# Child poverty and children's subjective well-being.

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## Abstract

This article examines the relationship between child poverty and children's subjective well-being on the range of domains identified by Rees et al (2010) in the Good Childhood Index. Data are taken from a school-based survey of children in England. Child poverty is measured using a child-derived index of material deprivation (proposed by Main and Bradshaw, 2012) and indicators of children living in households likely to qualify for minimum income benefits. After a review of relevant literature to provide background to the study, the relationship between material deprivation, qualification for minimum income benefits and various domains of children's subjective well-being are examined. Finally, a more detailed analysis is performed on the relationship between poverty and children's subjective well-being in the domains of family and choice, as relationships were found to be strongest in these domains. Findings show that poverty is an important predictor of subjective well-being and that the child-derived index is more successful than household qualification for minimum income benefits in explaining variation in Rees et al's (2010) Good Childhood Index domains. This lends support to Cummins's (2000) argument that the relationship between income and subjective well-being exists but is confounded by mediating factors. The domains in which the association to material deprivation is especially strong – family and choice - are identified by Rees et al (2010) as amongst the most strongly associated with overall subjective well-being.

Key words: Children; subjective well-being; poverty; material deprivation; child-derived

## *The importance of studying subjective well-being*

The past few decades have seen an increase in academic interest in subjective well-being; Diener et al (1999) outline progress over the last three decades of the last century.  Casas (2011) points to the Social Indicators Movement, beginning in the 1960s, as instrumental in the increased focus on subjective as well as objective facets of well-being.  In the arena of social policy, much of this interest relates to Easterlin's (1974) finding that the relationship between happiness and Gross Domestic Product (GDP) only holds up to a fairly low level, and that in richer societies gains in GDP are not accompanied by commensurate gains in happiness and social well-being.  Wilkinson and Pickett (2010) add to this in their research demonstrating that subjective well-being, along with many domains of objective well-being such as health outcomes and crime rates, are much more strongly related to the level of (in)equality in a society rather than the level of wealth, with more equal societies faring better.  Internationally, Stiglitz et al (2008) recommended the collection and publication of measures of subjective well-being to complement national measures of other aspects of well-being, and the OECD (2013) issue guidance on how to implement this.  Within the UK, the push for social policy to incorporate a concern with subjective well-being as well as more objective facets of well-being has been in large part driven by Layard (2011, first edition 2005).  The prime minister at the time of writing, David Cameron (2010), announced plans in 2010 to begin measuring national well-being and the Office of National Statistics (ONS) now runs a National Well-being Programme aimed at measuring subjective well-being (see Beaumont, 2013 for some early findings from this programme relating to children's well-being).

## *Studying the subjective well-being of children*

The importance of studying subjective well-being, then, is increasingly acknowledged.  However, where children are concerned, whilst there is no shortage of research into objective facets of child well-being such as educational attainment and child health, Casas (2011) points out that subjective well-being has often been neglected.  He postulates that one of the causes of this is the lack of political importance attributed to children's own points of view.  But as Ben-Arieh (2007) notes, there is an increasing recognition that childhood should be studied with a consideration of the rights of children, and with an acknowledgement that childhood is a stage of relevance in its own right, rather than just a journey towards adulthood.  This raises the question of how to study children and childhood – many surveys to date have relied on parental proxies on the assumption that parents can provide more reliable responses than children (Hendershot, 2004).  Casas (2011) reports that studies of subjective well-being and quality of life have often found that those assumed to be 'experts' frequently report very different views to those they are assumed to be expert on – including the use of parents as 'experts' on the preferences and viewpoints of their own children.  This has strong implications for the use of direct measurement of children's self-reported subjective well-being.  Adults, parents included, cannot be assumed to be able to represent children (particularly older children) either in terms of responses to specific questions, or in terms of broader perceptions of what is important in their lives.  Increasingly,

then, studies of child well-being incorporate subjective elements[1], use children's own perceptions of what is important, and use children rather than parental proxies as survey respondents[2].

Despite these developments, though, the study of subjective well-being faces some important critiques which will now be considered.

## Critiques of the study of subjective well-being

As noted above, the importance of subjective well-being, for society as a whole and for children in particular, is increasingly recognised.  But there remains a great deal of complexity and debate in defining and measuring subjective well-being.  Two important critiques are that subjective well-being is largely a result of genetic or (partially) heritable personality traits; and that the concept lacks adequate specificity and definition.  These are now considered in more detail.

### *Genetic and personality factors*

The first critique considered is the position that individual levels of subjective well-being are largely inflexible and genetically determined.  Implications of this position may include that, whilst still relevant in genetic and psychological studies, the resulting lack of policy amenability would render the study of subjective well-being irrelevant in the field of social policy.  That is, if subjective well-being is not amenable to policy intervention, there is little point studying it from a policy perspective.  However, the literature on the matter is less than conclusive.  The impact of genetic makeup on subjective well-being is explored by (amongst others) Weiss et al (2008), and findings tend to indicate that there is still much to be learned in this field.  As yet, the relative impact of genetics, personality, and life events - and indeed interactions between the three - on subjective well-being are far from clear.  All three, however, appear to play a part.  Cummins and Cahill (2000) found that whilst there does appear to be a 'normal' level of subjective well-being for each individual which is relatively stable over the long term, events of high stress or trauma (such as, for example, prolonged exposure to poverty) can impact these levels.  This suggests that contrary to deterministic perspectives, there is indeed a potential for policy to impact subjective well-being, albeit that this may be through indirect routes.

In addition to the above, much research exploring links between genetics, personality, life events and subjective well-being has focused on adults; this may not provide adequate evidence about how these links work for children.  Roberts and DelVecchio (2000), in their review of longitudinal studies on the consistency of personality traits, report that it is widely acknowledged that personality is less stable and is responsive to environmental factors in childhood (and indeed they challenge the view that it is particularly stable and resistant to environmental changes in adulthood).  Goswami's (2013) research found that personality traits explained about 18.5% of the variation in

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[1] For example subjective well-being is one of the dimensions of child well-being reported in UNICEF's Report Card 11 (Adamson, 2013; see also Bradshaw et al, 2013 and Martorano et al, 2013)

[2] For example the Children's Society well-being research programme – for more information see http://www.childrenssociety.org.uk/well-being, which draws on and develops the qualitative work undertaken with children reported by Layard and Dunn (2009)

children's subjective well-being – leaving 81.5% unexplained.  As a result, associations between social policies and subjective well-being may exist in mediated ways, via both living environments and life events which contribute to the shaping of personality traits.

The role of genetics and personality factors in determining levels of subjective well-being, then, is important but not exclusive.  There remains a place for studying subjective well-being in terms of environmental and life events which are more amenable to social policy.  This case is particularly strong for children where personality traits are less stable.  However, a further critique of subjective well-being – that it lacks clear and precise definition – must also be addressed.

### Lack of clarity in the study of subjective well-being

Diener et al (2003: 403) note that subjective well-being "includes what lay people call happiness, peace, fulfilment, and life satisfaction" – resulting in many critiques of the field as "woolly" (Duckworth et al, 2005: 630).  But whilst the topic is unquestionably diverse, complex and contestable, various studies have found that it is possible to measure subjective well-being and sub-domains of this (see Diener et al, 2005; Casas, 2011; Rees et al, 2013).  Perhaps one explanation for perceptions of subjective well-being as 'woolly' is that it is inherently multi-dimensional, meaning that researchers do not have a single, agreed definition but rather use the term to describe a disparate but linked set of sub-concepts.  Over the past decade, several attempts have been made to develop theoretical and empirical models of the multi-dimensional nature of subjective well-being, considered below.

#### Theoretical and empirical models of subjective well-being

Diener et al (2005) report that across studies where comparisons are possible, three elements of subjective well-being – positive affect, lack of negative affect, and life satisfaction – show a degree of independence from one another, but note that in much research the measures used preclude differentiation between these elements.  One possible implication of this is that, as noted above, perceived 'wooliness' in the study of subjective well-being may be associated with studies using the same word to describe different aspects or combinations of aspects of the concept.  This tallies with a popular model of subjective well-being described by Casas (2011) which separates hedonic or affective well-being (concerned with the experience of positive or negative emotional experience) and eudaimonic or cognitive well-being (concerned with life satisfaction).  Rees et al's (2013) illustration, shown below in figure 1, reflects these models.  Here, cognitive and affective well-being are presented as sub-domains of hedonic well-being, whilst psychological or eudaimonic well-being is perhaps conceived as an aspect of well-being more concerned with relations with self, others and the external environment (for example self-acceptance as an aspect of relations with self; positive relations as an aspect of relationships with others; and environmental mastery as an aspect of relations with the wider environment).  Rees et al (2013) also highlight that most measures of subjective well-being to date have largely been concerned with the cognitive aspects of hedonic well-being, rather than affective aspects of it.  Both of these are important aspects of subjective well-being, but they do not, on their own or in combination, capture the whole of the concept.  Nevertheless, rigorous measurement

instruments have been developed in both of these domains to help measure levels of subjective well-being and examine associations with other aspects of life.  Casas (2011) details some of the most tested and scientifically validated instruments which have been developed to measure subjective well-being for children specifically.

**Figure 1: Rees et al's model of subjective well-being**
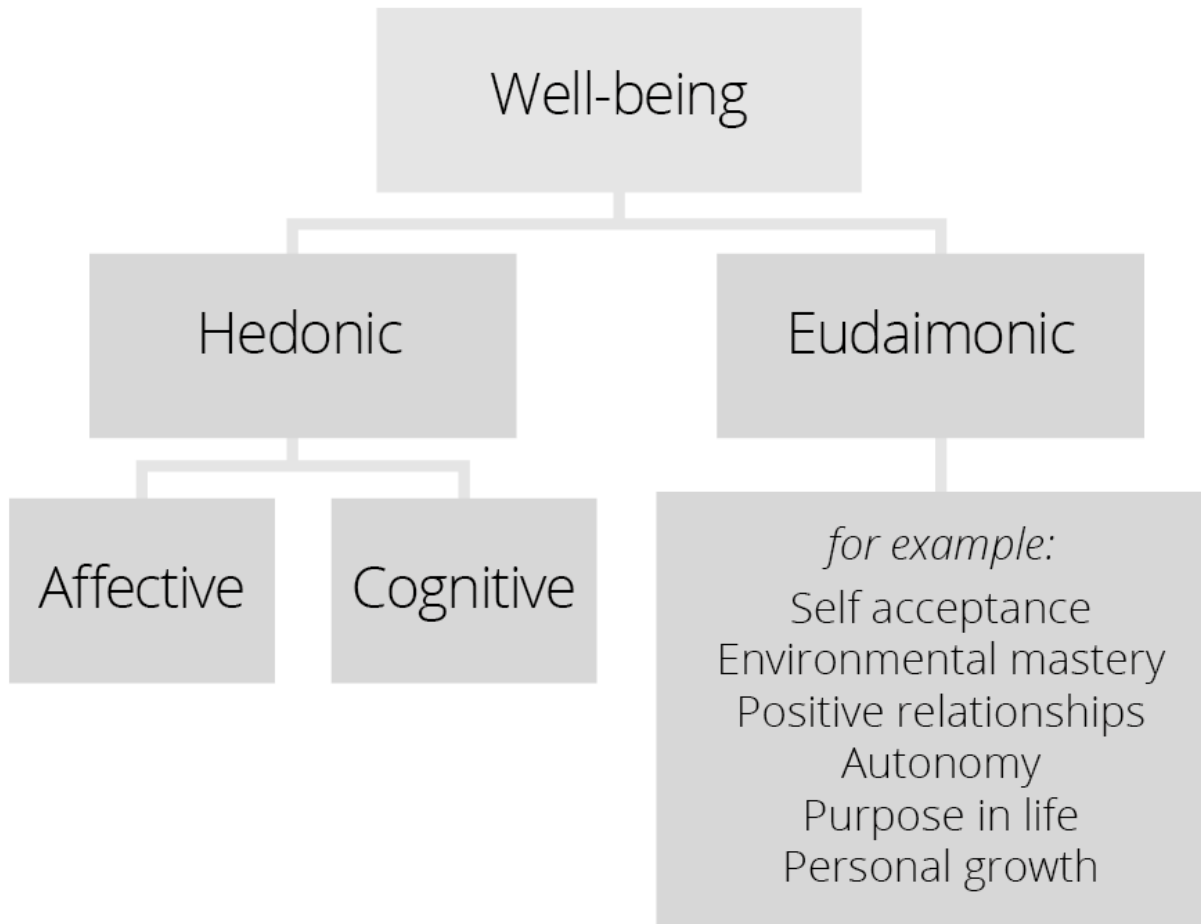


To sum up, whilst the multi-dimensional nature of subjective well-being may contribute to perceptions of it as a woolly concept, nevertheless researchers have made inroads in conceptualising, operationalising, and measuring it, both overall (for example see Huebner, 1991) and in various domains (for example see Huebner et al, 2006; Rees et al, 2013).  Whilst research into subjective well-being, and particularly children's subjective well-being, remains a field where much can be learned, significant developments have occurred enabling the inclusion of measurement instruments in surveys.  Wooliness, then, does not preclude the study of subjective well-being, and indeed without such study the development of more precise models would be difficult.

The next section examines what is known about the associations between poverty and subjective well-being.

**Poverty and subjective well-being**

*Income and subjective well-being*

As noted above, one motivating force in the study of subjective well-being was the Easterlin Paradox, with Easterlin's (1974) findings suggesting that above a certain level of income at which basic needs are met, increases in income did not lead to increases in well-being. However, Stevenson and Wolfers (2013) argue that whilst the relationship is not linear and increases in income make more of a difference to the subjective well-being of the poor than the rich, a point of satiation beyond which income does not impact subjective well-being at all has yet to be found – and therefore has yet to be reached, even in the richest countries. Researchers (including Stevenson and Wolfers, 2013; Diener and Biswas-Diener, 2001) tend to agree that the strength of the relationship between income and subjective well-being decreases as wealth increases. This finding is supported by a recent review of the literature by Cooper and Stewart (2013) around links between money and outcomes for children – increases in money were found to positively influence outcomes for all children, but effects were stronger in poorer households. Cummins (2000) argues that rather than this suggesting that beyond basic needs satisfaction income is not relevant to subjective well-being, instead the relationship between income and subjective well-being is mediated by internal and external 'buffers'. The result of this is that whilst direct relationships between income and subjective well-being may be difficult to capture, the relationships do exist but interpretation of them is complicated by mediators such as poor health. That is, the effects of income, rather than income itself, are stronger predictors of subjective well-being but nonetheless the association is caused by income.

*Associations between poverty and subjective well-being amongst children*

The weakness of associations between income (or proxies for income) and subjective well-being noted above is upheld in research with children. Knies (2011) found no association between household income, household material deprivation, or child material deprivation and subjective well-being in her analysis of data from the nationally representative UK Understanding Society survey drawing on adult-derived understandings of household and child material deprivation. Rees et al (2011) found a very limited association between household income and children's subjective well-being, with the former explaining only around 1% of the variation, in UK surveys undertaken with children incorporating household income data provided by adults. These findings pose a challenge to child poverty studies. There is no question that household poverty increases risks of a wide range of negative objective outcomes for children (see Griggs and Walker, 2008, for an overview. Bradshaw, 2011, also covers many of the areas of children's lives which are impacted by poverty in his coverage of child well-being in the UK), so the importance of poverty is not in question. But qualitative research with children in poor families (notably Ridge, 2002) suggests that they perceive themselves to be negatively impacted by the experience. If this is the perception of children in poverty, it would be reasonable to assume that their own reports of their subjective well-being would be lower. This may suggest that either measures of subjective well-being or measures of poverty are not capturing this aspect of children's experiences adequately. It may be that, as Cummins (2000) argued, the associations are more subtle than initially assumed, and that analysis to date has been

unable to capture the association through a failure to pick up on the aspects of poverty or of well-being which chime with children's lives and experiences. This is an even more convincing proposition where children (rather than adults) are concerned, since they tend to lack direct personal income and direct personal control over household resources. Thus the relationship between children's subjective well-being and household income is even more indirect – the mediating effect of parental preferences and behaviours must be added to the factors confounding this relationship.

The above argument - that household-level and adult-derived measures fail to capture the facets of poverty which impact children's personal lives and experiences – is upheld by Main and Bradshaw's (2012) work on a child-derived index of material deprivation. This index was significantly but not strongly associated with household income (r=0.24**[3]), and it was possible using the index to identify children who were by their own definition poor, living in both households which would be identified as poor and those which would be identified as non-poor by income-related measures. That is, the child-derived index identified similar but not identical groups of children as poor and non-poor, compared to income-based measures. This lends support to the above idea that adult-derived measures of child poverty may not be fully capturing the phenomenon as it is experienced by children themselves. Furthermore, Main and Bradshaw's analysis showed that the child-derived index out-performed indicators of living in a household likely to qualify for minimum income benefits in explaining overall subjective well-being. These findings contrast to those of Knies (2011) and Rees et al (2011) detailed above. This may suggest that the child-derived index is managing to capture some of the information missed in income-focused and adult-derived measures. However, these analyses considered only overall subjective well-being. A further matter of interest, which is the focus of this paper, is how the child-derived index is associated with various domains of children's subjective well-being, and how such associations between their index and indicators of household qualification for minimum income benefits relate and compare.

### *Research purpose and questions*

As noted above, the analysis presented in this paper builds on Main and Bradshaw's (2012) examination of links between material deprivation, low income, and overall subjective well-being by applying similar analyses to various domains of subjective well-being (detailed below). Two main questions are addressed:

- How well do different measures of child poverty – a child-derived material deprivation index, and household-level income-based indicators of minimum income - perform in explaining variation in children's subjective well-being in the Good Childhood Index domains?
- Which domains of child subjective well-being are most strongly impacted by the experience of poverty according to both or either the child-derived index and living in a household on a very low income?

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[3] Statistical notation concerning significance levels are used throughout, where * indicates significance at the <0.05 level, and ** indicates significance at the <0.001 level.

**Methods**

*Data*

Data are taken from the Children's Society 2010 survey of child well-being. This survey covers around 5,500 children aged 8-15, and was undertaken in a school setting. The sample was designed to be representative of children in schools in England. For this analysis, children aged 11-15 were included as all relevant questions were asked of this age group. This resulted in a total of 3,812 children. The domains of well-being covered by the Good Childhood Index (see below) were all asked of half of the sample, giving a total of 1906 children; many domains were asked of the whole sample but to ensure comparable analysis results are only reported for the half of the sample who were asked about all domains. The other half of the sample, again consisting of 1906 children, completed a set of more detailed questions on family relationships and on choice and autonomy. Analyses based on these questions are completed using this half of the sample.

*Measures*

*Material deprivation*

As noted above, material deprivation was measured using Main and Bradshaw's (2012) index. This index was created based on qualitative and quantitative research with children, and consists of ten items. Children were asked whether they have, lack and want, or lack and do not want each item. In line with Main and Bradshaw's (2012) analysis, a scale was created based on summing the number of items which children lacked and wanted. 28% of children were classed as deprived (lacking two or more items) based on this measure. Children were classed as deprived if they lacked two items or activities (12%); very deprived if they lacked three or four (11%); and severely deprived if they lacked five or more (5%). The items and activities in the index comprise:

- Some pocket money each week to spend on yourself
- Some money that you can save each month, either in a bank or at home
- A pair of designer or brand name trainers (like Nike or Vans)
- An iPod or other personal music player
- Cable or satellite TV at home
- A garden at home or somewhere nearby like a park where you can safely spend time with your friends
- A family car for transport when you need it
- The right kind of clothes to fit in with other people your age
- At least one holiday away from home each year with your family
- Trips or days out with your family at least once a month

*Living in a household likely to qualify for minimum income benefits*

Ascertaining whether children were in households experiencing income poverty was not possible with children as respondents. Two questions were asked which provide proxies for the objective financial status of the household: whether children received

free school meals (something that is only available to children in households on very low incomes), and how many adults in the child's household were in paid employment. Receiving free school meals and having no adult in paid work are strong indicators that children live in households likely to qualify for minimum income benefits. Adams et al (2012) show how both of these are strongly related to income poverty, whilst at the same time fail to capture most children in income poverty since the majority of such children are in households with at least one adult in paid work. Children were classed as living in a household likely to qualify for minimum income benefits if either they received free school meals, or they had no adults in paid work, or both of these. 15% of children were in households likely to qualify for minimum income benefits based on this proxy.

*Domains of subjective well-being*

Rees et al (2010), based on detailed qualitative and quantitative research with children, have developed a ten-domain index of child subjective well-being which reflects aspects of children's lives which they say, and which analysis shows, are important to them. This contrasts with other measures of child subjective well-being such as the widely-used Student's Life Satisfaction Scale (see Huebner, 1991) in that it was developed based on children's own perceptions of important domains of their lives, rather than being adapted from adult-derived indices. The resulting set of domains is called the Good Childhood Index. The survey data used in this analysis drew on this index in measuring children's subjective well-being. These domains comprise:

- Friends
- Time use
- Health
- The future
- Family
- Home
- Money and possessions (things)
- School
- Appearance
- Choice

In the data used here, these domains were investigated in two ways. A single-item question asked children to rate their happiness in each domain on a 0-10 scale; and multi-item scales of varying lengths asked children how far they agreed with statements relating to each of the domains, on a five-point scale ranging from 'strongly agree' to 'strongly disagree'. Thus two possible measures of well-being in each domain were available – one providing data on children's overall assessment of their happiness in the domain; and another providing detail on specific aspects of the domain which could also be summed to form a single scale. OECD (2013) provides a more detailed examination of the differences between single- and multi-item measures, and the strengths and weaknesses of these. It should be noted that here, multi-item measures are used in order to explore in more depth associations between poverty and subjective well-being in domains where stronger associations are found, rather than as a 'better' measure of subjective well-being. An assessment of how these measures compare in this data is complicated due to the survey methodology whereby different respondents answered

different questions, and is in any case addressing a different (but equally interesting) question to the focus of this paper.

A common finding in studies of subjective well-being (reported by Casas 2011 amongst others) is that data are negatively skewed – that is, more people report higher levels of happiness than report lower levels of happiness. This may indicate that measurement instruments tend to censor the data, meaning that whilst they appear to allow for the full range of low well-being scores to be reported, they do not allow for discrimination between people reporting higher well-being. Alternatively, Casas (2011) suggests that this is a result of the optimism bias – a tendency to be 'irrationally' positive in our outlook. This tendency, however, is at least partially related to the type of measure used. From an examination of the data used here, it would appear that whilst this skew is present in both types of measure, multi-item instruments tend to result in more normally distributed data then single-item measures. Examples of the two from the Children's Society data used in this paper (based on the happiness with friends question as a single-item measure and the family well-being scale as a multi-item measure) are shown below (charts 1 and 2).

**Chart 1: Example of the distribution on a single-item subjective well-being measure: Happiness with friends**
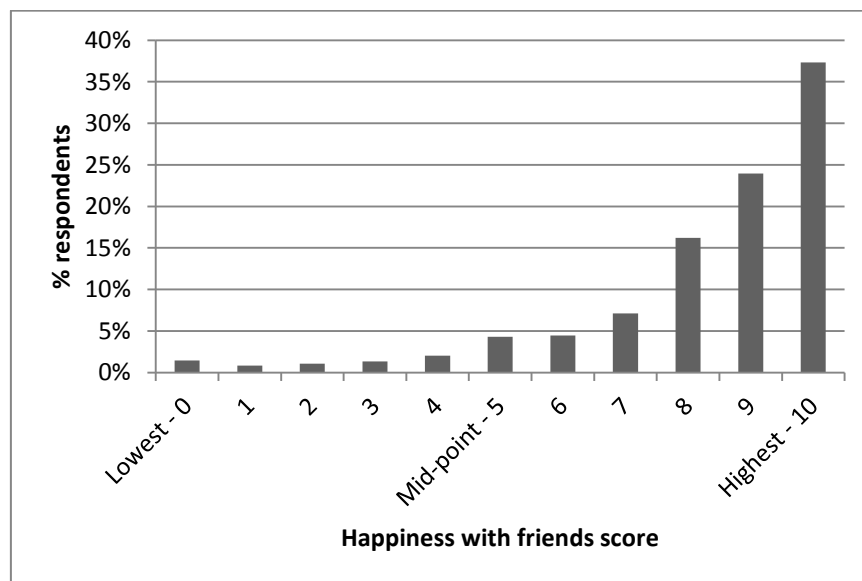
**Chart 2: Example of the distribution on a multi-item subjective well-being measure: Happiness with family relationships**
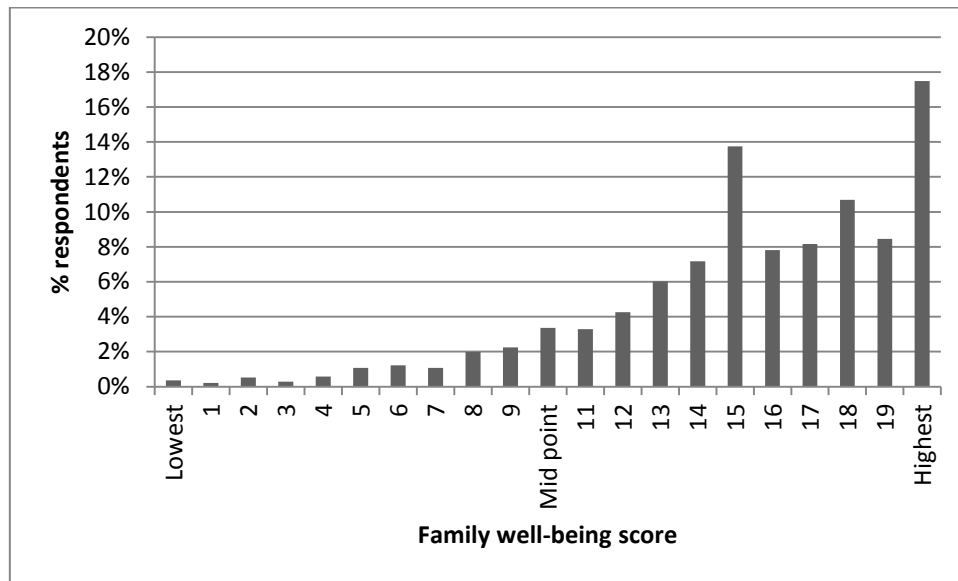


Skewness in subjective well-being data has implications for the types of analysis which can be performed – parametric tests assume a normal distribution, and subjective well-being data is clearly not normally distributed, albeit that data from multi-item measures are closer to this distribution. Two solutions are drawn on here. Firstly, for multi-item measures, results of tobit as well as linear regressions are presented. Tobit regressions compensate for censoring in the dependent variable (McBee, 2010, provides an introduction to tobit models). However, a limitation of tobit models is that no adjusted r squared value, used to assess the proportion of variation in the dependent variable explained by the model, is provided. Whilst an r squared value can be produced by squaring the correlation between observed and predicted values of the dependent variable, this does not produce an adjusted r squared which considers the degrees of freedom in the model, thereby allowing comparison between different models. Therefore, tobit and linear models are both presented here, with the acknowledgement that neither provides a perfect solution to working with censored data. Secondly, particularly for single-item measures where censoring is extreme, an alternative is to examine the proportion of respondents in the tail of the distribution (ie. those who are below the mid-point of the scale, indicating overall unhappiness or dissatisfaction). This is done by creating binary variables from the subjective well-being data and using logistic regression models for analysis.

Analysis was performed for all ten domains of the Good Childhood Index using the single item measures. In domains where associations were particularly strong (family relationships and choice, as detailed in the results section), these were followed up with a more detailed examination of the associations between material deprivation, minimum income, and the multi-item measures in each of these domains.

Questions included in these measures for family were:

- I enjoy being at home with my family
- My family gets along well together

- My parents listen to my views and take me seriously
- My parents treat me fairly
- My parents and I do fun things together

And for choice and autonomy, questions comprised:

- I feel pressured in my life (reverse coded)
- I feel like I am free to decide for myself how to live my life
- I generally feel free to express my ideas and opinions
- I feel like I can pretty much be myself in my daily life
- I have enough choice about how to spend my time

Answer formats were on a five point scale ranging from strongly agree to strongly disagree. Responses were summed to create a 20-point scales. Analysis was performed on individual items and on the scales based on summing responses to all items, found to have strong internal validity measured using Cronbach's Alpha (for family well-being=0.89, and for choice and autonomy well-being=0.78).

**Findings**

Findings are split into two sections: firstly, an examination of the impact of poverty variables on subjective well-being across a range of domains is presented. Secondly, a more detailed examination of the relationship between poverty and subjective well-being in relation to children's perceptions of their relationship with their family and the amount of choice or autonomy available to them is presented.

***Domains of the Good Childhood Index***

This section explores the impact of very low income and material deprivation on the different domains of subjective well-being identified in the Good Childhood Index. Children classed as experiencing just very low income, just material deprivation, and both are compared to those experiencing neither. Results are shown in table 1. Mean subjective well-being scores in each domain are presented for children who are neither in a household on a minimum income nor deprived; those who are in a household on a minimum income but are not deprived; those who are deprived but not in a household on a minimum income; and those who are both. The same statistical notation described above is used to indicate whether mean scores for children in each category are significantly different to those of children who are neither poor nor deprived.

In two cases – the friends and school domains - there is a significant drop in well-being associated with living in a household on a minimum income. In the domain of friends, there is a fairly steady drop in well-being across the different categories with children who are deprived but not on a minimum income faring worse than the converse, and children who are poor on both measures faring worst of all. For the school domain, children on a minimum income only fare worse than those not poor by either measure, but better than those who are just deprived. There is no difference in mean scores between children who are just deprived and children who are poor on both measures.

For the remaining eight domains, minimum income alone is not significantly associated with drops in well-being. For half of these – happiness with health, home, things and choice – material deprivation is significantly associated with lower well-being and there also appears to be a cumulative effect of being both materially deprived and in a household on a minimum income, with children poor on both counts faring worse than those who are just materially deprived. For the other half – time use, future, family and appearance – the minimum income measure did not appear to have a significant association with well-being, and those poor on both counts were no or barely worse off than those who were just deprived.

The final column of the table shows the drop in well-being between those who are not poor on either poverty indicator, and those who are poor on both indicators. Things, choice, home and family (in that order) are the domains where this difference is largest.

**Table 1: Subjective well-being in each domain according to minimum income and material deprivation status**

| Domain | Neither | Just minimum income | Just deprivation | Both | Difference in means between neither and both |
|---|---|---|---|---|---|
| Friends | 8.7 | 8.1* | 7.8** | 7.2** | 1.5 |
| Time use | 8.1 | 8.1 NS | 6.9** | 6.7** | 1.4 |
| Health | 8.1 | 8.1 NS | 7.1** | 6.6** | 1.5 |
| Future | 8.2 | 8.2 NS | 6.8** | 6.5** | 1.7 |
| Family | 8.5 | 8.5 NS | 6.9** | 6.7** | 1.8 |
| Home | 8.7 | 8.4 NS | 7.5** | 6.7** | 2.0 |
| Things | 8.8 | 8.6 NS | 7.2** | 6.5** | 2.3 |
| School | 7.6 | 7.1* | 6.5** | 6.5** | 1.1 |
| Appearance | 7.5 | 7.8 NS | 6.2** | 5.9** | 1.6 |
| Choice | 8.4 | 8.4 NS | 6.9** | 6.4** | 2.0 |

The above analysis, however, does not control for demographic variables known to be associated with subjective well-being. Next, then, the odds of having low well-being in each domain of subjective well-being in the Good Childhood Index when demographic factors were controlled for were explored. Tobit regressions are not presented for the individual domains due to the extremely skewed distribution on these variables. Instead, relationships were examined in logistic regressions, comparing those in the tail of the distribution (scoring below the mid-point of the scale) to others. The purpose of this analysis was to examine whether the associations between minimum income, material deprivation, and subjective well-being in the different domains remained once demographic factors were controlled for. Results are shown in table 2. In order to examine the impact of material deprivation in more detail than in table 1, the different deprivation categories outlined above (lacking 2, 3-4 and 5+ items) were used, alongside the minimum income measure. To help ensure that relationships were not being obscured by an association between minimum income and material deprivation, interactions between these two measures were tested in all regressions but none were found to be significant and so these are not presented here.

Living in a household likely to qualify for minimum income benefits is only a significant predictor of an increased risk of low well-being in one domain, health. For most domains of subjective well-being, all levels of deprivation (ie. lacking 2, 3-4, and 5+ items) are associated with significantly higher odds of being unhappy. The exceptions are friends, health, home and school, where lacking 2 items is not significantly associated with an increased risk. For all domains, lacking 3-4 or 5+ items is associated with increased odds of reporting unhappiness. For those lacking 5+ items, the odds of being unhappy on each domain range from 4.4-14.5 times more likely than those lacking 0-1 items. The domains where the relationship is strongest are things, choice and family. The odds of being unhappy with things increase to 14.5 for those lacking 5+ items; for being unhappy with choice the odds increase to 11.8; and for family they increase to 10.2.

**Table 2: Odds of being unhappy in the Good Childhood Index domains**

| | | Friends | Sig | Time use | Sig | Health | Sig | Future | Sig | Family | Sig |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year group (6 as reference) | 8 | 0.8 | NS | 1.0 | NS | 1.3 | NS | 1.4 | NS | 1.4 | NS |
| | 10 | 0.9 | NS | 1.6 | * | 1.8 | * | 2.0 | * | 2.1 | * |
| Gender (boy as reference) | | 1.6 | * | 1.2 | NS | 1.1 | NS | 1.0 | NS | 1.6 | * |
| Ethnicity (white as reference) | Black | 0.7 | NS | 0.7 | NS | 0.9 | NS | 0.8 | NS | 1.0 | NS |
| | Other | 1.1 | NS | 1.6 | NS | 1.3 | NS | 1.7 | * | 1.1 | NS |
| Family type (two parents as reference) | Lone parent | 1.7 | * | 1.3 | NS | 1.3 | NS | 1.3 | NS | 2.1 | ** |
| | Step or other | 1.3 | NS | 0.9 | NS | 1.7 | * | 1.2 | NS | 2.1 | * |
| Minimum income | | 1.5 | NS | 1.2 | NS | 1.8 | * | 1.3 | NS | 0.8 | NS |
| Material deprivation (lacking 0-1 as reference) | 2 | 1.3 | NS | 1.9 | * | 1.3 | NS | 2.3 | * | 2.0 | * |
| | 3-4 | 2.3 | * | 2.9 | ** | 2.4 | ** | 3.8 | ** | 4.4 | ** |
| | 5+ | 4.7 | ** | 6.7 | ** | 5.7 | ** | 9.8 | ** | 10.2 | ** |

| | | Home | Sig | Things | Sig | School | Sig | Appearance | Sig | Choice | Sig |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Year group (6 as reference) | 8 | 1.6 | NS | 2.1 | * | 1.1 | NS | 2.2 | ** | 1.5 | NS |
| | 10 | 1.9 | * | 2.5 | * | 1.6 | * | 2.9 | ** | 2.2 | * |
| Gender (boy as reference) | | 1.1 | NS | 1.6 | * | 0.8 | NS | 2.2 | ** | 1.3 | NS |
| Ethnicity (white as reference) | Black | 0.9 | NS | 1.7 | NS | 1.0 | NS | 0.5 | NS | 0.9 | NS |
| | Other | 1.3 | NS | 1.7 | * | 1.6 | * | 1.2 | NS | 1.1 | NS |
| Family type (two parents as reference) | Lone parent | 1.6 | * | 1.5 | NS | 1.9 | ** | 1.4 | NS | 1.5 | NS |
| | Step or other | 2.3 | * | 1.4 | NS | 1.9 | * | 1.6 | * | 2.5 | * |
| Minimum income | | 1.5 | NS | 1.3 | NS | 1.2 | NS | 1.2 | NS | 1.5 | NS |
| Material deprivation (lacking 0-1 as reference) | 2 | 1.1 | NS | 2.4 | * | 1.3 | NS | 2.3 | ** | 2.3 | * |
| | 3-4 | 3.0 | ** | 5.7 | ** | 1.8 | * | 3.1 | ** | 4.7 | ** |
| | 5+ | 6.8 | ** | 14.5 | ** | 4.4 | ** | 5.9 | ** | 11.8 | ** |

### *Well-being in the domains of family and choice*

A strong relationship between poverty indicators and happiness in the domain of things (money and possessions) would be expected. Two other domains – family and choice – stand out as having strong associations with poverty once demographic factors are controlled for[4]. These domains were therefore selected for further analysis using the multi-item measures mentioned above. Since the previous analysis found material deprivation to be significantly associated with well-being in these domains whilst minimum income was not significantly associated in either, an initial analysis looking at responses to the five questions for each domain by the number of items lacking is presented. The associations between material deprivation, minimum income and the scales formed based on the family and choice questions are then examined, controlling for demographic factors.

Charts 3 and 4 show the relationship between mean scores on the deprivation scale (ranging from 0-10) according to responses to the five questions in each domain (which were on a five point scale ranging from 'strongly agree' to 'strongly disagree'). It should be noted that the first question in chart 4 is reverse coded in the rest of the analysis but to make answer options comparable here is coded in its original way, which explains the reversing of the trend visible in other variables in this case. For each of the questions, higher levels of agreement (or in the case of feeling pressured higher levels of disagreement) as associated with lower levels of deprivation, and this relationship holds true across the scale. It is notable that in the choice questions (chart 4), there is a stronger distinction between those strongly disagreeing and all other categories, whereas the relationship is more linear in the family questions (chart 3). Two variables in each set stand out as having the strongest relationships to material deprivation. In the family questions, these are children feeling that they are treated fairly by their parents, and that they do fun things with their parents. In the choice questions, these are children feeling that they are free to express their ideas and opinions, and those feeling that they have enough choice in how they spend their time.

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[4] It should be noted that whilst happiness in the domain of home was associated with a greater drop in mean subjective well-being scores in the bivariate analysis presented in table 1, the strength of this association was substantially reduced in the regression analysis presented in table 2, whilst associations in the family and choice domains remained stronger.

**Chart 3: Mean deprivation score by family well-being variables**
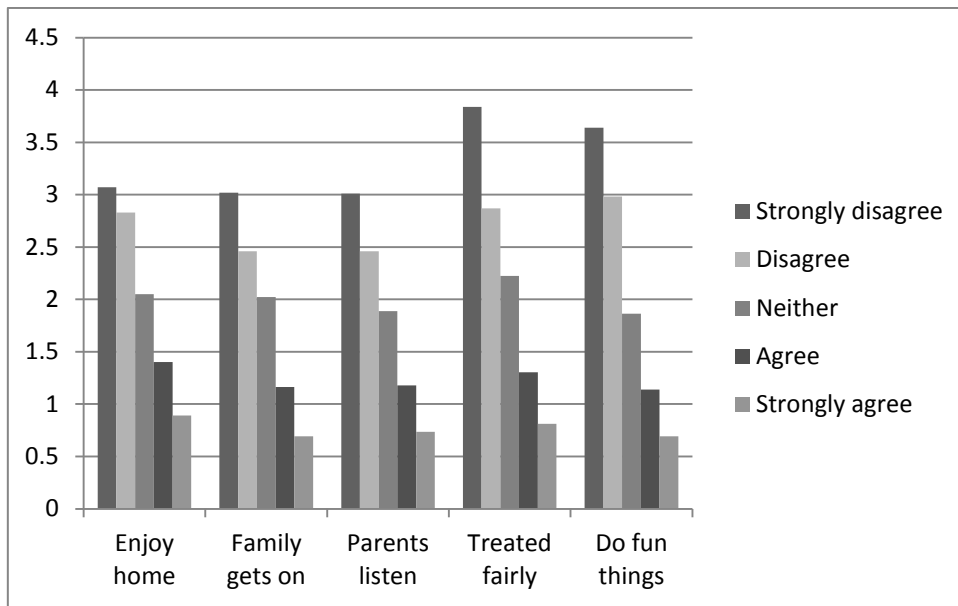


**Chart 4: Mean deprivation score by choice well-being variables**
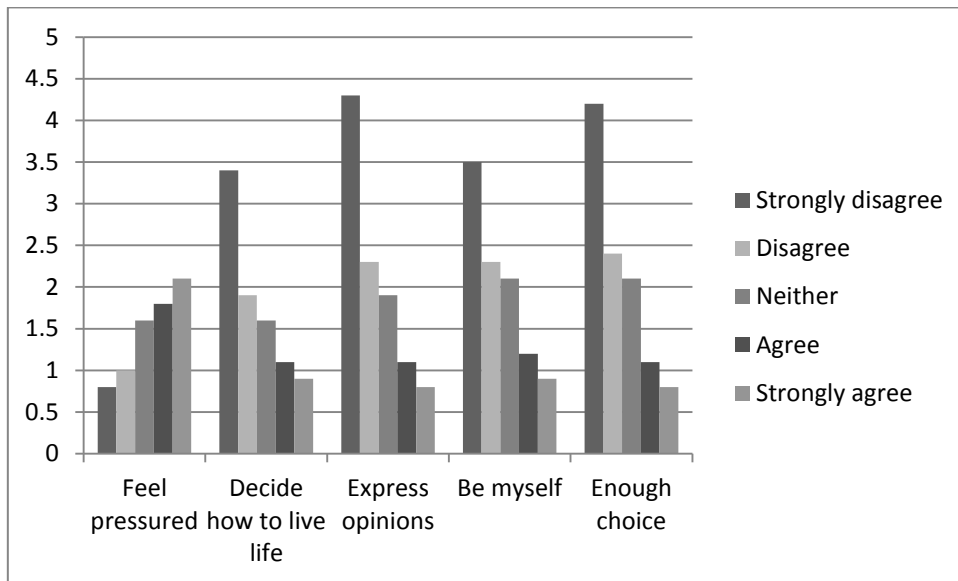


Looking at how well material deprivation explains variation in these domains based on the multi-item measures overall, linear and tobit regressions are used to examine the association when demographic variables are controlled for. Results are shown in table 3. Coefficients are fairly similar whether linear or tobit regression is used.

Regarding family well-being, older children report lower well-being in this domain than younger children. Girls report slightly lower well-being than boys. Those in lone- or step-parent families report lower well-being than those living with both parents. Living in a household with a very low income is not significantly associated with well-being in this domain, but material deprivation has a strong impact, with those lacking two items losing an average of 2.1 points on the 20 point scale; those lacking 3-4 items losing 2.8

points; and those lacking 5 or more items losing 5 points.  The model as a whole explains 26% of the variation in children's family well-being.

For well-being in the domain of choice and autonomy, again older children reported lower levels of well-being.  Children from 'other' ethnic groups (ie. those who were not black or white) reported slightly lower levels of well-being.  In this domain, living in a household with a very low income has a small but significant impact on well-being, with children in such households losing 0.6 points compared to those in better-off households.  Again, material deprivation retains a reasonably strong and significant association with happiness in this domain, with those lacking 2 items losing 1.8 points; those lacking 3-4 items losing 2.6 points; and those lacking 5 or more items losing 4.2 points.  This model is not as successful as the previous one in explaining variation in subjective well-being in this domain, but is reasonably informative, explaining 17%.

**Table 3: Regressions examining the impact of material deprivation on subjective family well-being**

| | | Family well-being | | | | Choice well-being | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Linear | | Tobit | | Linear | | Tobit | |
| | | b | Sig | b | Sig | b | Sig | b | Sig |
| Year group (6 as reference) | 8 | -1.5 | ** | -1.9 | ** | -1.1 | ** | -1.1 | ** |
| | 10 | -3.1 | ** | -3.6 | ** | -1.8 | ** | -1.9 | ** |
| Sex (boy as reference) | | -0.8 | ** | -1.0 | ** | -0.3 | NS | -0.3 | NS |
| Ethnicity (white as reference | Black | 0.1 | NS | 0.2 | NS | -0.4 | NS | -0.4 | NS |
| | Other | 0.2 | NS | 0.4 | NS | -0.9 | ** | -0.9 | ** |
| Family type (two parents as reference) | Lone parent | -1.0 | ** | -1.2 | ** | 0.3 | NS | 0.3 | NS |
| | Step or other | -1.3 | ** | -1.5 | ** | -0.3 | NS | -0.3 | NS |
| Minimum income | | 0.4 | NS | 0.5 | NS | -0.6 | * | -0.6 | * |
| Material deprivation (lacking 0-1 as reference) | 2 | -2.1 | ** | -2.6 | ** | -1.7 | ** | -1.8 | ** |
| | 3-4 | -2.8 | ** | -3.3 | ** | -2.5 | ** | -2.6 | ** |
| | 5+ | -5.0 | ** | -5.6 | ** | -4.1 | ** | -4.2 | ** |
| Adjusted r squared | | 0.26 | | | | 0.17 | | | |

Finally, logistic regressions were used to explore the impact of material deprivation on the odds of having low well-being in the two domains.  Results are shown in table 4.  As above, interactions between deprivation and minimum income were tested and found to be non-significant.

Factors impacting the odds of having lower family well-being were similar to those associated with changes in well-being scores.  Older children were more likely to have low well-being, and girls were slightly more likely to than boys.  Living in a lone parent family did not impact the odds of having low well-being, but living in a step or other family type increased the risk.  Living in a household on a very low income was not associated with any change in the odds of having low family well-being, but those lacking 2 items on the material deprivation index were 3 times more likely to have low well-being; those lacking 3-4 items were 4.6 times more likely; and those lacking 5 or more items were 13.3 times more likely.

As above, factors associated with different odds of having low well-being in the domain of choice were similar to those associated with changes in levels of well-being in the linear models above.  Older children were more likely to have low well-being, but this effect is not nearly as pronounced in relation to choice as it is in relation to family.

Children from 'other' ethnic groups (ie. those who were not black or white) reported slightly lower levels of well-being.  In this domain, living in a household with a very low income has a small but significant impact on well-being, with children in such households losing 0.6 points compared to those in better-off households.  Minimum income was significantly but not strongly associated with increased odds of low well-being, with children living in very low income households facing 1.5 times the risk compared to others.  The effect of material deprivation was stronger than that of very low income but not as strong as the association it had to family well-being.  Children lacking 2 items were 2.7 times more likely to have low well-being; those lacking 3-4 items were 4.9 times more likely; and those lacking 5 or more items were 7.8 times more likely.

**Table 4: Odds of having low family well-being**

|  |  | Family well-being | | Choice well-being | |
|---|---|---|---|---|---|
|  |  | Odds Ratio | Sig | Odds Ratio | Sig |
| Year group (6 as reference) | 8 | 3.4 | ** | 2.1 | * |
|  | 10 | 9.1 | ** | 2.5 | ** |
| Sex (boy as reference) |  | 1.7 | * | 1.3 | NS |
| Ethnicity (white as reference) | Black | 0.9 | NS | 1.5 | NS |
|  | Other | 0.8 | NS | 2.4 | ** |
| Family type (both parents as reference) | Lone parent | 1.5 | NS | 0.8 | NS |
|  | Step or other | 2.5 | ** | 1.2 | NS |
| Minimum income |  | 1.0 | NS | 1.5 | * |
| Material deprivation (lacking 0-1 as reference) | 2 | 3.1 | ** | 2.7 | ** |
|  | 3-4 | 4.6 | ** | 4.9 | ** |
|  | 5+ | 13.3 | ** | 7.8 | ** |

## Discussion

The purpose of this article has been to examine the impact of poverty-related variables on subjective well-being using the domains in the Good Childhood Index.  The impact of very low income (using proxies for living in a household likely to qualify for minimum income benefits) was compared to that of material deprivation.  Analysis identified subjective family well-being, and well-being in the domain of choice and autonomy, as domains where material deprivation has a particularly strong impact.  Additional analyses were performed on these sub-domains.  Conclusions are discussed in three themes.  Firstly, the impact of poverty on different domains of the Good Childhood Index is discussed, and reasons for differences in strengths of the association are postulated.  Secondly, the value of the child-derived measure compared to adult-derived measures of child poverty is discussed.  Finally, the complex relationship between income, material deprivation and subjective well-being is explored and recommendations are made for future research which may help to elucidate this relationship.

### *Poverty and the Good Childhood Index domains*

Poverty, measured by very low income indicators and material deprivation indicators, was found to be significantly associated by either or by both measures to children's subjective well-being across all the Good Childhood Index domains.  However, the

strength of association varied between domains.  Two domains – family and choice – stood out as having strong associations with poverty indicators once demographic variables were controlled for.  Exploring reasons for the strong association with family well-being, this is possibly not surprising: as Ridge (2002) found, family can act as a mediating force between the economic status of a household and the material status of a child, with many income-poor parents going without to protect their children, and many children avoiding exposing their parents to the full impact poverty has on them in order to reduce parental stress.  Additionally, Camfield and Tafere (2009) and Andersen and Fetger (2010) found that some children perceived their material well-being to be dependent not only on family economic or material resources, but also on maintaining good relationships within the family, suggesting a link between child-derived understandings of child poverty, and children's relationships with their families.  Looking at happiness in the domain of choice, this relationship may operate on a basic level – poor children may live in families who are unable to allow them the same choices as their richer peers because many of these choices will involve a financial cost.  For example whether to go out to the cinema with friends is not only an issue of parental consent, but for most children is an issue of whether parents can and will provide the money for this to be an option.  However, it may also or alternatively reflect a broader lack of choice associated with social exclusion and feeling unable to fully participate in society irrespective of whether such participation involves a direct financial cost – the "narrowing of horizons" amongst poor children noted by Attree (2006: 54).  Either or both of these explanations require further research to support or challenge them.

In some other well-being domains results are somewhat surprising.  Notably, happiness with time use, friends and school show weaker associations with material deprivation than many of the other domains in the index.  Given that qualitative research suggests that social exclusion chimes with children's experiences of poverty (Ridge, 2002; Redmond, 2008), it is surprising that happiness in these domains is not more strongly impacted.  Friends and school could be reasonably assumed to be interlinked – children spend a great deal of their time at school with peers.  Indeed, Ridge (2002) notes the importance of various aspects of exclusion from school-based activities and school-level norms such as uniform, other clothing and school trips to the misery caused to children by their experiences of poverty.  Further exploration of how poverty is experienced within friendship and school settings is therefore indicated.  In terms of time use, a stronger relationship may have been expected – if poor children feel socially excluded, it would seem reasonable to assume that part of that exclusion is from activities which they would like to spend time doing.  A possible reason for the lack of a stronger association (as above, requiring a great deal of further exploration) may be found in the increasing acknowledgement, outlined for example by Power et al (2003), that children from middle class families face a great deal of pressure to succeed academically. This may reduce their happiness with time use since they feel pressured to spend less time than they would like to on enjoyable activities in favour of studying.  That is, the lack of an association may not indicate that poorer children are happier than would be expected, but rather than richer children may be less happy than might reasonably be assumed to be the case.

### *The value of a child-derived measure*

As noted above, all domains of well-being were significantly associated with one or both poverty indicators. However, associations were universally stronger with the child-derived index of material deprivation than with indicators of very low income. Whilst this may partially be an artefact of the available data – the income indicators were much less nuanced than the material deprivation measure – this is unlikely to be the only explanation. The finding that income-related measures were weakly or not significantly associated with well-being mirrors Knies's (2011) and Rees et al's (2011) findings based on different data including more comprehensive income measures. Knies (2011) found that adult-derived measures of household and child material deprivation were similarly not associated with subjective well-being. The results here may be seen as challenging this, but it is also possible that the lack of an association in her work is a result of differences between adults and children in perceptions of what items and activities are necessities. Given that *subjective* well-being is to do with personal rather than expert or external perceptions of well-being, it is likely that items and activities which children themselves deem important will be better at explaining variation than those which adults, as 'experts' on children's needs, deem necessary. This conclusion can only be tentative at this stage – Knies (2011) was working with different data, different respondents (adults provided data on children's possessions in the Understanding Society data which she used), and different measures of subjective well-being. However, the findings here suggest that this is a topic worthy of further exploration.

## Direct and indirect impacts of poverty

Linked to the previous point is the possibility that income, rather than being truly insignificant in determining levels of subjective well-being, has an indirect association. As Cummins (2000) highlights, it is unlikely that the lack of a significant relationship reflects a genuine lack of association between income poverty and subjective well-being. Rather, Cummins points out, it is likely that the *effects* of poverty, more than low income per se, will be useful in demonstrating these links. Numerous qualitative studies of poverty (including Ridge's (2002) child-specific study) show that living in poverty strongly impacts people's life experiences and their happiness.

Looking to the role of income in the findings here, the purpose of this paper was to build on Main and Bradshaw's (2012) finding that a child-derived material deprivation index was much more successful than very low income indicators in explaining variation in overall subjective well-being, by exploring the associations in multiple domains of subjective well-being. For the most part, findings here are similar – once demographic variables are controlled for, very low income has very weak or no association with subjective well-being levels in the ten domains of the Good Childhood Index, whilst material deprivation has a stronger association which is significant across the board. But in some domains very low income had a significant association with subjective well-being, either alone or when experienced in combination with material deprivation. To link this back to Cummins's (2000) argument, it may be then that the material deprivation measure represents a mediating force between income and subjective well-being. Income may be important to subjective well-being not in its own right but in its role as facilitating living conditions which are more or less conducive to higher levels of

subjective well-being in certain areas of children's lives.  As Main and Pople (2011) and Main (2013) note, whilst there are surprisingly low overlaps between very low income and material deprivation, income is one of the primary methods through which material resources are secured and the material resources available to children and families cannot be seen as independent of income.  Given that income, as material deprivation, varies in how strongly it impacts well-being in different domains, the effect on overall subjective well-being is mediated on two levels.  Firstly there is the role of income in shaping living conditions relating to each domain of well-being, and then the role of each domain in shaping overall well-being.  Further work, such as structural equation modelling to identify paths through which income has an indirect impact on well-being, and using data incorporating more detailed income measures, would be useful in developing and testing these hypotheses.

### References

Adams, N., Carr, J., Collins, J., Johnson, G. And Matejic, P. (2012) *Households below average income: An analysis of the income distribution 1994/5-2010/11.*  London: Department for Work and Pensions.

Adamson, Adamson, P. (2013) 'Child well-being in rich countries: a comparative overview'.  *Innocenti Report Card 11*.  Florence: UNICEF.

Andersen, S. and Fegter, S. (2010) 'Children growing up in poverty and their ideas on what constitutes a good life: childhood studies in Germany'.  In *Child Indicators Research* vol.4 no.1 pp1-19.

Attree, P. (2006) 'The social costs of child poverty'.  In *Children and society* vol.20 pp54-66.

Beaumont, J. (2013) *Measuring national well-being – Children's well-being, 2013*.  Accessed online from http://www.ons.gov.uk/ons/dcp171766_304416.pdf on 31/7/2013.

Ben-Arieh, A. (2007) *Measuring and monitoring the well-being of young children around the world*.  Paris: UNESCO.

Bradshaw, J., B. Martorano, L. Natali and C. de Neubourg (2013). Children's Subjective Well-being in Rich Countries, Child Indicators Research, DOI 10.1007/s 12187-013-9196-4.

Bradshaw, J. (ed) (2011) *The well-being of children in the UK*.  Bristol: Policy Press.

Cameron, D. (2010) PM speech on wellbeing.Accessed online from https://www.gov.uk/government/speeches/pm-speech-on-wellbeing on 22/07/2013.

Camfield, L. and Tafere, Y. (2009) '"No, living well does not mean being rich"'.  In *Journal of children and poverty* vol.15 no.2 pp119-138.

Casas, F. (2011) 'Subjective social indicators and child and adolescent well-being'. In *Child Indicators Research* vol.4 pp555-575.

Cooper, K. and Stewart, K. (2013) *Does money affect children's outcomes? A systematic review*. York: JRF.

Cummins, R. A. (2000) 'Personal income and subjective well-being: A review'. In *Journal of Happiness Studies* vol.1 no.2 pp133-158.

Cummins, R. A. and Cahill, J. (2000) 'Progress in understanding subjective quality of life'. In *IntervcionPsicosocial: Revistasobre y calida de vida* vol.9 pp185-198.

Diener, E. and Biswas-Diener, R. (2001) 'Will money increase subjective well-being?'.In *Social Indicators Research* vol.57 pp119-169.

Diener, E., Suh, E. M., Lucas, R. E. and Smith, H. L. (1999) 'Subjective well-being: Three decades of progress'. In *Psychological Bulletin* vol.125 no.2 pp276-302.

Diener, E., Oishi, S. and Lucas, R. E. (2003) 'Personality, culture and subjective well-being: Emotional and cognitive evaluations of life'. In *Annual Review of Psychology* vol.54 pp402-425.

Diener, E., Lucas, R. E. and Oishi, S. (2005) 'Subjective well-being: The science of happiness and life satisfaction'. In Snyder, C. R. and Lopez, S. J. (Eds) *Handbook of positive psychology* (second ed., pp63-73). New York: Oxford University Press.

Duckworth, A. L., Steen, T. A. and Seligman, M. E. P. (2005) 'Positive psychology in clinical practice'.In *Annual Review of Clinical Psychology* vol.1 pp629-651.

Easterlin, R. A. (1974) 'Does economic growth improve the human lot?'. In David, P. A. and Reder, M. W. (Eds.) *Nations and households in economic growth: Essays in honour of Moses Abramovitz.* New York: Academic Press Inc.

Goswami, H. (2013) 'Children's subjective well-being: Socio-demographic characteristics and personality'. In *Child Indicators Reserach* online first DOI 10.1007/s12187-013-9205-7.

Griggs, J. and Walker, R. (2008) *The costs of child poverty for individuals and society: A literature review*. York: Joseph Rowntree Foundation.

Hendershot, G. E. (2004) 'The effects of survey non-response and proxy response on measures of employment for persons with disabilities'. In *Disability Studies Quarterly* vol.24 no.2, accessed online from http://dsq-sds.org/article/view/481/658.

Huebner, E. S. (1991) 'Initial development of the Students' Life Satisfaction Scale'. *School Psychology International* vol.12 pp231-243.

Huebner, E. S., Seligson, J. L., Valois, R. F. and Suldo, S. M. (2003) 'A review of the brief multidimensional student's life satisfaction scale'. In *Social Indicators Research* vol.79 pp477-484.

Knies, G. (2011) 'Life satisfaction and material well-being of young people in the UK'. In McFall, S. L. And Garrington, C. (Eds) *Early findings from the first wave of the UK's household longitudinal study*.Colchester: Institute for Social and Economic Research.

Layard, R. (2011) (2nd Ed) *Happiness: Lessons from a new science*. London: Penguin.

Layard, R. and Dunn, J. (2009) *A good childhood*. London: Penguin.

Main, G. (2013) 'Indicators and dimensions of child poverty: Comparing children's and adults' perspecitves'. Presented at the *Fourth International Society for Child Indicators Conference*, Seoul, 29th-31st May 2013.

Main, G. and Bradshaw, J. (2012) 'An index of child material deprivation'. In *Child Indicators Research* vol.5 no.3 pp503-521.

Main, G. and Pople, L. (2011) *Missing out: A child-centred analysis of material deprivation and subjective well-being*. London: The Children's Society.

Martorano, B., Natali, L., de Neubourg, C., and Bradshaw, J. (2013) Child Well-Being in Advanced Economies in the Late 2000s Social Indicators Research August 2013 on line first, (DOI) 10.1007/s11205-013-0402-z

McBee, M. (2010) 'Modelling outcomes with floor and ceiling effects: An introduction to the Tobit Model'. In *Gifted Child Quarterly* vol.54 no.4 pp314-320.

OECD (2013) *OECD guidelines on measuring subjective well-being*.OECD publishing.

Power, S., Edwards, T., Whitty, G. and Wigfall, V. (2003) *Education and the middle class.* Buckingham: Open University Press.

Redmond, G. (2008) 'Child poverty and child rights'. In *Journal of Children and Poverty* vol.14 no.1 pp63-82.

Rees, G., Goswami, H. and Bradshaw, J. (2010) *Developing an index of children's subjective well-being in England*. London: The Children's Society.

Rees, G., Goswami, H., Pople, L., Bradshaw, J., Keung, A. and Main, G. (2013) *The Good Childhood Report 2013*. London: The Children's Society.

Rees, G., Pople, L. and Goswami, H. (2011) *Links between family economic factors and children's subjective well-being: Initial findings from wave 2 and wave 3 quarterly surveys*. London: The Children's Society.

Ridge, T. (2002) *Child poverty and social exclusion.* Bristol: Policy Press.

Roberts, B. W. And DelVecchio, W. F. (2000) 'The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies'. In *Psychological Bulletin* vol.126 no.1 pp3-25.

Smith, N. (2010) *Unlocking the gate: Giving disadvantaged children a fair deal in school admissions.* Ilford: Barnardos.

Stevenson, B. and Wolfers, J. (2013) *Subjective well-being and income: Is there any evidence of satiation?*.CESifo Working Paper no.4222, accessed online from http://www.econstor.eu/bitstream/10419/72663/1/cesifo_wp4222.pdf on 24/7/13.

Stiglitz, J. E., Sen, A., and Fitoussi, J. P. (2008) *Report by the commission on the measurement of economic performance and social progress.* Accessed online from www.stiglitz-sen-fitoussi.fr/documents/report_anglais.pdf on 22/07/13.

Weiss, A., Bates, T. C. and Luciano, M. (2008) 'Happiness is a personal(ity) thing: The genetics of personality and well-being in a representative sample'. In *Psychological Science* vol.19 no.3 pp205-210.

Wilkinson, R. and Pickett, K. (2010) *The spirit level: Why equality is better for everyone*. London; Penguin.