

Chapter 4

Child Poverty and Child Well-Being in International Perspective

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4.1 Background

It is as well to start with a few definitions.

Child poverty is children who lack material resources. It may be a relative lack of material resources or a more absolute shortage. A lack of material resources can be measured in a variety of different ways: by counting the number of households below an income or expenditure threshold (the poverty rate or (to use the European Union usage the at-risk of poverty rate); by measuring the average distance between net income and expenditure and the poverty threshold (the poverty gap); by using indicators of deprivation – lacking socially perceived necessities (items and activities); or subjectively – feeling poor, having difficulty making ends meet.

Child well-being is a broader, multi-dimensional notion. It may be assessed using indicators of child poverty/lack of material resources but it may also include child mental and physical health, child education, the child's housing and environment, subjective well-being and relationships and risk and safety.

The first UNICEF (2000) Innocenti Report Card was a league table of child poverty in rich nations. The next five UNICEF Innocenti league tables were on: child deaths by injury (RC2); teenage births (RC3); educational disadvantage (RC4); child maltreatment deaths (RC5); and child poverty again (RC6). RC7 (UNICEF 2007) was the first to mention *child well-being*, but was sub-titled *Child poverty in perspective* as if the heart of the matter was still child poverty. Child poverty was again the theme in RC10 (UNICEF 2010).

Money metrics also remain the measure of choice for the World Bank, the Luxembourg Income (sic) Study, and the European Union, in its 2020 Poverty and

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Social Inclusion Strategy (though deprivation and employment are also included in the targets (and see also TARKI (2010)). Although OECD (2009) has published a multi-dimensional index of child well-being in *Doing Better for Children*, prior to that, their Family Database routinely headlined child income poverty rates.

One motive for developing multi-dimensional measures of child well-being was anxieties (for example Bradshaw and Mayhew 2011) about the reliability and validity of child income poverty rates, especially at international level. These include:

- Income is difficult for respondents to recall accurately in sample surveys, especially if one respondent is providing the information for the whole household.
- Income is only an indirect indicator of command over resources and does not take account of dis-savings, borrowing, home production, gifts.
- Income has to be adjusted to take account of the needs of different households using equivalence scales, which have little or no empirical justification.
- It is assumed that income is shared within households – that children receive their fair share and only their fair share.
- Disability and age related costs are not taken into account.
- Poverty is then defined using an income threshold, commonly 50 or 60 % of median, which has no particular justification.
- It also varies considerably in value between countries. So for example in the EU Statistics on Income and Living conditions (EU SILC) in 2012 Denmark's 60 % of median poverty threshold was €15,984 per year and Bulgaria's was €1,716 per year – hardly comparing like with like living standards.
- Perhaps a final death blow has been the fact that a number of rich countries have experienced falling median incomes since the crisis in 2008,¹ resulting in falling child poverty rates, despite the poor's living standards falling in real terms.

This latter problem has been an excuse the UK Coalition Government (DWP 2012) has tried to employ to seek to abandon their Child Poverty Act target measures based on an income threshold, in favour of an alternative (bizarre) set of indicators. It is also one reason that there has been growing interest in deprivation indicators (Guio et al. 2012), including child based deprivation indicators (Main and Bradshaw 2012).

Does child income poverty matter?

¹In the EU the at-risk-of-poverty threshold fell between 2008 and 2012 in Greece, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Spain and the UK (see Figure 12 2013 EU Social Protection Committee's report on the social situation in the EU ("Social Europe: many ways, one objective") <http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=7695&type=2&furtherPubs=yes>)

That question is absurd. There is a huge literature demonstrating the consequences of child poverty for health, education, employment, behaviour, family and personal relationships and subjective well-being (for a recent UK review see Griggs and Walker 2008) and (again for the UK) the Joseph Rowntree Foundation (Hirsch 2008) concluded that child poverty costs the UK at least £25 billion a year, including £17 billion that could accrue to the Exchequer if child poverty were eradicated.

So let us ask a rather different question: how good an indicator of child well-being is a measure of income poverty at an international level? That question has been tackled before by Bradshaw and Richardson (2008) drawing on the earliest indices of child well-being they had produced for the CEECIS (Richardson et al. 2008) and EU countries (Bradshaw et al. 2007; Bradshaw and Richardson 2009). They found that child income poverty was related to the other domains of child well-being and to overall well-being. But it was not the most closely associated indicator – that was the adolescent fertility rate in the EU and OECD countries, and the percentage of women without knowledge of HIV/AIDS in the CEECIS countries. These findings were based on data derived in the early 2000s, and sometimes earlier. In 2013 Innocenti RC 11 (UNICEF Office of Research 2013; Martorano et al. 2013; Bradshaw et al. 2013; Klocke et al. 2014) was published, replicating the comparative analysis of child well-being they had published in RC7 in 2007, with more countries and slightly different indicators. The next part of this chapter analyses the data focusing on the relationship between the income poverty and the other domains of child well-being.

4.2 Domains, Components and Indicators

The league table in UNICEF Innocenti RC11 was based on five domains, made up from 12 components, made up from 26 indicators (for further details see UNICEF Office of Research 2013). The analysis in this chapter includes an extra domain – subjective well-being – made up of four components and eight indicators. Subjective well-being had been treated separately in RC11 (Bradshaw et al. 2013) in order to distinguish it from the more objective indicators, but it is added back here because the focus is income poverty. Table 4.1 presents a summary of the domains, components and indicators.

Table 4.2 gives the rank order on each of the domains and the average overall rank order (Australia, Japan and New Zealand are not included because of too much missing data). The first observation to note for the purposes of this analysis is that although the rank on material well-being does not coincide with the overall rank, there is nevertheless some degree of coincidence – the top five countries on material well-being are also the top five countries on overall well-being. There is also coincidence with the bottom four countries.

Table 4.1 Child well-being: domains, components, indicators

Domains	Components	Indicators
Material well-being	Monetary poverty	Relative child poverty rate
		Relative child poverty gap
	Material deprivation	Deprivation index
		Low family affluence rate
Health	Health at birth	Infant mortality rate
		Low birth-weight rate
	Preventive health	Overall immunization rate
	Childhood mortality	Child death rate (age 1–19)
Education	Participation	Participation rate: early childhood education
		Participation rate: further education (age 15–19)
		NEET rate (% age 15–19 not in education, employment or training)
	Achievement	Average PISA scores in reading, maths and science
Behaviours and risks	Health behaviours	Being overweight
		Eating fruit
		Eating breakfast
		Taking exercise
	Risk behaviours	Teenage fertility rate
		Smoking
		Alcohol
		Drugs
	Exposure to violence	Bullying
Fighting		
Housing and environment	Housing	Persons per room
		Multiple housing problems
	Environmental safety	Homicide rate
		Air pollution
Subjective well-being	Life satisfaction	Life satisfaction
	Relationships	Easy to talk to mothers
		Easy to talk to fathers
		Classmate are kind and helpful
	Subjective education	Pressured by school work
		Young people liking school a lot
Subjective health	Health fair or poor	

4.3 Statistical Analysis

The next stage of the analysis is to explore these relationships more formally statistically. Table 4.3 presents the rank order correlation of material well-being with the other domains and with overall well-being, including and excluding material

Table 4.2 Child well-being rank in rich nations by domain and overall average

	Material	Health	Education	Behaviour	Housing and environment	Subjective	Overall well-being (average) rank
Netherlands	1	5	1	1	4	1	2.2
Iceland	4	1	10	3	7	2	4.5
Norway	3	7	6	4	3	10	5.5
Finland	2	3	4	12	6	11	6.3
Sweden	5	2	11	5	8	7	6.3
Germany	11	12	3	6	13	5	8.3
Switzerland	9	11	16	11	1	8	9.3
Luxembourg	6	4	22	9	5	16	10.3
Slovenia	8	6	5	21	20	3	10.5
Denmark	12	23	7	2	15	9	11.3
Ireland	17	15	17	7	2	12	11.7
Belgium	13	13	2	14	14	15	11.8
France	10	10	15	13	16	22	14.3
Austria	7	26	23	17	12	4	14.8
Portugal	21	14	18	8	17	14	15.3
Spain	24	9	26	20	9	6	15.7
United Kingdom	14	16	24	15	10	20	16.5
Czech Republic	16	8	12	22	18	24	16.7
Hungary	18	20	8	24	22	13	17.5
Canada	15	27	14	16	11	25	18.0
Poland	22	18	9	19	26	27	20.2
Estonia	19	22	13	26	24	17	20.2
Italy	23	17	25	10	21	28	20.7
Slovakia	25	21	21	18	19	21	20.8
Greece	20	19	28	25	25	18	22.5
Latvia	28	28	20	28	28	19	25.2
Lithuania	27	24	19	29	27	26	25.3
USA	26	25	27	23	23	29	25.5
Romania	29	29	29	27	29	23	27.7

Table 4.3 Correlation coefficients of material well-being and all the other domains

Health	.630*
Education	.540*
Subjective	.664*
Behaviour	.588*
Housing	.664*
Overall well-being	.823*
Overall excluding material	.719*

(In all the correlation analysis *Correlation is significant at the 0.01 level (2-tailed))

Table 4.4 Correlation matrix of the material well-being indicators

	Child poverty rate	Child poverty gap	Lacking child items	Family affluence scale
Child poverty rate	1	.632**	.806**	.740**
Child poverty gap		1	.401*	.531**
Lacking child items			1	.876**
Family affluence scale				1

*significant at the 0.05 level; **significant at the .01 level

Table 4.5 Correlation matrix of material wellbeing indicators and the other domains of well-being

	Health	Education	Subjective	Behaviour	Housing	Overall wellbeing	Overall well-being excluding material
Child poverty rate	-.592**	-.650**	-.713**	-.648**	-.545**	-.826**	.780**
Child poverty gap	-.369*	-.421*	-.424*	-.278	-.414*	-.520**	.389*
Lacking child items	-.728**	-.428*	-.656**	-.757**	-.857**	-.873**	.857**
Family affluence scale	-.646**	-.496**	-.652**	-.790**	-.794**	-.894**	.854**

*significant at the 0.05 level; **significant at the .01 level

well-being. It shows a strong correlation between material well-being and all the other domains. The closest association is with housing and the environment and the weakest with education. Even when the material well-being indicators are dropped from the calculation of the overall well-being there remains a strong correlation with material well-being.

However material well-being is made up of two components and four indicators, only one of which is the relative income poverty rate. Table 4.4 shows the correlation coefficients of the indicators in the material domain. The strongest association is between the two deprivation indicators – the Family Affluence scale and the percentage lacking child deprivation items. There is also a fairly strong association between the child poverty rate and the child poverty gap and between the child income poverty rate and both the deprivation indicators.

Table 4.5 explores the relationship between each of the material well-being indicators and the other domains of child well-being. The relative child income poverty rate is associated with all the other domains of child well-being and it is interesting that it also has a stronger association with the education and subjective well-being domains than (the more absolute) deprivation indicators do. It is also strongly associated with overall child well-being and also when overall well-being excludes all

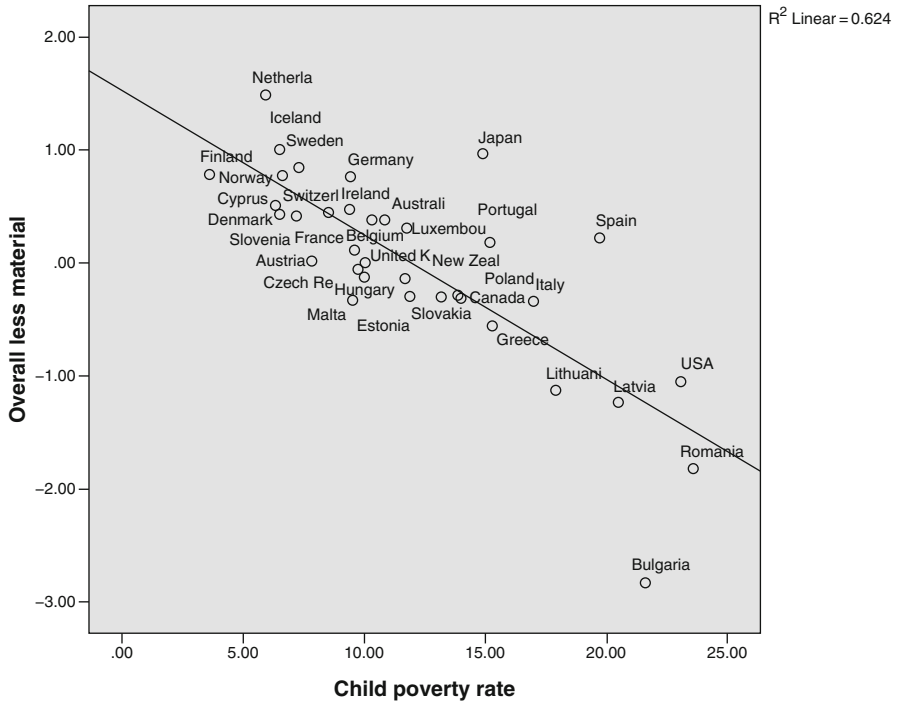


Fig. 4.1 Relative child income poverty rate by overall child well-being excluding material well-being

of the material indicators. It is interesting that the child poverty gap has the weakest association with the other domains. This may be because the child poverty gap may not be a very reliable indicator.

The association between the child poverty rate and overall well-being excluding the material domain is given in Fig. 4.1. The relative child income poverty rate explains 62 % of the variation in overall child well-being. This analysis includes a number of countries (Japan, Canada, Australia and New Zealand) which were not listed in the Table 4.2 because they have missing data. The countries to the right of the diagonal have higher child well-being than you would expect given their child poverty (including the USA, Spain and Japan). The countries to the left have lower well-being than you would expect given their child poverty (including Finland, Hungary, Malta and Bulgaria). Clearly it is not just relative income poverty that is determining overall well-being but it is still quite strongly and, given it is a relative measure, surprisingly associated with overall well-being.

The slightly stronger association between Family Affluence and overall well-being less material is shown in Fig. 4.2. It is partly a function of Romania being an outlier on the FAS (Family Affluence Scale).

The relative child income poverty rate does not have the strongest association with overall child well-being. The two indicators with the strongest association with overall child well-being

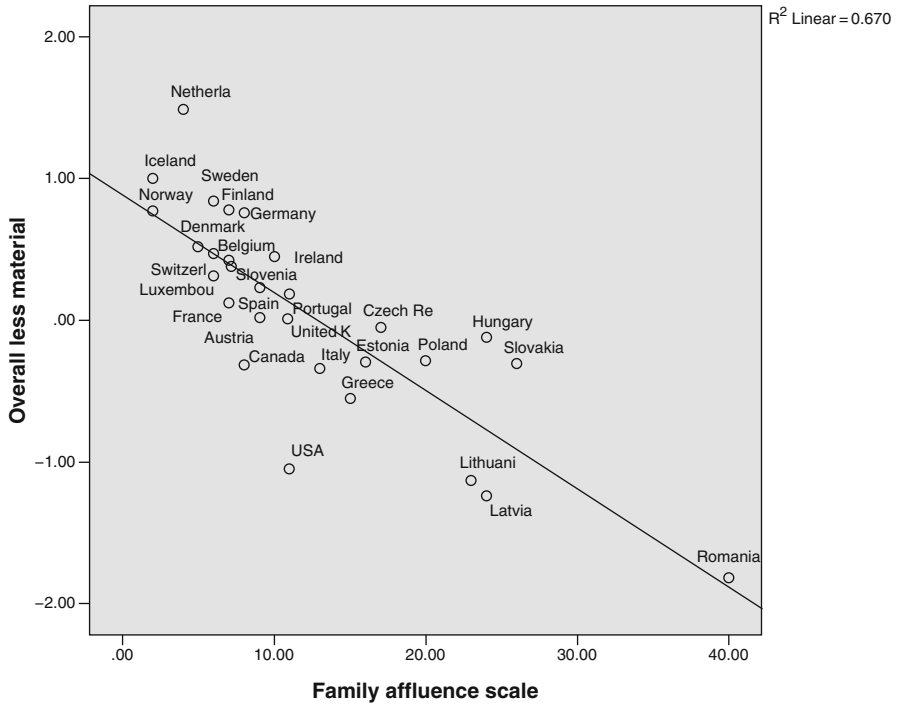


Fig. 4.2 Family affluence by overall child well-being excluding material well-being

Table 4.6 Single indicators with the strongest association with overall child well-being

Indicator	Correlation with overall child well-being
Family affluence scale	-.894**
Lacking child deprivation items	-.873**
Child poverty rate	-.826**
All child death under 19	-.806**
Housing problems	-.764**
Infant mortality rate	-.726**
Teenage fertility rate	-.681**
Maths attainment	-.667**
Life satisfaction score	-.632**

** significant at the .01 level

overall well-being are the deprivation indicators – the Family Affluence Scale and the lacking child deprivation items. This may be because they are direct indicators of lack of resources. The top nine single indicators with the closest association with overall well-being are listed in Table 4.6. The relative child income poverty rate has the third strongest association. It is stronger than the teenage fertility rate which was the most powerful single indicator in the earlier analysis (Bradshaw and Richardson 2008).

Table 4.7 Regression model of variation in overall well-being less material

	Model 1 beta	Model 2 beta	Model 3 beta
(Constant)			
Child poverty rate	-.790***	-.417**	-.355***
All child death under 19		-.556***	-.456***
Life satisfaction			.286**
Adjusted R squared	0.61	0.81	0.92

** significant at the .01 level; *** significant at the 0.001 level

Table 4.7 presents three models explaining variation in child well-being using the individual indicators. The child poverty rate explains 62 % of the variation but the best fit is a combination of the child poverty rate, all child deaths under 19 and life satisfaction which explains 92 % in the variation in overall well-being less the material domain.

As we have seen in the earlier figures these correlation and regression coefficients are also influenced by outliers. The coefficients are being dragged upwards by some former communist countries in the EU – particularly Romania and Bulgaria, but also in Fig. 4.1 the USA. The results will also be influenced to some extent by the number of countries in the analysis, which varies due to missing data. Also the single indicators are not independent of overall well-being, and they contribute different proportions to it. For example life satisfaction and the under 19 mortality rate contribute one sixteenth to overall well-being, because they are single indicators for a component. In contrast the teenage fertility rate contributes one 64th because it is one of four indicators making up a component.

Yet given that the income child poverty rate is a relative measure, the association in Fig. 4.1 is quite remarkable. It means that the relative position of children in the income distribution, whatever the absolute level of income of a country, may be associated with a range of child outcomes that we use to represent child well-being. This finding has resonance with the hypothesis in *The Spirit Level* (Wilkinson and Pickett 2010) who argue that inequality is sickening for societies. The association between overall child well-being and inequality measured by the Gini coefficient² is shown in Fig. 4.3. There is an association but it is not quite as strong as the association with child poverty shown in Fig. 4.1. This suggests that relative child income poverty may (not surprisingly) be a more salient influence on child well-being than overall inequality. However, although they are both measures of the income distribution, the Gini coefficient focuses more on the middle of the distribution while relative poverty focuses more on the bottom of the distribution.

This is confirmed by the linear regression of overall child well-being less the material domain results presented in Table 4.8. After taking account of the relative income child poverty rate income the Gini coefficient adds nothing to the model.

²The Gini coefficients for the EU countries were taken from the Eurostat database for 2012 http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database. For the non EU countries they were OECD data for the late 2000s.

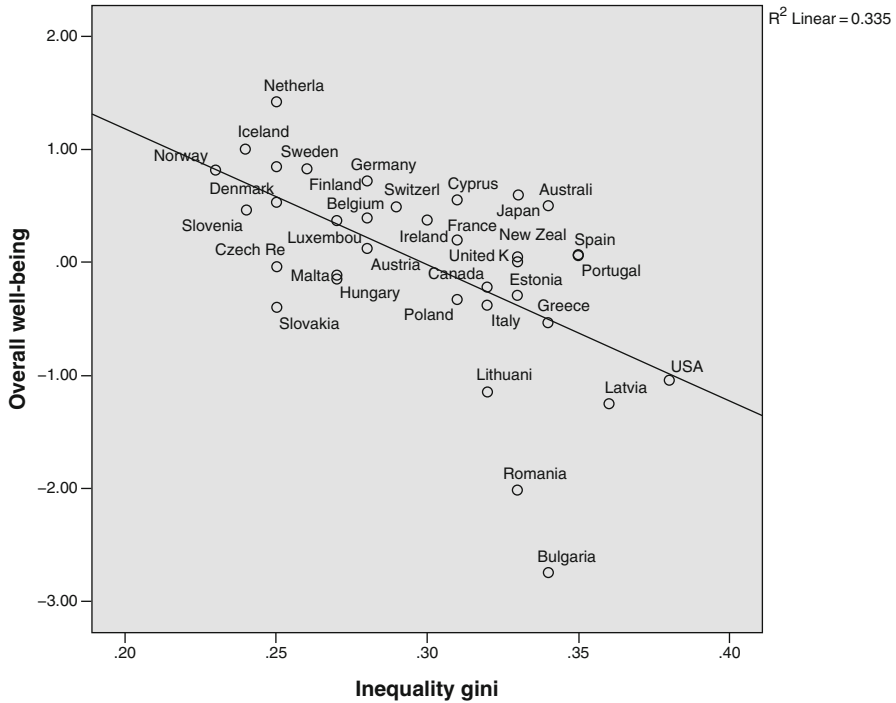


Fig. 4.3 Overall child well-being by income inequality

Table 4.8 Linear regression of overall child well-being less the material domain

	Model 1 beta	Model 2 beta
(Constant)		
Child poverty rate	-.886**	-.801**
Inequality	.125 ns	.150 ns
GDP per capita		.261*
Adjusted R squared	0.61	0.65

* significant at the 0.05 level; ** significant at the .01 level

Adding GDP per capita³ as an indicator of the overall wealth of the country adds very little to explaining the variation in overall well-being.

4.4 Conclusions

It is clear from this analysis that material resources are strongly associated with child well-being at the country level. The level of deprivation is the most important determinant but after that the relative income poverty rate explains more of the

³ Derived from the Eurostat data base (Canada, Australia and New Zealand not included in Model 2).

variation in overall well-being than any other single indicator. There is some irony in this finding. After all, one motive for developing multidimensional indices of child well-being was dissatisfaction with the relative income poverty measure in international comparisons. Yet we end up finding it is strongly associated with the multidimensional index, even when the material well-being indicators are excluded. This suggests that child well-being has a strong relative component – children experience well-being relative to their national peers and not just in relation to their absolute objective circumstances.

Clearly, despite all its faults, it would be a mistake to give up on the relative income poverty rate in measuring child well-being at an international level. Though it is also still the case – no single indicator is sufficient to describe all of child well-being.

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