children.

Societal investments in child health can in fact provide children around the world with an opportunity to live, grow and thrive. The level of child health achieved in a particular country could be interpreted as a proxy for that country's commitment to its children (UNICEF, 2007) and of the resources made available to meet their needs.

As in *Report Card 7*, and in an attempt to cover the whole life cycle of a child, the health dimension is represented by three components: health at birth, preventive health services and child mortality. However, although the importance of mental and psychological health is clearly recognized, only physical health is considered in this section due to lack of internationally comparable data.

i) Health at birth. Two indicators make up the health at birth component: low birthweight and infant mortality rate. These two indicators are important to understand the quality of health for infants in a society (OECD, 2009a). In particular:

- *Low birthweight* can affect cognitive and physical child development. It is in fact well-established that it is during early childhood that countries have the opportunity to provide a healthy start in life for all children that will influence their lifelong health and well-being. Risk factors for low birthweight include poor health and nutrition of women during pregnancy as well as high maternal age, smoking, drugs and alcohol consumption (OECD, 2009a). Moreover, low birthweight risk increases in multiple gestation pregnancies, in vitro or in vivo fertilization as well as when babies are premature.[4]

This indicator refers to the percentage of babies weighing less than 2500 grams at birth. The data are from the OECD and refer to 2009, with some exceptions: for Belgium and the Netherlands data refer to 2008; for France data refer to 2007. Data are not available for non OECD countries included in the analysis such as Bulgaria, Cyprus, Latvia, Lithuania, Malta and Romania.

- The *infant mortality rate* is sometimes used as a proxy for the development status of a country as it sums up many factors influencing children's well-being and opportunities for survival; it is often used to monitor health inequalities within and across countries and could also be interpreted as measuring the extent to which countries fail to invest in their next generation. Data are extracted

[4] The low birthweight indicator does not control for gestational age.

from the World Development Indicators online database and refer to the number of infants dying before one year of age per 1,000 live births in 2010.

Table 4 shows that the prevalence of low birth weight ranges between 4 and 8 per cent, with the exception of Japan which records more than 9.5 per cent of babies weighing less than 2500 grams at birth. Lastly, infant mortality rates range between 1.8 (Iceland) and 11.7 (Romania). The worse performing group includes most Central and Eastern European countries and the United States, whereas top performers are mainly Nordic countries plus Luxembourg and Slovenia.

As low birth weight is a major risk factor for perinatal and infant mortality (UNICEF and WHO, 2004), countries with a low/high prevalence of low birth weight are expected to be accompanied by low/high prevalence of infant mortality. This seems to hold in most cases; the first three positions for low birth weight prevalence are again occupied by Nordic countries (i.e. Finland, Iceland and Sweden) and followed by Estonia. Hungary, Slovakia and the United States are among those in the worst performing group.

Table 4 *Health at birth component*

	Infant mortality rate	Low birth weight
Iceland	1.8	4.1
Sweden	2.3	4.2
Finland	2.4	4.3
Estonia	3.2	4.5
Ireland	3.4	4.8
Norway	2.7	5.4
Slovenia	2.3	5.9
Netherlands	3.5	5.5
Luxembourg	2.4	6.4
Denmark	3.3	6.1
France	3.5	6.6
Germany	3.4	6.9
Italy	3.3	7
Switzerland	4.0	6.6
Belgium	3.6	6.9
Austria	3.5	7.1
Canada	5.0	6.1
Poland	5.2	6.1
Czech Republic	3.4	7.6
Portugal	2.9	8.2
United Kingdom	4.5	7.1
Spain	3.7	7.8
Lithuania	5.1	
Slovakia	6.8	7.4
Greece	3.9	9.6
Hungary	5.7	8.4
United States	6.5	8.2
Latvia	7.6	
Romania	11.7	
Australia	4.2	6.2
Bulgaria	11	
Cyprus	2.8	
Japan	2.4	9.6
Malta	5.1	
New Zealand	4.8	5.9

Source: Authors' calculations based on World Development Indicator and OECD STATS.

However, Japan is an 'exception' in that it presents one of the highest rates of low birthweight with one of the lowest infant mortality rates. Whereas the prevalence of low birthweight has increased in several OECD countries (OECD, 2009a), Japan is unique among developed countries in that the rate has almost doubled in the past three decades (Hokama and Binns, 2009) passing from 5 per cent in the late 1970s to almost 10 per cent in the late 2000s. Possible causes include an increase in

smoking among younger women (Ohmi et al., 2001) and the tendency to have children at an older age (Jeong and Hurst, 2001). Similar exceptions are the Czech Republic, Greece, Portugal and Spain, which show low infant mortality rates and high percentages of low birth weight.

ii) Preventive health services component. Three indicators are used to analyse the preventive health services component: the percentage of children aged 12-23 months immunized against DPT3, measles and polio. In particular, immunization coverage is sometimes used as a proxy for monitoring the immunization system as well as overall health sector performance. Since the immunization systems in all countries are almost or completely free, these indicators are also considered as a measure of access to and usage of preventive health services by parents to promote the health of their children (OECD, 2009b).

The data are from the Immunization Summary for 2010, a data report jointly produced by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO). As can be seen in Table 5, most countries have immunization rates for measles, DPT3 and polio equal to or above 90 per cent. However, there are some exceptions such as Austria and Malta with immunization rates (measles, DPT3 and polio) below 90 per cent; Denmark and Cyprus have relatively low measles immunization rates whereas Canada has relatively low DPT3 and polio rates.

On average, immunization coverage is close to 95 per cent. The three indicators used are highly correlated and this is reflected in a fairly stable ranking of top, middle and bottom performers. The only exception is France with almost universal coverage for DPT3 and polio, but low coverage for measles.

Table 5 *Preventive health services component*

	Measles	DPT3	Polio
Greece	99	99	99
Hungary	99	99	99
Czech Republic	98	99	99
Finland	98	99	99
Slovakia	98	99	99
Luxembourg	96	99	99
Poland	98	99	96
Belgium	94	99	99
Sweden	96	98	98
Portugal	96	98	97
Netherlands	96	97	97
Spain	95	97	97
France	90	99	99
Romania	95	97	96
United Kingdom	93	96	98
Slovenia	95	96	96
Lithuania	96	95	95
Iceland	93	96	96
Germany	96	93	95
Estonia	95	94	94
Italy	90	96	96
Switzerland	90	96	95
United States	92	95	93
Norway	93	93	93
Ireland	90	94	94
Latvia	93	89	89
Denmark	85	90	90
Canada	93	80	80
Austria	76	83	83
Australia	94	92	92
Bulgaria	97	94	96
Cyprus	87	99	99
Japan	94	98	98
Malta	73	76	76
New Zealand	91	93	93

Source: UNICEF and WHO (2012)

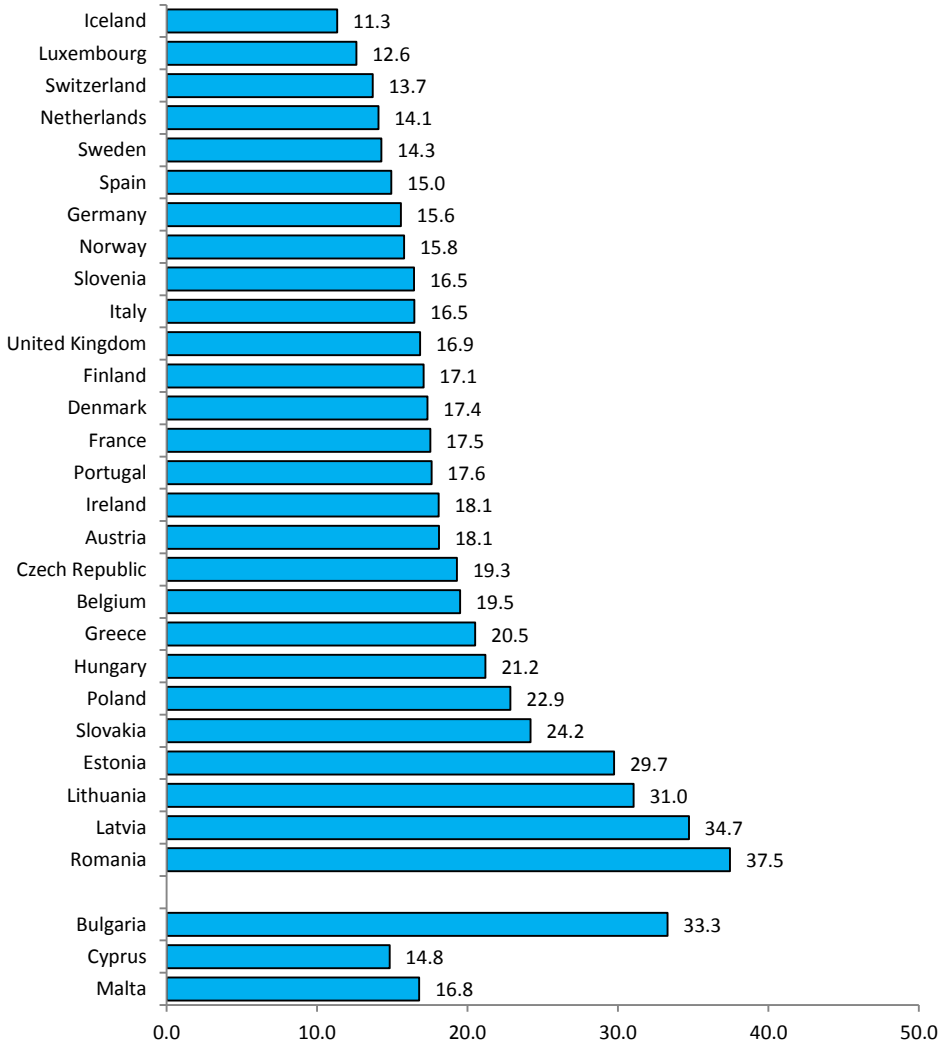
iii) Child mortality. The relationship between child mortality and age tends to have a U-shaped pattern, with mortality rates being high among youngest and oldest children compared to mortality during middle childhood (OECD, 2009b). The leading causes of death, however, might significantly differ by age: as children get older, non-health related causes of death increase in importance. For instance, mortality in later childhood is more likely to the result from external

causes such as accidents and violence, rather than health-related causes in early childhood. If this were the case, then this indicator would be spurious capturing various causes of child mortality and not only health-related deaths (as expected from the health component).

This kind of indicator was already part of *Report Card 2* which focuses on children's accidental death, and *Report Card 5* which focuses on child maltreatment deaths. In *Report Card 11*, the component consists of only one indicator which is the child death rate (per 100,000) between 1-19 years old. The data are from the EU-WHO European Mortality Database and refer to 2010 with the exception of: France, Greece, Hungary, Iceland and Italy for which data refer to 2009; Belgium and Denmark for which data refer to 2006.

To present the results, a league table in the *Report Card* style is used. Figure 2 shows that in eight countries the child mortality rate (ages 1-19) is higher than 20 per 100,000. This group is primarily composed of some Central and Eastern European countries plus Greece. In the other countries, the prevalence of child deaths ranges between 11 and 20 per 100,000. Iceland presents the lowest rate at 11.3 per 100,000.

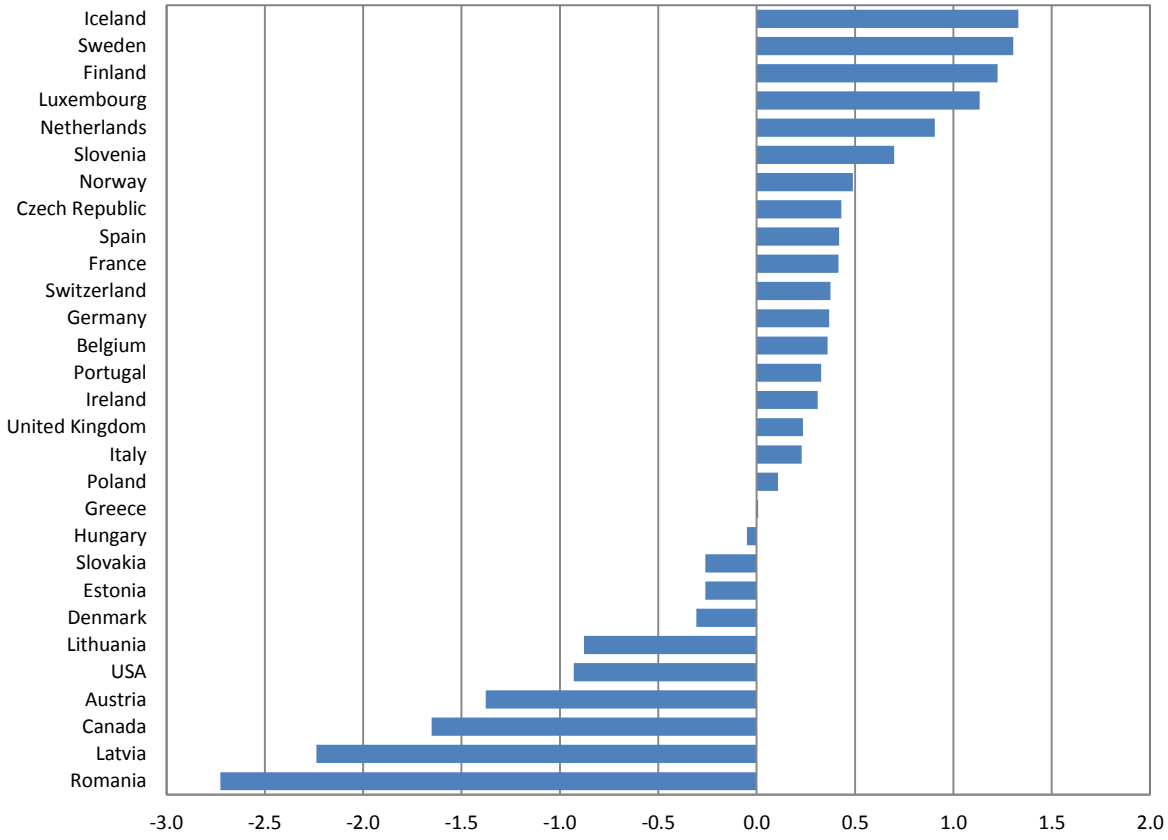
Figure 2 *Child mortality rate around 2010*



Source: EU - WHO data (European Mortality database)

iv) Findings in the health dimension. As reported above, this dimension is represented by three components: health at birth, preventive health services and child mortality. The aim is to use available data to provide the most complete picture of children's health conditions in the advanced economies considering elements affecting both children's cognitive and physical development. Figure 3 shows the health dimension results based again on the average of the z scores for the three health components distributed around the mean of zero for those countries with enough data only. The results show that Finland, Iceland, Luxembourg, the Netherlands and Sweden are the best performing countries. In contrast, the United States and some Eastern European countries (Romania, Latvia and Lithuania) are in the worst performing group. Austria and Canada also perform relatively worse than the average. This result is explained by the poor results recorded by these countries in the preventive health services component.

Figure 3 *Children's health in rich nations*



Source: Authors' calculations based on different sources including World Development Indicator, OECD, UNICEF and WHO (2012) and EU WHO European Mortality Database.

3.3 Education

If the family is the first environment contributing to the process of child cognitive development, school is surely the second. Article 28 of the UN Convention on the Rights of the Children states that children have the right to free education and should be "encouraged to reach the highest level of education they are capable of". Education provides children with the skills required "to be able to survive, to develop their full capacities, to live and work in dignity, to participate fully in development, to improve the quality of their lives, to make informed decisions, and to continue learning" (UNESCO, 2000: 17). As a result, education has an immediate as well as a long-term

impact on child well-being, as it helps to determine children's life chances and opportunities. Consequently, attention is given not only to access to education (usually measured by enrolment and/or attendance rates and so on) but also to the quality of education systems. Thus, the education dimension encompasses two components: participation in education and achievements which measure the quality of the acquired competencies.

i) Participation. As explained in *Report Card 7*, participation in education could be better considered a measure of well-becoming rather than well-being. As compulsory education has become virtually universal, it is particularly interesting to observe school participation across European countries in non-compulsory school times. Therefore, two of the three indicators of the 'participation' component concentrate on early childhood education and on youth education. The third indicator is the percentage of young people (aged 15-19) neither in employment nor in any education and training. Early childhood education is extremely important as evidence shows that children who attended pre-schools tend to perform better than those who did not (OECD, 2011a). Moreover, it helps to build a strong foundation for achieving success in school, and in life, as well as to combat educational disadvantage. Data refer to the age group between 4-years-old and the starting age of compulsory education. Figures refer to 2010 and are extracted from the Eurostat database; they are therefore available for all the European countries plus Japan and the United States, but not for Australia, Canada and New Zealand. Table 6 shows that early childhood education is universal in France while it is at its lowest level in Finland (73.1 per cent). However, the majority of the countries have a percentage of participation higher than 90 per cent and almost one third of them have a percentage of participation higher than 95 per cent. In contrast to the previous indicators, in this case Italy and Spain are among the five best performing countries while Finland is in the worst performing group.

Enrolment rates are used for education of young people aged 15-19. For children, the transition from primary to secondary education is associated with more opportunities in adult life. From a macroeconomic perspective, broad-based access to post-primary education can translate into gains in terms of economic productivity and welfare for the entire society. The data are extracted from OECD (2011a) and the Eurostat database and are not available for Japan and Iceland. They refer to 2010 for Bulgaria, Cyprus, Latvia, Lithuania, Malta, Norway and Romania, 2008 for Greece and Luxembourg, and 2009 for the remaining countries. Table 6 shows that only in five countries (Belgium, Ireland, Lithuania, Poland and Slovenia) is the enrolment rate higher than 90 per cent while in four countries it is lower than 80 per cent (Austria, Luxembourg, Romania and the United Kingdom); the worst performing country is the United Kingdom where only 73.7 per cent of the youth population was enrolled in education. In the remaining countries, 8-9 students out of 10 participate in the education system.

Lastly, the percentage of young people (aged 15-19) neither in employment nor in any education and training (NEET rates) provides us with information not only referred to the functioning of the educational systems but also of the labour market. Indeed, a high rate could be related to difficult school-to-work-transitions (OECD, 2011b) as well as to the poor performance of the youth labour market (Quintini and Martin, 2006). Especially in countries characterised by rigid labour market institutions and problems of matching the supply and demand of labour, young people may have difficulties finding a job and may drop out of the labour force due to discouragement (The Moving

Project, 2010). Moreover, it has been observed that the NEET rate usually increases during a time of economic crisis when youth is particularly vulnerable and hardest hit (European Foundation for the Improvement of Living and Working Conditions, 2011). Data for the NEET rate are from the OECD (2011) and Eurostat database and they refer to 2010 in the case of Bulgaria, Cyprus, Latvia, Lithuania, Malta, Norway and Romania, and 2009 for the remaining countries. Only Iceland and Japan lack data. Table 6 shows that Denmark, Norway and Slovenia perform much better than other countries, while the worst performing group includes Eastern European countries as well as some of the major European economies (France, Italy, Spain and the United Kingdom).

Table 6 *Participation component*

	Early childhood education	Remaining in education	NEET
Netherlands	99.6	89.7	3.6
Belgium	99.1	93.2	5.7
Slovenia	92.0	91.1	2.5
Norway	97.1	85.9	2.3
Germany	96.2	88.5	3.8
Denmark	98.1	83.6	2.9
Hungary	94.3	89.9	5.6
Czech Republic	88.7	89.2	3.5
Sweden	95.1	87.0	5.5
Iceland	95.8	84.9	
Poland	76.3	92.7	3.6
France	100.0	84.0	6.9
Lithuania	78.3	91.4	4.1
Latvia	87.4	88.8	8.0
Portugal	89.3	84.6	6.9
Luxembourg	94.6	75.3	3.5
Estonia	89.8	84.6	8.0
Ireland	85.4	92.1	11.0
Slovakia	77.5	85.1	4.5
Austria	92.1	79.4	6.5
Finland	73.1	86.9	5.1
Italy	97.1	81.8	11.2
Switzerland	78.6	84.7	7.9
Spain	99.4	81.4	13.4
Canada		81.1	8.1
United Kingdom	96.7	73.7	9.6
Greece	73.5	82.7	7.9
United States	74.4	80.9	8.8
Romania	82.1	76.4	9.9
Australia		80.0	8.3
Bulgaria	79.2	75.5	15.6
Cyprus	87.7	71.7	6.7
Japan	97.9		
Malta	89.0	67.3	9.2
New Zealand		80.6	12.4

Source: Eurostat database and OECD (2011)

In order to get an idea of countries' overall performance in the participation component, it is useful to compare their ranking across the three indicators. As can be seen in Table 6, there is a heterogeneous ranking pattern across indicators. Only Germany and the Netherlands are stable in the best performing group for all the indicators; Romania and the United States, on the other hand, rank consistently in the worst performing group.

ii) Education Achievement. In order to measure educational achievement, three indicators were extracted from the 2009 OECD PISA survey, namely reading, maths and science literacy. The data are available for all countries included in our analysis with the exception of Cyprus and Malta.

As can be seen in Table 7, the educational achievement indicators are highly correlated; consequently, there is little variation in top, middle and bottom performing groups across the three indicators. With the exception of the United States, the other non-European countries included in our analysis are in the best performing group and in particular always in the top ten positions.

Among European countries, only Finland and the Netherlands are always in the best performing group, showing the highest scores in all the indicators. On the other hand, Romania and Spain are consistently among the worst performing countries for all indicators.

Other countries performing poorly are two in Central and Eastern Europe (Lithuania and Slovakia), two southern European countries (Greece and Italy) and finally Luxembourg. For the latter country, the explanation seems to be related to the co-existence of three languages of instruction which make the process of learning more complicated (Carey and Ernst, 2006). These problems are especially evident in the case of students from immigrant families, who are more likely to fare worse than native students.

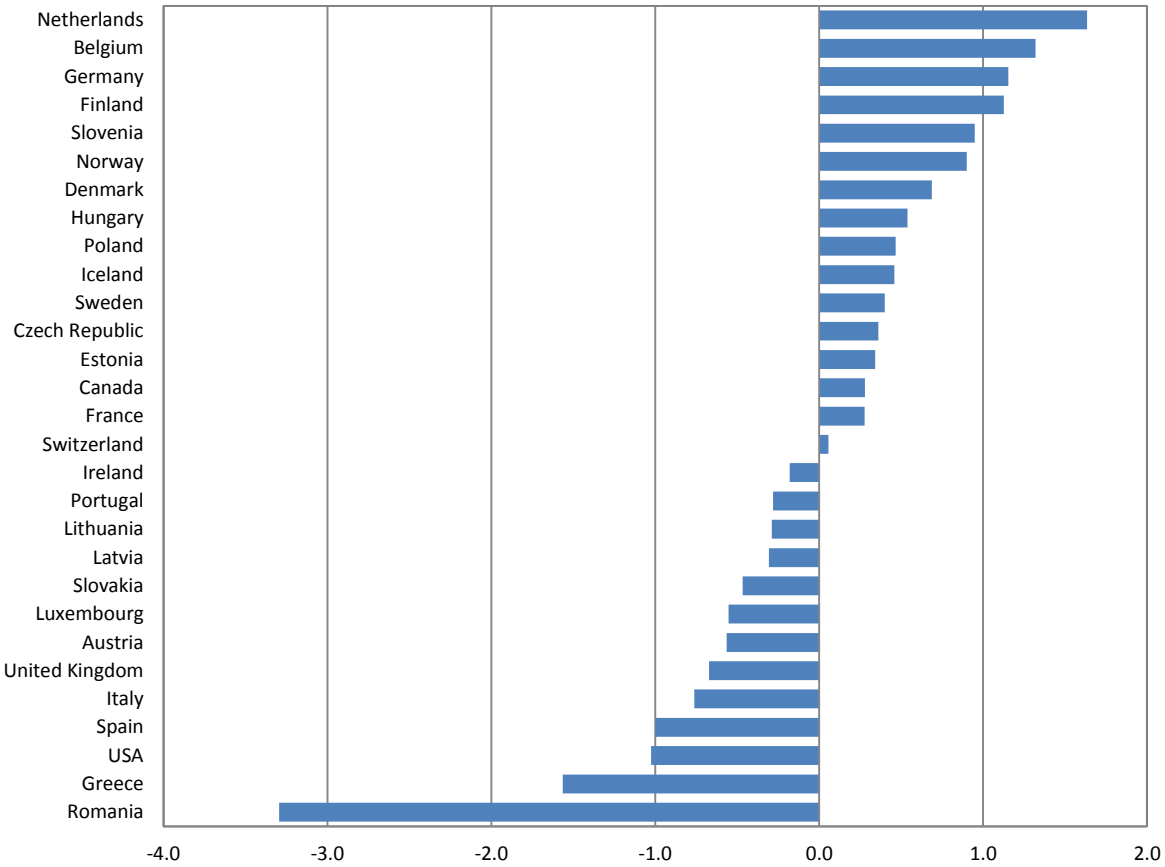
Table 7 *Educational achievement component*

	Reading literacy achievement	Mathematics literacy achievement	Science literacy achievement
Finland	535.9	540.5	554.1
Canada	524.2	526.8	528.7
Netherlands	508.4	525.8	522.2
Switzerland	500.5	534.0	516.6
Estonia	501.0	512.1	527.8
Germany	497.3	512.8	520.4
Belgium	506.0	515.3	506.6
Poland	500.5	494.8	508.1
Iceland	500.3	506.7	495.6
Norway	503.2	498.0	499.9
United Kingdom	494.2	492.4	513.7
Denmark	494.9	503.3	499.3
Slovenia	483.1	501.5	511.8
Ireland	495.6	487.1	508.0
France	495.6	496.8	498.2
United States	499.8	487.4	502.0
Sweden	497.5	494.2	495.1
Hungary	494.2	490.2	502.6
Czech Republic	478.2	492.8	500.5
Portugal	489.3	486.9	493.0
Slovakia	477.4	496.7	490.3
Latvia	484.0	482.0	493.9
Austria	470.3	495.9	494.3
Italy	486.1	482.9	488.8
Spain	481.0	483.5	488.3
Luxembourg	472.2	489.1	483.9
Lithuania	468.4	476.6	491.4
Greece	482.8	466.1	470.1
Romania	424.5	427.1	428.2
Australia	514.9	514.3	527.3
Bulgaria	429.1	428.1	439.3
Japan	519.9	529.0	539.4
New Zealand	520.9	519.3	532.0

Source: OECD PISA (2009) reported in EdStats, World Bank

iii) Findings in the Education Dimension. As illustrated above, this dimension is represented by the combination of the quantitative and qualitative aspects of education. Figure 4 shows the average z scores for the education dimension: Nordic European countries, plus Belgium, Germany and the Netherlands are in the best performing group. It is noticeable that some Central and Eastern European countries, such as the Czech Republic, Estonia, Hungary, Poland and Slovenia perform above the average. In contrast, Romania is the worst performer followed by Greece and United States.

Figure 4 *Children's education in rich nations*



Source: Authors' calculations based on different sources including Eurostat, OECD (2011) and OECD PISA (2009) reported in EdStats, World Bank.

3.4 Behaviour and risks

In order to analyse well-being, it is important not to overlook children's lifestyle. In particular, it is interesting to analyse how children interact with each other and how they behave outside the family environment. Especially during adolescence, young people often engage in risky behaviours or situations negatively affecting their well-being, just to be accepted by their peers.

Based on these considerations, this dimension is made up of three components: health behaviours, risk behaviours and experience of violence.

i) Health behaviours. This component aims at capturing children's behaviour and its impact on their health, focusing mainly on nutrition and physical activity. In particular, four indicators are selected that capture the percentage of young people aged 11, 13 and 15 who:

- eat breakfast every day
- eat fruit every day
- report at least one hour of moderate-to-vigorous physical activity daily
- are overweight according to the BMI.

Data are extracted from Currie et al (2012). The report provides disaggregated data by age and sex for all countries. To determine the national value we computed a weighted average using population shares – with data taken from the World Bank Health Nutrition Population Statistics database (HNP Stats). In the case of Belgium, data are available for Flemish and French Belgium, whereas in the case of the United Kingdom data are available for England, Scotland and Wales. Thus, Belgium[5] and the United Kingdom estimates were computed also using information on the share of the subnational population extracted from the respective national statistical offices. The same procedure was carried out for all the indicators extracted from Currie et al (2012). Lastly, data are missing in the case of Australia, Bulgaria, Cyprus, Japan, Malta and New Zealand.

The first two indicators (eat breakfast every day and eat fruit every day) depict healthy nutrition. The relevance of these indicators relies on the fact that eating habits affect the process of cognitive and physical development (Currie et al., 2012). In addition, it should be emphasized that they are likely to be carried through into adulthood (Merten et al., 2009 as cited in Currie et al., 2012).

As can be seen in Table 8, the percentage of young people who eat breakfast every day ranges between 43 and 85 per cent. However, four countries – two at the top and two at the bottom of the ranking – could be considered as outliers. On the one hand, Romania and Slovenia report the lowest rates, respectively 45.3 and 43.6 per cent, meaning that almost 6 out of ten children skip breakfast. On the other hand, the Netherlands and Portugal report the highest rates, respectively 85.1 and 83.2 per cent. In this last case, it is interesting to observe that the rates of the next nearest countries are 10 percentage points lower.

Table 8 also shows that less than one out of two children eats fruit every day in all countries. Denmark presents the highest percentage – slightly lower than 50 per cent – while Finland shows the lowest value with just one out of four children eating fruit every day.

In terms of physical activity, research has demonstrated this is critical for both physical and mental health; it can help to prevent and treat a number of youth-related health problems such as asthma, obesity, anxiety and depression, and has therefore both short- and long-term impacts (OECD, 2009; Currie et al., 2012). International recommendations (by WHO, for example) consider 60 minutes of moderate-to-vigorous physical activity daily as the minimum standard. Table 8 shows that a significant proportion of children do not undertake the minimum recommended levels of physical activity daily: the percentage of youth who report at least one hour of moderate-to-vigorous physical activity daily ranges between 10 and 30 per cent. Ireland shows the highest rate (28.6 per cent) followed by the United States (26.3 per cent) and Austria (24.8 per cent). In 16 countries less than two children out of 10 do at least one hour of physical activity daily. Italy stands out at the lower end (8.3 per cent).

As discussed in Currie et al. (2012), the lack of a healthy diet and physical exercise are both correlated with problems of being overweight. This phenomenon is particularly acute in the United States where almost 3 out of 10 children are overweight according to the BMI. The rates range

[5] In the Belgium case, the population in the Brussels-Capital Region is considered half Flemish and half French.

between 8.4 per cent and 21 per cent across the other countries. However, results need to be interpreted with caution given that the height and weight data used to compute BMI were self-reported (Currie et al., 2012).

When looking at the overall performance of countries in the health behaviours component, the scenario is fairly heterogeneous. In particular, none of the countries are consistently in the best performing group for all the indicators. Overall, Denmark performs better than other countries, while Greece is in the worst performing group for three out of four indicators.

Table 8 *Health behaviours component*

	Obesity	Eating fruit	Eating breakfast every day	Physical exercise
Netherlands	8.4	32.5	85.1	19.1
Denmark	9.3	48.6	73.5	11.7
Ireland	15.5	36.6	71.5	28.6
Norway	12.1	41.9	69.4	14.8
Portugal	18.7	43.9	83.2	13.9
United Kingdom	12.4	38.2	61.1	21.3
Belgium	10.9	36.7	69.7	16.6
Spain	16.9	38.3	65.3	23.8
Austria	14.1	39.9	53.1	24.8
Luxembourg	14.0	39.0	58.3	22.5
Canada	20.2	44.2	61.2	22.8
Czech Republic	14.9	41.1	53.0	23.0
France	10.6	39.1	66.5	12.1
Switzerland	8.7	42.4	55.5	12.1
Germany	13.2	36.5	65.5	17.1
Slovakia	13.0	36.2	53.1	22.6
Iceland	14.0	34.2	71.8	16.2
Latvia	10.7	26.7	62.3	20.2
Sweden	11.8	27.8	73.3	13.6
Finland	15.5	24.4	67.5	23.0
Romania	14.8	40.6	45.3	19.6
Hungary	15.2	34.8	51.1	19.5
Poland	16.9	30.1	59.9	20.3
Slovenia	17.9	39.6	43.6	20.3
Lithuania	10.8	25.6	56.6	16.4
Italy	17.3	41.3	61.9	8.3
United States	29.4	42.4	50.6	26.3
Estonia	14.7	26.2	64.6	14.1
Greece	21.0	33.7	51.0	14.3

Source: Authors' calculations based on Currie et al (2012).

ii) Risk behaviours. The probability of adopting risk behaviours increases in early adolescence with the possibility of spending more time outside the protective environment of the family and the need to move towards an adult life-style. Risk behaviours, such as misuse of alcohol or other drugs, can be defined as behaviours that place the child at risk of adverse consequences and therefore pose a threat to well-being. Moreover, it should be highlighted that these kinds of behaviours can lead to both short- as well as long-term negative impacts.

Four indicators are used to provide a snapshot of youth risk-taking behaviours: cigarettes, alcohol and cannabis consumption, as well as teenage fertility rate. Data for the latter indicator are extracted from the World Development Indicator database and refer to 2009. All remaining data are extracted from Currie et al (2012) and elaborated as explained above. Data are available for all countries included in our analysis, with the exception of Australia, Bulgaria, Cyprus, Japan, Malta and New Zealand; for cannabis consumption, data is also missing for Sweden.

The negative effects of tobacco use on health are well-known. Obviously, the risk increases for young people and can cause early heart disease and may hinder the natural development of lungs which may not reach their full capacity (Elders et al., 1994). Table 9 shows the percentage of young people (aged 11, 13 and 15) who smoke cigarettes at least once a week. Eastern European countries present a higher consumption of cigarettes than other countries. Latvia shows the highest percentage (13.4 per cent) while Iceland shows the lowest number (3.2 per cent) of children smoking cigarettes at least once a week.

Negative consequences of risky drinking are related to psychological, social and physical health (Windle, 2003). The indicator ranges between 6.4 per cent in the United States, the best performing country, and 26.8 in Lithuania. At least one in five children (aged 11, 13 and 15) has been drunk more than twice in the Czech Republic, Denmark, Estonia, Finland and Latvia. With the sole exception of Spain, southern European countries are in the top performing group, whereas Central and Eastern European countries perform below the middle of the ranking. Table 9 also shows the percentage of young people (aged 11, 13 and 15) who report having used cannabis in the last 12 months. The rate ranges between 4.5 per cent in Norway and 28 per cent in Canada.

The last indicator to be analysed is the teenage fertility rate (births per 1,000 women aged 15-19). Evidence has shown that teenage fertility rates are associated with several short- and long-term disadvantages for the mother and her child. Among the impacts of early childbearing are: higher likelihood of living in poverty, being raised in a single-parent family without a father, lower educational performance etc. (UNICEF IRC, 2001). Notwithstanding higher education levels, more career opportunities and more effective contraception, the teenage birth rate is still high in many developed countries. Table 9 shows that it is higher than 20 per cent in New Zealand and the United Kingdom and even higher than 30 per cent in Romania and the United States. However, in the majority of countries it is lower than 15 per cent, while in the Netherlands, Slovenia and Switzerland it is lower than 5 per cent.

Looking at the overall performance of countries across the indicators for risk behaviours, it can be noted that no country remains in the same group (high, intermediate, low) for all the indicators apart from Norway which is the top performer.

Table 9 *Risk behaviours component*

	Teenage fertility rate	Smoking	Drinking	Cannabis
Norway	8.3	3.8	10.8	4.5
Iceland	13.4	3.2	6.7	7.0
Sweden	6.2	6.4	10.2	5.5
Greece	10.8	6.4	10.0	6.6
Germany	7.5	6.2	11.8	8.6
Netherlands	4.7	6.7	7.1	17.0
Portugal	15.1	4.9	9.9	10.1
Ireland	14.0	5.6	12.2	13.1
Italy	5.6	9.5	7.2	16.6
Luxembourg	9.4	9.0	8.0	15.0
Denmark	5.6	5.9	23.5	11.5
Belgium	13.0	6.9	11.4	16.1
Switzerland	4.3	7.7	10.9	24.1
France	6.7	9.0	9.0	22.5
Slovenia	4.8	7.7	17.8	18.0
Poland	13.8	7.9	15.3	14.6
Austria	11.6	11.7	14.5	10.0
Finland	9.3	9.0	25.0	8.0
Canada	12.9	4.0	15.7	28.0
Spain	11.9	8.2	14.1	24.1
United States	35.7	4.1	6.4	22.0
Hungary	15.4	11.8	18.6	10.5
Slovakia	18.8	10.3	17.5	13.0
Romania	30.7	10.6	17.5	6.1
United Kingdom	29.7	5.6	19.7	17.4
Estonia	20.5	9.5	21.9	14.7
Czech Republic	10.3	13.1	22.5	21.5
Lithuania	18.3	12.9	26.8	14.2
Latvia	15.9	13.4	24.7	18.5
Australia	14.9			
Bulgaria	40.2			
Cyprus	6.1			
Japan	5.4			
Malta	15.1			
New Zealand	26.0			

Source: Authors' calculations based on Currie et al (2012) and World Development Indicator database. For Finland data is available only for 13- and 15-years-old.

iii) Experience of violence. To define this component we use two indicators related to school violence: in particular, fighting and bulling problems measured respectively by the percentage of young people (aged 11, 13 and 15) involved in fighting in the last 12 months and reporting being bullied in the last 2 months.

Physical fighting is usually related to intentional injury, and might lead to serious injuries requiring medical attention and/or hospitalization (Currie et al., 2012). Bullying is increasingly considered a concern not only for the victims but also for the bully/perpetrator; in general, victims of physical and/or mental bullying might experience negative consequences in terms of their psychosocial, educational and physical well-being; in fact they are more likely to become depressed and/or anxious; to report asocial behaviours and poor school performance or drop out (Currie et al., 2012; Moore et al., 2008).

Data are from Currie et al (2012). They are available for all countries included in our analysis with the exception of Australia, Bulgaria, Cyprus, Japan, Malta and New Zealand. According to Table 10, almost one out of two young Greek people was involved in fighting in the last 12 months while in Germany the rate was less than one out of four. As regards the phenomenon of bullying, it is interesting to observe that more than 50 per cent of children report being bullied in Lithuania. This rate is also high by international standards: four countries (Austria, Estonia, Latvia and Romania) exceed 40 per cent. Only Italy, Sweden and Switzerland have a rate lower than 15 per cent.

The 'experience of violence' component is calculated by combining these two indicators. It is interesting to observe that four countries are still in the best performing group: Sweden, Denmark, Iceland and the Netherlands. In contrast, three countries (Belgium, Latvia and Romania) recorded performances well below the average. However, Lithuania is the worst performing country even though the value for the fighting indicator is included in the intermediate group.

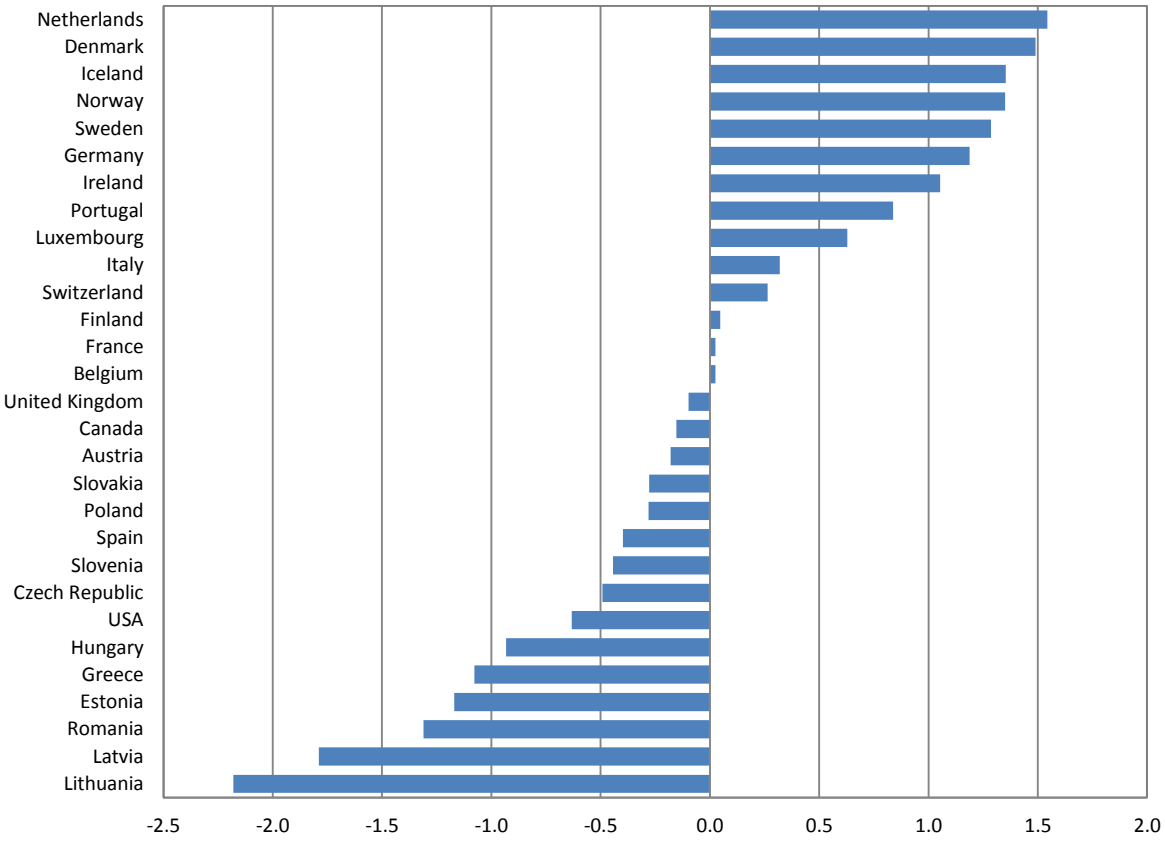
Table 10 *Experience of violence component*

	Fighting	Being bullied
Sweden	31.0	11.8
Denmark	30.2	19.3
Italy	36.0	10.9
Germany	23.0	30.0
Iceland	31.7	19.0
Finland	28.3	30.1
Netherlands	33.3	24.3
Norway		25.9
Luxembourg	32.0	30.0
United States	34.0	27.5
Poland	35.6	25.9
Switzerland	29.0	36.1
Ireland	35.3	28.0
Portugal	28.6	38.3
United Kingdom	36.0	27.9
Czech Republic	44.8	15.7
Slovenia	42.2	20.3
Slovakia	38.7	26.3
Estonia	29.9	40.3
France	35.4	34.0
Canada	35.8	35.0
Hungary	43.3	27.6
Austria	36.7	40.3
Belgium	39.1	37.7
Spain	55.4	14.7
Greece	49.3	27.7
Romania	42.4	41.0
Latvia	43.1	46.1
Lithuania	38.5	53.6

Source: Authors' calculations based on Currie et al (2012).
Note: For Switzerland, data is available only for 15-years old.

iv) Findings from behaviour and lifestyles dimension. Figure 5 shows the behaviour and lifestyles dimension. As in the previous dimension, Nordic and western European countries are found in the best performing group, while southern and Central and Eastern European countries are in the worst performing. The exceptions are represented by Austria, which is in the bottom part of the ranking, and Portugal and Italy which are in the top third. Canada and the United States are in an intermediate position.

Figure 5 *Children's behaviour and lifestyles in rich nations*



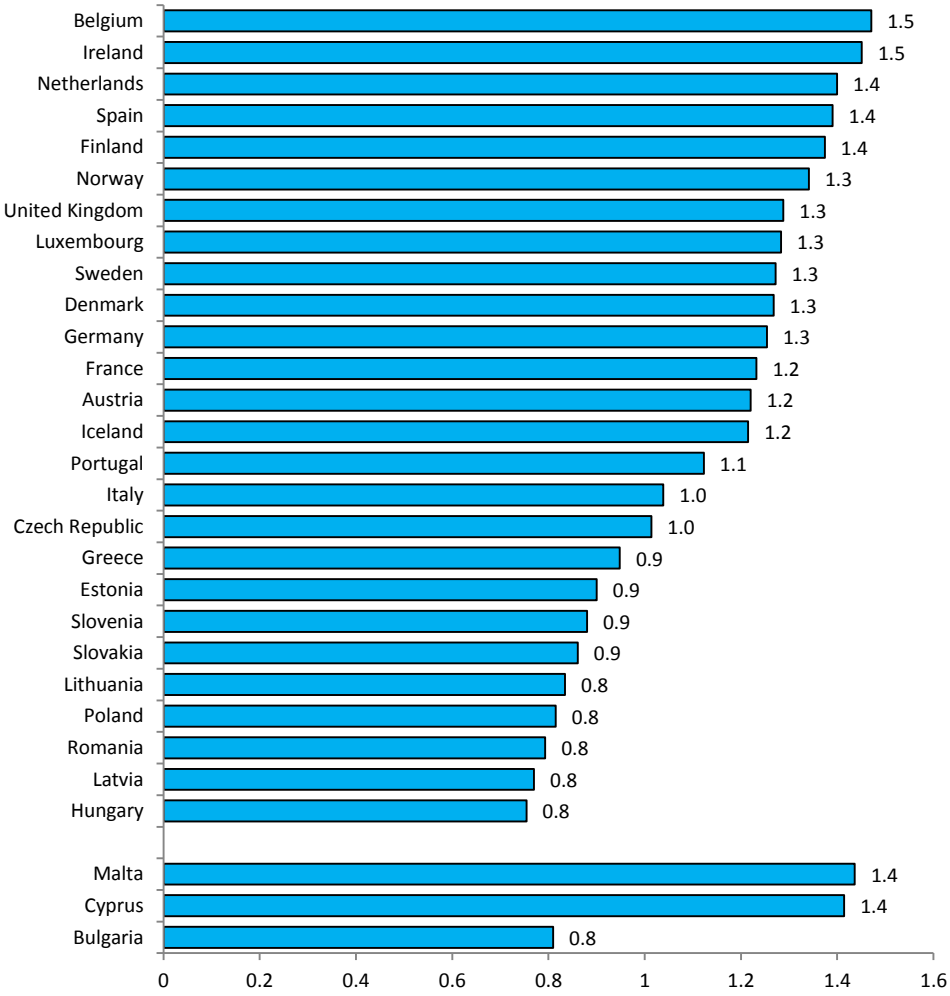
Source: Authors' calculations based on Currie et al (2012) and World Development Indicator database

3.5 Housing and environment

Another important dimension contributing to child well-being is related to the housing and environmental conditions in which children live. Although this dimension was not included in *Report Card 7* due to the absence of comparable data, there was awareness about its significant impact on the development of children and young people. According to the CRC, every child has the right to good living conditions and the opportunity to grow up in a healthy environment. Environmental conditions and child well-being are clearly closely correlated. Indeed, environmental and housing problems are usually related to poor child outcomes and in particular they can negatively impact not only on child health (Shaw, 2004) but also on their educational achievements (Barnes et al., 2010). The housing and environment dimension encompasses three components: overcrowding, housing problems and environmental conditions.

i) Overcrowding. Several studies demonstrate that children living in overcrowded housing could encounter more health, physical, psychological and social problems (Evans, 2006). In particular, the overcrowding indicator refers to the numbers of rooms per person in a household with children. The data are from EU–SILC 2009 and are available for 27 countries of the European Union plus Iceland and Norway. No information is available for Australia, Canada, Japan, New Zealand, Switzerland and the USA. As can be seen in Figure 6, the range lies between 0.8 and 1.5. Central and Eastern European countries suffer more from overcrowding problems in contrast to small or high income countries where the number of rooms available per person is higher than average.

Figure 6 *Rooms per person*

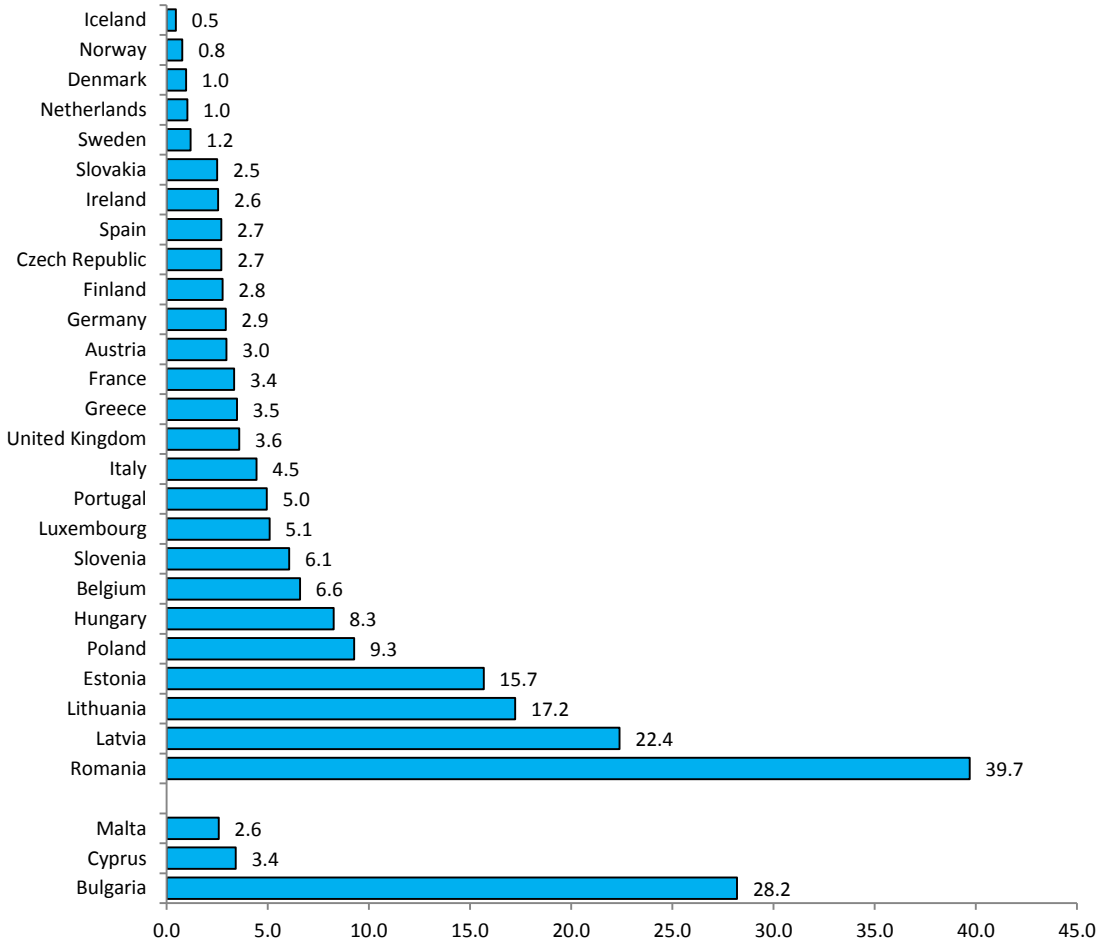


Source: Authors' calculations based on EU-SILC 2009

ii) Housing problems. Bad housing conditions also affect the physical and mental health of children (OECD, 2011c). For example, children living in a dwelling which is too dark could manifest depression or have more difficulties studying (Wilson, 2002). It could also influence the possibility of receiving friends, impacting negatively on engagement in basic social activities (OECD, 2009b). Information on the quality of housing conditions is taken from EU–SILC 2009. They are available for 27 countries of the European Union plus Iceland and Norway. No information is available for Australia, Canada, Japan, New Zealand, Switzerland and the USA.

Figure 7 shows the percentage of children living in households that report more than one housing problem among the following four: 1) leaking roof, damp floor/walls/foundations/rot in windows; 2) too dark dwelling; 3) no bath or shower; 4) no indoor flushing toilet for sole use of the household. As in the previous case, Central and Eastern European countries are in the worst performing group. Romania shows the highest value having almost 4 out of 10 children living in households with housing problems. In contrast, northern European countries are still in the best performing group. In Denmark, Iceland, the Netherlands, Norway and Sweden, less than 2 children out of 10 live in households reporting housing problems.

Figure 7 *Households with children who report more than one housing problem*



Source: Authors' calculations based on EU-SILC 2009

iii) Environmental conditions. This component presents information on the environmental conditions where children grow up. Children's well-being is strongly influenced by growing up in a safe and healthy physical environment. The exposure of children to a violent environment could have negative effects on their physical and psychological development. Due to a lack of available and reliable alternative data, homicide rates (homicides per 100,000 persons) are used to capture information on crime. In particular, the use of homicide rates is preferred over other violent crime measures as it reduces the potential bias in international comparison due to differences in national legislations. Indeed, figures for violent crime are difficult to compare internationally because they are directly affected by different criminal justice systems and differing tolerance and acceptability towards violence across countries and cultures.

Moreover, empirical evidence suggests that there is a high correlation between increased particle concentration, short and long-term exposure, and increased mortality (OECD, 2011b), but also respiratory disease (WHO, 2005). Thus, we use the outdoor air pollution measure (Annual PM10 [$\mu g/m^3$])[6] to capture the healthiness of the environment in which children live.

[6] This indicator measures the annual concentration of fine particulate matter, i.e. particles smaller than 10 microns.

As can be seen in Table 11, in four countries – Estonia, Latvia, Lithuania and the United States – the homicide rate is higher than four points. Four countries – Greece, Italy, Latvia and Romania – are seen to suffer heavily from air pollution. Combining these two different indicators we have the environmental conditions component. As in the previous analysis, Eastern European countries perform worse than other countries, as well as Greece and Italy. In contrast, less populated countries are in the best performing group.

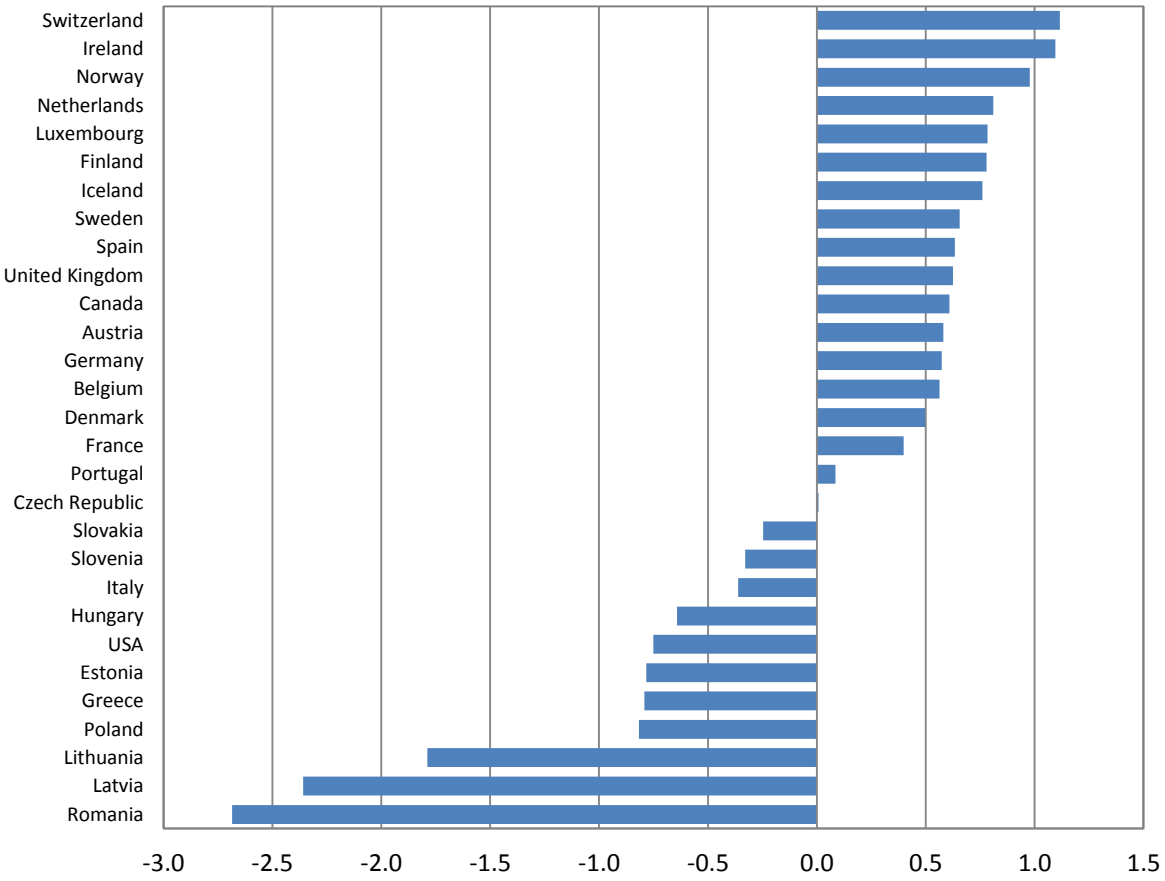
Table 11 *Environment conditions component*

	Crime	Pollution
Luxembourg	1.0	18.0
Ireland	2.1	15.0
Norway	0.6	22.0
Switzerland	0.7	22.0
Iceland	0.3	24.0
Austria	0.5	25.0
United Kingdom	1.2	23.0
Finland	2.2	19.0
Germany	0.9	25.0
Canada	1.8	21.0
Sweden	1.0	25.0
Netherlands	1.1	26.0
France	1.1	27.0
Slovenia	0.6	30.0
Spain	0.9	29.0
Hungary	1.4	27.0
Denmark	1.4	27.0
Portugal	1.2	28.0
Czech Republic	1.0	29.0
Belgium	1.7	26.0
Slovakia	1.6	27.0
Estonia	5.2	11.0
Poland	1.3	33.0
United States	5.0	18.0
Italy	1.0	37.0
Greece	1.3	44.0
Romania	2.0	42.0
Lithuania	7.5	21.0
Latvia	4.8	39.0
Australia	1.3	13.0
Bulgaria	2.0	60.0
Cyprus	1.5	53.0
Japan		22.0
Malta	1.0	35.0
New Zealand	1.5	15.0

Source: Authors' calculations based on EU-SILC 2009

iv) Findings from the housing and environment dimension. Figure 8 shows the housing and environment dimension. Less populated countries are among the best performers. Switzerland is in first position followed by Ireland and Norway. On the other hand, Central and Eastern European countries plus Greece, Italy and the United States are in the worst performing group.

Figure 8 *Housing and environment in rich nations*



Source: Authors' calculations

3.6 Child well-being index

Table 15 presents the main findings of the analysis. The child well-being index is given by the average rank of the five dimensions assessed: namely, material deprivations, health, education, behaviour and risks, housing and environment.

The Netherlands heads the overall index ranking. This country ranks first in three out of the five dimensions considered for the child well-being while it is among the top five performers in the remaining dimensions. Nordic countries (excluding Denmark) are in the best performing group along with Belgium, Germany, Ireland, Luxembourg and Switzerland.

At the bottom of the ranking, Romania and the United States are always in the worst performing group. Also, Latvia and Lithuania perform relatively worse than the average since they are in the bottom of the ranking in four out of five dimensions.

Table 15 *Child well-being rank in rich nations with and without subjective well-being*

	Material Situation	Health	Education	Behaviour	Housing and environment	Child well-being index
Netherlands	1	5	1	1	4	2.4
Norway	3	7	6	4	3	4.6
Iceland	4	1	10	3	7	5.0
Finland	2	3	4	12	6	5.4
Sweden	5	2	11	5	8	6.2
Germany	11	12	3	6	13	9.0
Luxembourg	6	4	22	9	5	9.2
Switzerland	9	11	16	11	1	9.6
Belgium	13	13	2	14	14	11.2
Ireland	17	15	17	7	2	11.6
Denmark	12	23	7	2	15	11.8
Slovenia	8	6	5	21	20	12.0
France	10	10	15	13	16	12.8
Czech Republic	16	8	12	22	18	15.2
Portugal	21	14	18	8	17	15.6
United Kingdom	14	16	24	15	10	15.8
Canada	15	27	14	16	11	16.6
Austria	7	26	23	17	12	17.0
Spain	24	9	26	20	9	17.6
Hungary	18	20	8	24	22	18.4
Poland	22	18	9	19	26	18.8
Italy	23	17	25	10	21	19.2
Estonia	19	22	13	26	24	20.8
Slovakia	25	21	21	18	19	20.8
Greece	20	19	28	25	25	23.4
USA	26	25	27	23	23	24.8
Lithuania	27	24	19	29	27	25.2
Latvia	28	28	20	28	28	26.4
Romania	29	29	29	27	29	28.6

4. LIMITS

Notwithstanding the improvements carried out with respect to Report Card 7, a number of problems still remain. Some problems are common to the previous Report Card such as the age of children included in the analysis, the inability to cover all dimension of child well-being and to represent the conditions of all children.

With respect to the age of the children, there is a clear bias to the adolescent period. This situation is linked to the fact that the major source of the analysis is Currie et al (2012). They used data from the HBSC survey which is a sample of 11, 13 and 15-year-olds.

The second problem is the inability – or better – the impossibility to cover all dimensions of child well-being. Although we overcome one of the shortcomings of the previous Report Card thanks to the inclusion of the dimension "housing and environment" several dimensions characterizing child well-being are still not represented in this Report Card.

Both Report Card 11 and 7 lack any information on some of the most vulnerable groups due to data constraints, although such children should also be included according to the CRC. Indeed, most of the statistics presented throughout the Report Card are based on household survey data. Large scale household surveys, however, do not usually collect data on children living outside the household or family care settings such as children living on the street (homeless) and children living in institutions (UNICEF, 2006; UNICEF, 2003; Carr-Hill, 2012); leaving 'institutionalised' children out means that children in different types of facilities – such as orphanages, care facilities, military bases, jails, juvenile detention centres, and so on – are not captured (UNICEF, 2006; UNESCO, 2006). Other children that are *excluded* – with rare exceptions – from household surveys *by design* (Carr-Hill, 2012) are: highly mobile, nomadic or pastoralist populations (Carr-Hill, 2012; EFA, 2006) and internally displaced persons and refugees (UNESCO, 2006). These indeed are not usually within the sampling frame of such surveys.

Finally, measurement error is another problem common to this kind of analysis. In particular, if measurement error occurs unequally in the comparison populations, results could be biased. The variation recorded across countries will therefore be driven by measurement error rather than by real differences. For instance, the use of infant mortality and low birthweight raises the issue of international comparability. Some of the variation across countries in infant mortality rates and low birth weight is due to differences in registration of live births, deaths and stillbirths (in particular registration of very small infants – less than 500 g – at the borderline of survival). Although variations in registration of births might potentially compromise the validity of international rankings, no consensus has been reached on the extent of these differences and on how to most appropriately adjust data to take account of them (Joseph et al., 2012). Notwithstanding some of the issues highlighted, the paper still relies on these indicators as they are the best available data and represent a crucial dimension of child well-being.

5. CONCLUSIONS

This paper compares the well-being of children across the most economically advanced countries of the world. It discusses the methodological issues involved in comparing children's well-being across countries and explains how a Child Well-being Index is constructed to rank countries according to their performance in advancing child well-being. The index uses 30 indicators combined in 13 components, again summarised in 5 dimensions for 35 rich countries. Data from various sources are combined to capture aspects of child well-being: material well-being, health, education, behaviour and risks, housing and environment. The scores for the countries on all variables and combinations of variables are discussed in detail.

It is striking to see that most countries have at least some or several dimensions or components that show a relatively disappointing performance. Some countries do relatively well on most dimensions (the Netherlands and the Scandinavian countries, except Denmark) and some countries perform relatively badly on most dimensions and components (Bulgaria, Romania, the United States). The Child Well-being Index and the results on its dimensions, components and indicators reveal that serious differences across countries exist, suggesting that in many countries improvement could be made in the quality of children's lives.

This paper is complemented by two others: one discussing the changes in child well-being during the first decade of the 21st century (Martorano et al., 2013) and one discussing child subjective well-being and its relationship with the Child Well-being Index presented in this paper (Bradshaw et al., 2013).

Data and sources for all dimensions – late 2000s					
Dimension name	**Component name**	**Indicator description**	**Date(s)**	**Source(s)**	**Countries missing**
Material well-being	Monetary deprivation	***Child poverty rate*** % children 0-17 in households with equivalent income (modified OECD equivalent scale) less than 50% median	Data refer to 2010 with the exception of: Australia (2009), Canada (2009), Japan (2011), New Zealand (2009 - 2010) and USA (2007).	Eurostat for the European countries. For Australia, the microdata are from the Household Income and Living Dynamics in Australia (HILDA) 2009. For Canada, the source is the Survey on Labour and Income Dynamics (SLID) 2009. Data for New Zealand are taken from Perry (2011) based on the 2009–2010 Household Economic Survey. The poverty statistics for Japan have been derived from Cabinet Office, Gender Equality Bureau (2011) which elaborates the microdata from the 2010 Comprehensive Survey of Living Conditions of the ministry of Health, Labor and Welfare. The source used for the United States of America is the Panel Study on Income Dynamics (PSID) 2007. Lastly, for Australia, Canada and the United States, the income data used are those standardized in the Cross National Equivalent File (CNEF) released by Cornell University and partner institutions.	
		Child poverty gap Average % gap between equivalent income (modified OECD equivalent scale) of households with children 0-17 below the 50% median threshold and the poverty threshold	Data refer to 2010 with the exception of: Australia (2009), Canada (2009), Japan (2011), New Zealand (2009 - 2010) and USA (2007).	Eurostat for the European countries. For Australia, the microdata are from the Household Income and Living Dynamics in Australia (HILDA) 2009. For Canada, the source is the Survey on Labour and Income Dynamics (SLID) 2009. Data for New Zealand are taken from Perry (2011) based on the 2009–2010 Household Economic Survey. The poverty statistics for Japan have been derived from Cabinet Office, Gender Equality Bureau (2011) which elaborates the microdata from the 2010 Comprehensive Survey of Living Conditions of the ministry of Health, Labor and Welfare. The source used for the United States of America is the Panel Study on Income Dynamics (PSID) 2007. Lastly, for Australia, Canada and the United States, the income data used are those standardized in the Cross National Equivalent File (CNEF) released by Cornell University and partner institutions.	
	Material Deprivation	***Lacking child items*** % children 1-16 in households lacking 2 or more out of 14 child deprivation items	2009	Report Card 10 analysis. EU SILC 2009	Countries not covered by EU SILC: Australia, Canada, Japan, New Zealand, Switzerland, USA
		Family affluence scale % 11, 13 and 15 year olds with low family affluence scale (FAS).	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.

Dimension name	Component name	Indicator description	Date(s)	Source(s)	Countries missing
Health and safety	Health at birth	***Infant mortality*** Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year	2010	World Development Indicators	
		Low birth weight % births under 2500 grams	The data refer to 2009, with some exceptions: for Belgium and Netherlands data refer to 2008; for France data refer to 2007.	OECD STATS at http://stats.oecd.org/	Non OECD countries: Bulgaria, Cyprus, Latvia, Lithuania, Malta, Romania.
	Child mortality	***All child deaths between ages 1-19*** All child death between 1 - 19. Age-standardized death rate per 100,000	Data refer to 2010 with the exception of: France, Greece, Hungary, Iceland and Italy for which data refer to 2009; Belgium and Denmark for which data refers to 2006.	EU - WHO data. European Mortality database	Data are missing for Australia, Canada, Japan, New Zealand and USA.
	Immunisation rates	***Measles*** Measles immunization, % children aged 12-23 months	2010	Immunization Summary for 2010 data (the 2012 edition) – jointly produced by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO)	
		DPT3 DPT3 immunization, % children aged 12-23 months	2010	Immunization Summary for 2010 data (the 2012 edition) – jointly produced by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO)	
		Polio Pol3 immunization, % children aged 12-23 months	2010	Immunization Summary for 2010 data (the 2012 edition) – jointly produced by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO)	

Dimension name	Component name	Indicator description	Date(s)	Source(s)	Countries missing
Education	Educational achievement	***Maths literacy*** Mean maths literacy score	2009	OECD PISA (2009) reported in EdStats World Bank	Malta, Cyprus
		Science literacy Mean science literacy score	2009	OECD PISA (2009) reported in EdStats World Bank	Malta, Cyprus
		Reading literacy Mean reading literacy score	2009	OECD PISA (2009) reported in EdStats World Bank	Malta, Cyprus
	Educational participation	***Early childhood education*** % of the age group between 4-years-old and the starting age of compulsory education	The data refer to 2010	Eurostat	Australia, Canada and New Zealand
		Staying on Enrolment rates of 15-19 year-olds	The data refer to 2009 with the exception of Greece and Luxembourg (2008).	OECD (2011), Education at a Glance 2011. Data for non OECD countries (Bulgaria, Cyprus, Latvia, Lithuania, Malta, Romania) data are from EUROSTAT	
		NEET Young people not in employment and not in any education and training (in % points of NEET rates)	The data refer 2009 and 2010 for countries with data extracted from EUROSTAT with the exception of Luxembourg (2009)	OECD (2011), Education at a Glance 2011 and EUROSTAT for Bulgaria, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Norway and Romania	Iceland and Japan

Dimension name	Component name	Indicator description	Date(s)	Source(s)	Countries missing
Behaviour and lifestyles	Experience of violence	***Fighting*** Percentage of young people age 11, 13 and 15 who report having been involved in fighting in the previous twelve months	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
		Being bullied Percentage of young people age 11, 13 and 15 who report being bullied at least once in the past couple of months	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
	Health behaviour	***Obesity*** % aged 11, 13 and 15 who are overweight according to BMI	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
		Eating fruit % aged 11,13, 15 who eat fruit daily	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
		Eating breakfast % aged 11, 13, 15 who eat breakfast every school day	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
		Physical exercise % aged 11, 13, 15 who report at least one hour of moderate-to-vigorous physical activity daily	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
	Risk Behaviour	***Adolescent fertility rate*** Adolescent fertility rate (births per 1,000 women ages 15-19)	2009	World Development Indicators	
		Smoking Percentage of students age 11, 13 and 15 who smoke cigarettes at least once a week	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
		Drink Percentage of students age 11, 13 and 15 who report having been drunk on more than two occasions	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.
		Cannabis Percentage of students age 15 who report having used cannabis in the last 12 month	2009/2010	Currie C, Zanotti C, Morgan A et al. (2012) Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. Copenhagen: World Health Organization.	Australia, Bulgaria, Cyprus, Japan, Malta, New Zealand.

Dimension name	Component name	Indicator description	Date(s)	Source(s)	Countries missing
Housing and environment	Overcrowding	***Rooms*** Rooms per person	2009	EU-SILC 2009	All countries not covered by EU SILC: Australia, Canada, Japan, New Zealand, Switzerland, USA
	Environment	***Crime*** Homicide rate (homicides per 100,000 persons)	2009	EUROSTAT	Japan
		Air pollution Outdoor air pollution (Annual PM10 [ug/m^3])	2008 for all countries with the exception of Australia 2009 and Cyprus and Malta 2007	WHO database	
	Housing problems	***Children report more than one housing problem*** Households with children who report more than one housing problem	2009	EU-SILC 2009	All countries not covered by EU SILC: Australia, Canada, Japan, New Zealand, Switzerland, USA

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