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## RESEARCH REPORTS

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CPRT Research Survey 4 (new series)

# MIND THE GAP

## Tackling Social and Educational Inequality

Kate Pickett and Laura Vanderbloemen

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**MIND THE GAP**  
**Tackling Social and Educational Inequality**

Kate Pickett and Laura Vanderbloemen

A report for the Cambridge Primary Review Trust

September 2015

This is one of a series of research reports commissioned by the Cambridge Primary Review Trust (CPRT), a not-for-profit company established in December 2012 with the aim of consolidating and building on the evidence, findings and principles of the Cambridge Primary Review.

Cambridge Primary Review Trust is supported by Pearson Education, based at the University of York and chaired by Professor Robin Alexander.

A briefing which summarises key issues from this report is also available. The report and briefing may be downloaded from the Trust's website: [www.cprtrust.org.uk](http://www.cprtrust.org.uk). The website also provides information and other reports in this series, and about the many publications of the Cambridge Primary Review.

We want this report to contribute to the debate about the future of primary education, so we would welcome readers' comments on anything it contains. Please write to: [administrator@cprtrust.org.uk](mailto:administrator@cprtrust.org.uk). The report contributes to the Trust's research programme, which includes both funded research projects and this series of specially-commissioned research reviews relating to the Trust's eight priorities.

This report relates to CPRT priority 1, **equity**: *Tackle the continuing challenge of social and educational disadvantage, and find practical ways to help schools to close the overlapping gaps in social equity and educational attainment.*

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## **MIND THE GAP**

### **Tackling Social and Educational Inequality**

*One of the biggest problems facing British schools is the gap between rich and poor, and the enormous disparity in children's home backgrounds and the social and cultural capital they bring to the educational table.*

Melissa Benn & Fiona Miller, *A Comprehensive Future* (Compass, 2006)

#### **Introduction**

In September 2014, a *Daily Telegraph* headline, reporting on research from the Institute for Health Equity at University College London, declared that 'Half of children are not ready for school' (Donnelly, 2014; Institute of Health Equity, 2014). In some deprived areas of Britain researchers found that less than a third of children had reached a 'good level of development' by age five. Comparing British educational attainment to other Western societies, the same researchers ranked Britain fifth from the bottom among 29 countries.

Yet in the UK, as in other developed countries, across the political spectrum everybody agrees that children should have equality of opportunity – education is seen as the key process for ensuring that everybody has the same chance of social mobility and this philosophy underpins the aims and objectives of the UK Social Mobility and Child Poverty Commission, the advisory public body sponsored by the Department for Education, the Cabinet Office and the Department for Work and Pensions. Education is seen as good for individual wellbeing and also good for society, which depends on the contributions and economic productivity – not to mention the tax – of a skilled and educated workforce.

In this survey of published research we review and summarise the evidence that social inequality is related to both worse educational outcomes on average, and to inequalities in educational attainment. We briefly review the effects of poverty on educational outcomes, but as it is widely accepted that poverty negatively affects an individual child's ability to learn and to perform at a high level in school and this has been addressed in earlier reports from the Cambridge Primary Review (Ainscow *et al* 2010; Barron *et al* 2010; Mayall 2010; Muschamp *et al* 2010; Alexander 2010, chapters 4, 5, 6, 9 and 24), we place more attention on the less well known effects of economic inequality, generally measured as income inequality. We summarise leading edge thinking on the mechanisms that explain why income inequality at the national level is such a good predictor of both average educational attainment and educational inequality.

Our emphasis is on research conducted in the United Kingdom, but we use international research to provide context and comparisons. While in accordance with the concerns of Cambridge Primary Review Trust we would wish to focus on primary education, most of the relevant research has been conducted with pre-school children, secondary school children and young adults. This review therefore comprises a summary of evidence about educational outcomes in relation to inequality for children of all ages.

## **1 - INEQUALITY AND EDUCATIONAL OUTCOMES**

### **Poverty**

There is clear and long-standing evidence linking poverty and deprivation to educational outcomes (Bradley and Corwyn, 2002). However, there is not complete agreement about whether absolute poverty or relative poverty is most relevant for child development, attainment and wellbeing in rich, developed countries. Although some children in rich countries (and in the UK this is currently true for increasing numbers of children) lack sufficient nutritious food or adequate shelter, levels of extreme absolute poverty are low in

most wealthy, developed societies. Relative poverty, in contrast, is widespread and is measured in relation to the typical living standards of a country (Popham, 2015). A child living in a household whose income is less than 60 percent of the median household income is defined as poor. In the UK, 2.3 million children, or 17 percent, live in relative poverty, according to government statistics, and in some local areas the proportion rises to between 50-70 percent. Two-thirds of these children live in a family where at least one adult is working. Although child poverty fell dramatically between 1998 and 2012, due to (a) increased numbers of single parents working and (b) benefits paid to low income families, both absolute and relative poverty are no longer falling, and it is projected that 4.7 million children will be poor by 2020 (Child Poverty Action Group, 2014). At the time that this review is being completed, the UK government has proposed re-defining child poverty and introducing new legislation to report instead on worklessness, levels of educational attainment, family breakdown, debt, and drug and alcohol dependency. In other words, the consequences of poverty are to be re-labelled the causes of poverty. Relative poverty is a meaningful measure of the gap between the poor and the rest and it is an international benchmark of societal wellbeing. Progressive income growth of the bottom 40% of each country's population at a rate higher than the national average is a target of the soon-to-be-adopted United Nations Sustainable Development Goals. For the current UK government to change the definition of poverty creates confusion rather than clarity and will make it harder to assess the impact of policy on children.

Decades of research show that low socio-economic status predicts a 'wide array of health, cognitive and socio-emotional outcomes in children' (Bradley and Corwyn, 2002). Child development researchers have shown that if children are already behind in terms of school readiness and cognitive development when they start school, then unfavourable educational outcomes are much more likely, in spite of good schooling (Barnett *et al*, 2008; Barnett and Masse, 2007; Heckman, 2006; Heckman and Masterov, 2007; Magnuson *et al*, 2007a; Magnuson *et al*, 2007b). This is particularly relevant within the UK, if indeed half of children are not ready for primary school (Institute of Health Equity, 2014). And the challenge of lack of school readiness for individual life trajectories and wellbeing is compounded by the fact that when children are not ready for school this puts the school and all its pupils, as well as the individual deprived child, at a disadvantage. Schools with higher proportions of children entering from poor and deprived backgrounds will have an additional burden of remedial needs and teachers, teachers' aides and administrators will be pressed to provide the extra help and support required.

### **Socioeconomic position – beyond poverty**

Although there is debate in the social sciences about how best to measure the socioeconomic position of a family - whether this should be based on income, benefits, social class, parental education, or occupation/employment – there is broad agreement that these factors are all components of family socio-economic status and it is generally accepted that lower family socioeconomic position is an important predictor of lower levels of educational attainment (Bradley and Corwyn, 2002).

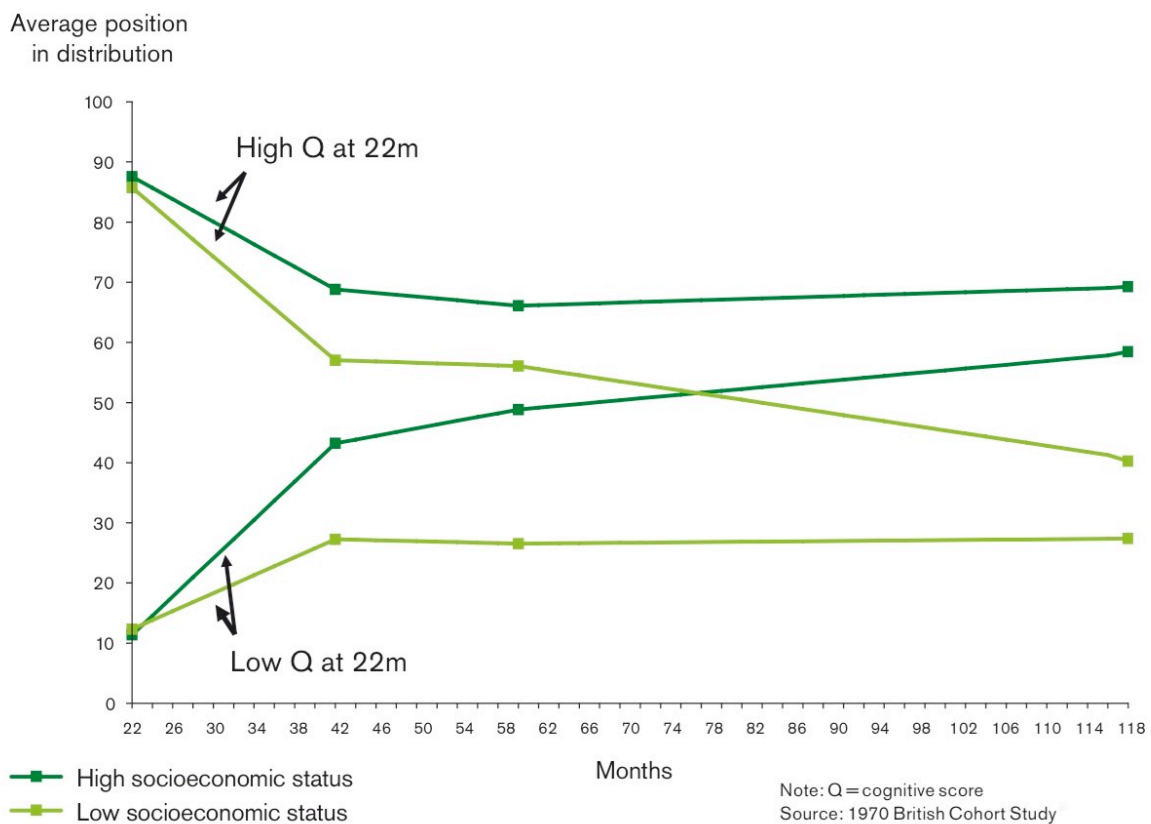
The Programme for International Student Assessment (PISA), a triennial international survey from the Organisation for Economic Co-operation and Development (OECD), evaluates education systems by testing the educational attainment of 15-year-old children, most recently in 2012. PISA has shown consistently over the years that family socioeconomic position is associated with worse educational outcomes. This is not news, but in a 2012 report based on the 2009 PISA results, OECD also presented findings about which societies seem to promote 'resilience' in children and families, that is to say the ability of children to achieve better educational outcomes than would be expected given their family socioeconomic position (OECD 2010b). After adjustment for socioeconomic factors, the UK performs worse than average in the OECD on the proportion of disadvantaged students who are resilient to their socioeconomic background. Countries like Canada, Finland, Japan

and Korea, in contrast, perform well overall, and their students perform well regardless of their own socioeconomic background.

A 2011 UNICEF report on child wellbeing in rich countries tells a similar story for a different age group: the UK is also falling behind other countries in further educational outcomes. As well as considering PISA scores, the Unicef report looked at the proportion of children aged 15-19 years who had left full-time education and who were Not in Education, Employment or Training (NEET) in 2009/2010. Young people in the UK are NEET more often than young people in many other rich countries, with the UK ranking 24th out of 33 countries (Unicef Innocenti Research Centre, 2013).

At the other end of the age spectrum, a research paper by Leon Feinstein of the London School of Economics has become widely known for illustrating how educational inequalities in Britain arise from socioeconomic position. Feinstein's results (see Figure 1) were reproduced and highlighted in the report on health inequalities commissioned by the last Labour government and known as the Marmot review (Feinstein, 2003; Marmot *et al*, 2010), consequently receiving a great deal of attention.

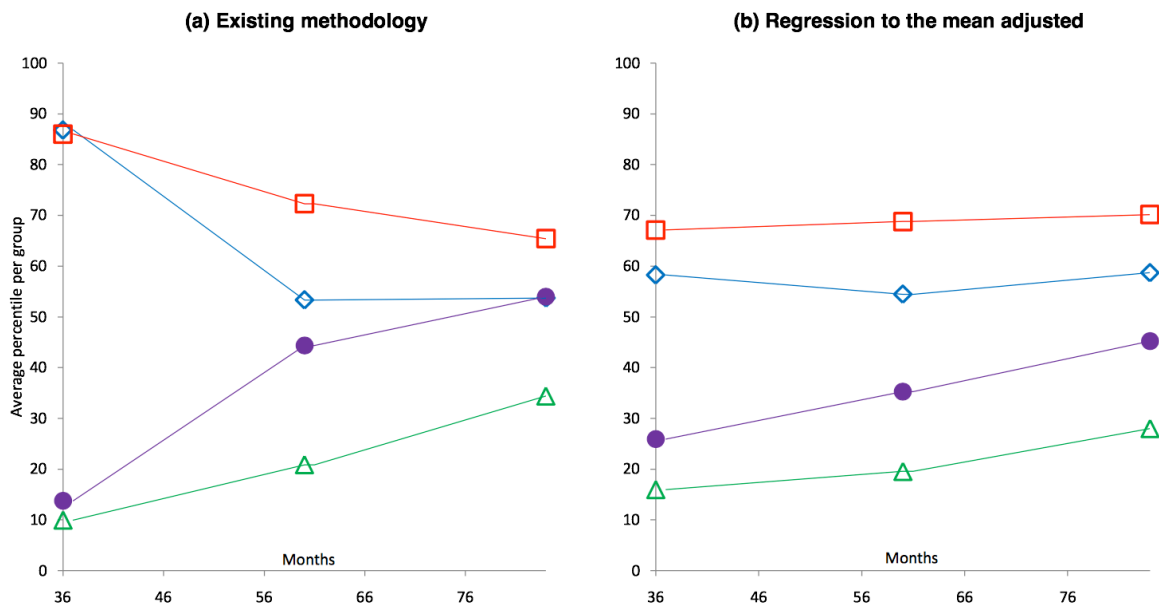
What this striking, although quite complicated, graph shows is the average ranking of cognitive scores over time for four groups of children all born in 1970. The children's cognitive scores (Q) were measured when they were 22 months old: those at about the 90th percentile for all children were labelled as High Q, those at the 10th percentile were labelled as Low Q. Both High Q and Low Q groups are divided into children from high socioeconomic status families (High SES: dark green lines) and those from low socioeconomic status families (Low SES: light green lines). Children's ranking in cognitive development was then repeated when they were aged 3½ years, 5 years and 10 years old.



**Figure 1: Inequality in early cognitive development in the 1970 British Cohort Study at ages 22 months to 10 years (Marmot *et al*, 2010)**

Children from High SES families with High Q at 22 months continued to do well in terms of cognitive development up to age 10, whereas children from Low SES families with the same High Q at 22 months ranked much lower by age 10. In contrast, among all children with Low Q at 22 months, children from High SES families ranked higher by age 10, while those from Low SES families continued to do poorly. The reason this graph drew a lot of attention is because of the lines that cross in the middle of the chart: low Q children from High SES families end up outperforming the high Q children from Low SES families. In other words, family background seemed to trump 'natural' ability.

Researchers John Jerrim of the University College London Institute of Education and Anna Vignoles of Cambridge University have criticised Feinstein's analysis for failing to take into account a statistical artefact called 'regression to the mean' (Jerrim and Vignoles, 2013). When they undertook the same analysis with children born in 1999/2000 using Feinstein's original method, and then repeated the analysis correcting for regression to the mean, they found that the dramatic crossover of lines disappeared (see Figure 2). Nevertheless, the new approach essentially leads to the same inference: family background is key to educational success over time and the performance of Low Q children from High SES families increases steadily over time.



**Figure 2: Estimated cognitive gradients in children born 1999/2000 comparing methods (Feinstein's original method and regression to the mean adjusted)**

□ High Q-High SES, ◇ High Q-Low SES, ● Low Q-High SES, ▲ Low Q-Low SES.  
(Jerrim and Vignoles, 2013)

This is not a fixed phenomenon of nature versus nurture that cannot be changed. The OECD PISA results on resilience described above showed that in some countries up to 70 percent of poor children are educationally resilient, whereas in the UK less than a quarter of poor children manage to exceed expectations based on family background. Contrary to commonly held beliefs, inequalities in cognitive development and intelligence are not a cause of social and economic inequality, but in large part a consequence. As Flynn has shown, average population intelligence scores have been improving steadily over time (Flynn, 2012), and certainly throughout the period where income inequality in rich developed countries has increased dramatically, since 1979/1980, educational standards have also been improving.

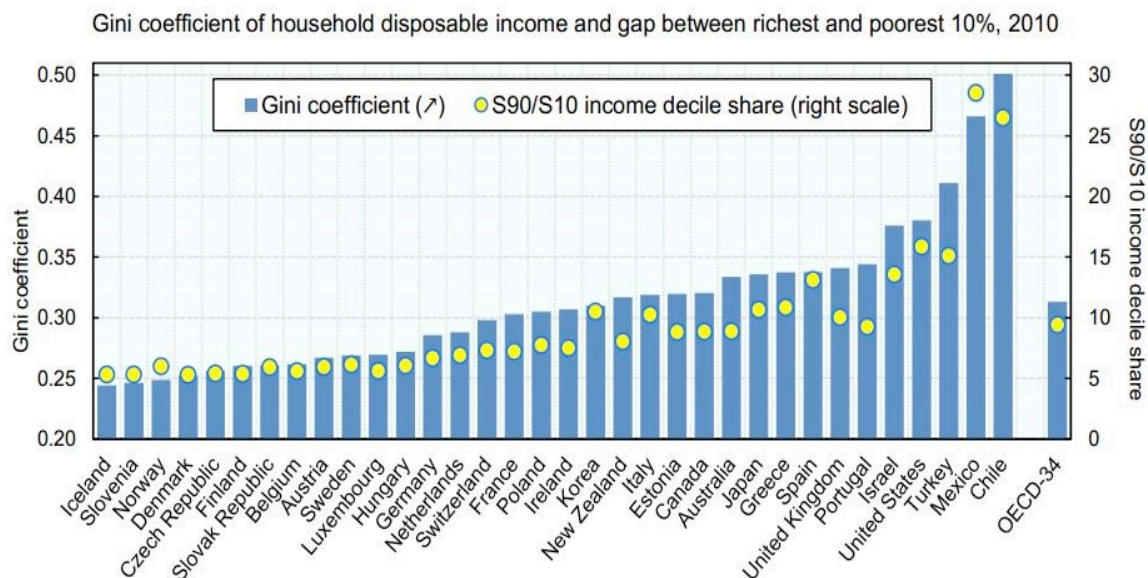
This suggests that more can be done to improve educational equity and maintain high average education results overall in the UK, and in other advanced economies this is already happening (OECD 2010b).

### Social inequality

In November 2014, Professor Danny Dorling, from the University of Oxford, commented on income inequality and educational attainment in the *Times Higher Education*:

Numeracy levels in...six wealthy countries...as assessed by the OECD, display an almost perfect inverse relationship to the countries' levels of economic inequality. So in places where the rich take far more, young people find it harder to understand why there can be such large differences in income between the median and the mean. (Dorling, 2014)

The point is ironic and rather poignant. To understand social or economic inequality – inequality of income and/or wealth – requires an understanding of the basic statistics of distribution, and in nations where inequality is more of a problem, fewer young people will be able to understand how it is measured. Children in the UK are growing up in one of the most unequal of the world's rich and developed countries (Figure 3).



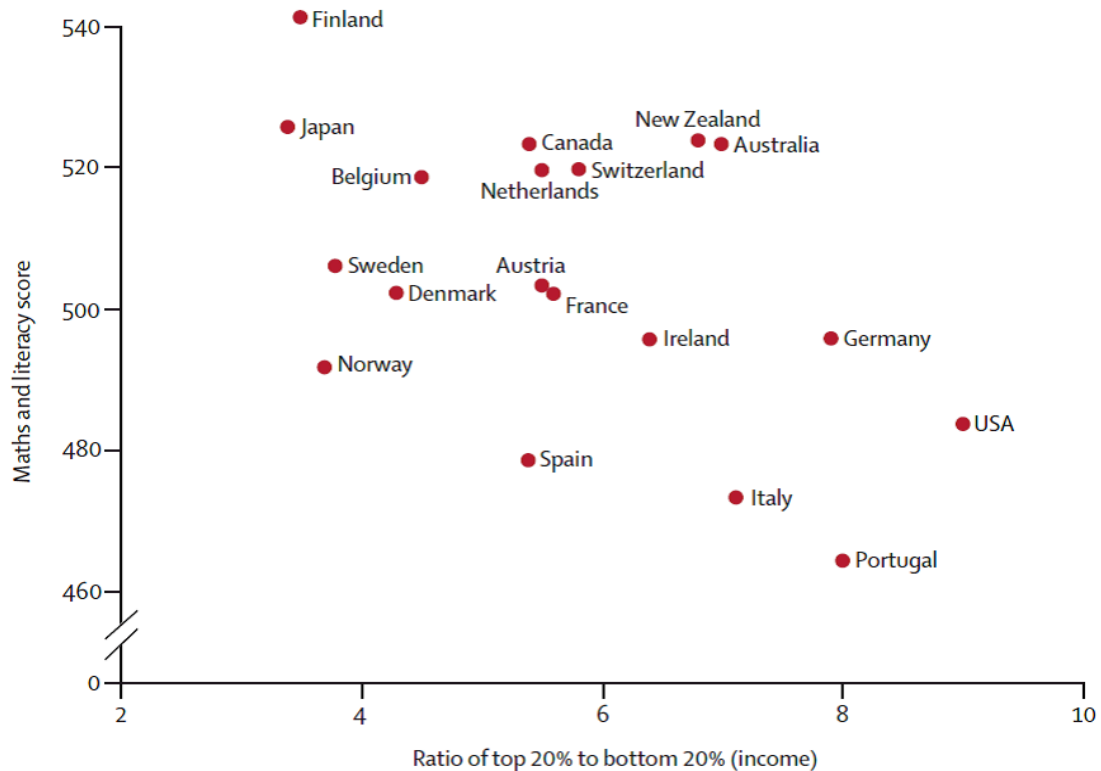
**Figure 3: The UK is among the most unequal of the OECD countries**

In 2006, one of us (KP), in collaboration with Richard Wilkinson, showed in a paper published in *The Lancet* that the average performance of countries on the 2003 PISA tests of maths and reading literacy was significantly related to a measure of income inequality among rich nations (See figure 4) (Wilkinson and Pickett, 2006).

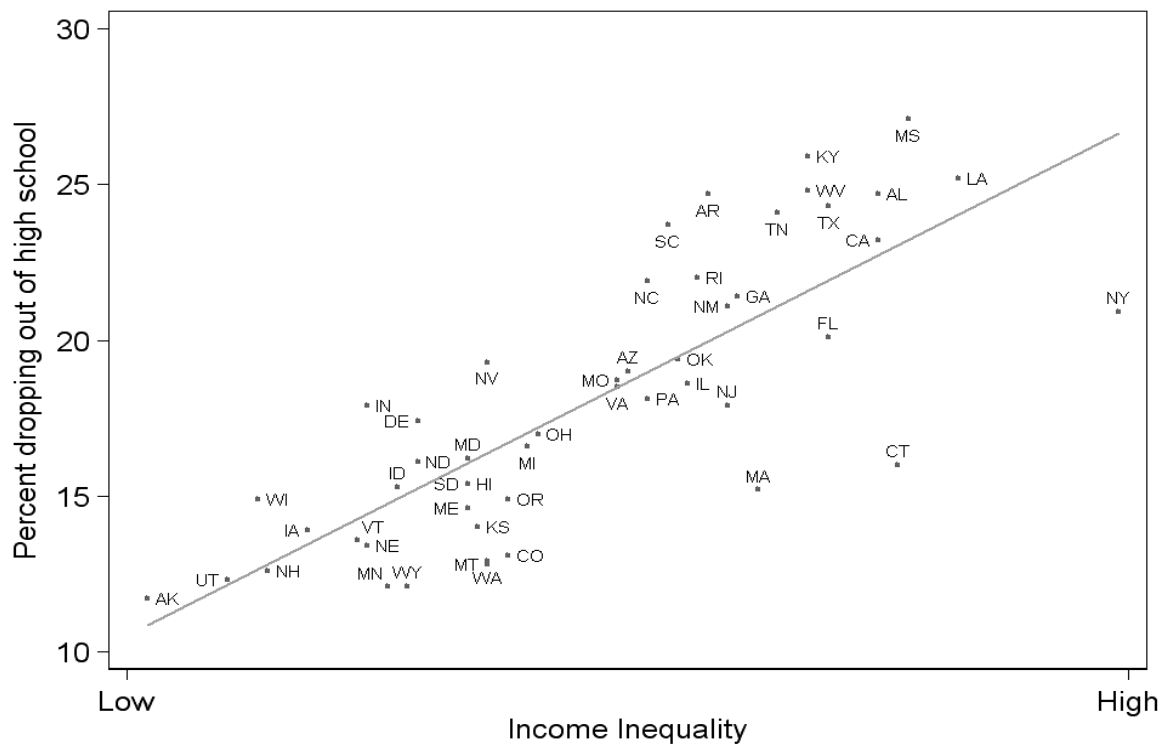
In *The Spirit Level*, the same authors showed the same relationship, as well as a similar finding for educational attainment of eighth graders in relation to income inequality in American states, and also that more children drop out of high school in more unequal US states (See figure 5) (Wilkinson and Pickett, 2010).

As well as average performance on test scores and levels of non-engagement (NEETs and high school drop out rates) there is international evidence that income inequality is related to inequalities in educational attainment and skills. As well as having more numerate adult populations, the more equal of the OECD countries also have a narrower distribution of

numeracy skills among adults (See figure 6), according to an OECD report published in 2014 (Van Damme, 2014).

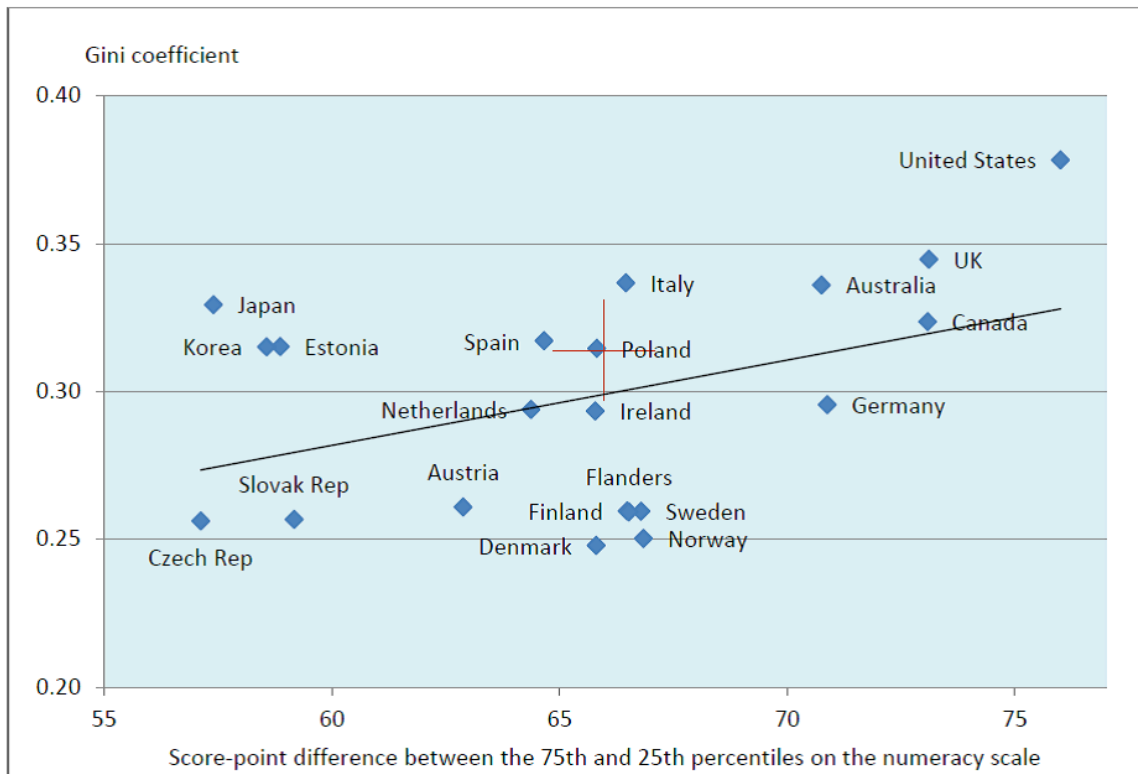


**Figure 4: Maths and literacy scores tend to be higher in more equal, rich countries (Wilkinson and Pickett, 2006)**



**Figure 5: More children complete high school in more equal US States**

(Wilkinson and Pickett, 2010)

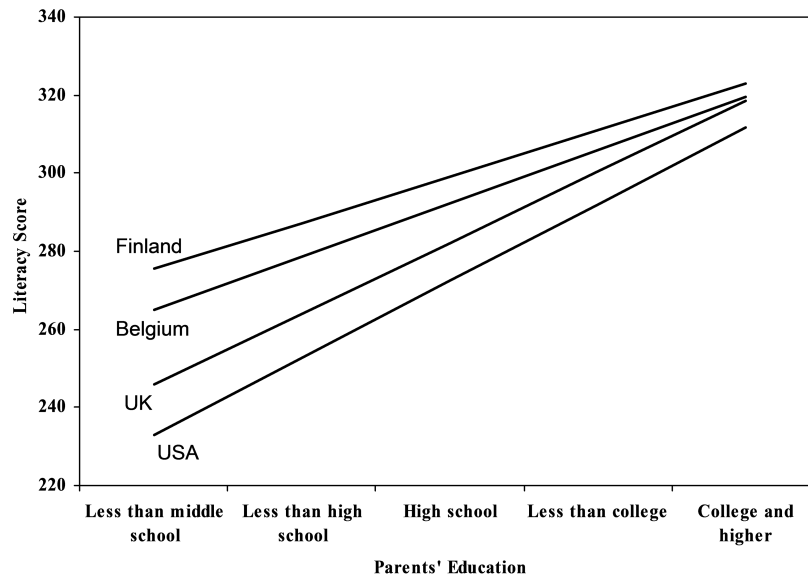


**Figure 6: Income inequality is related to a wider gap in educational attainment among adults.**

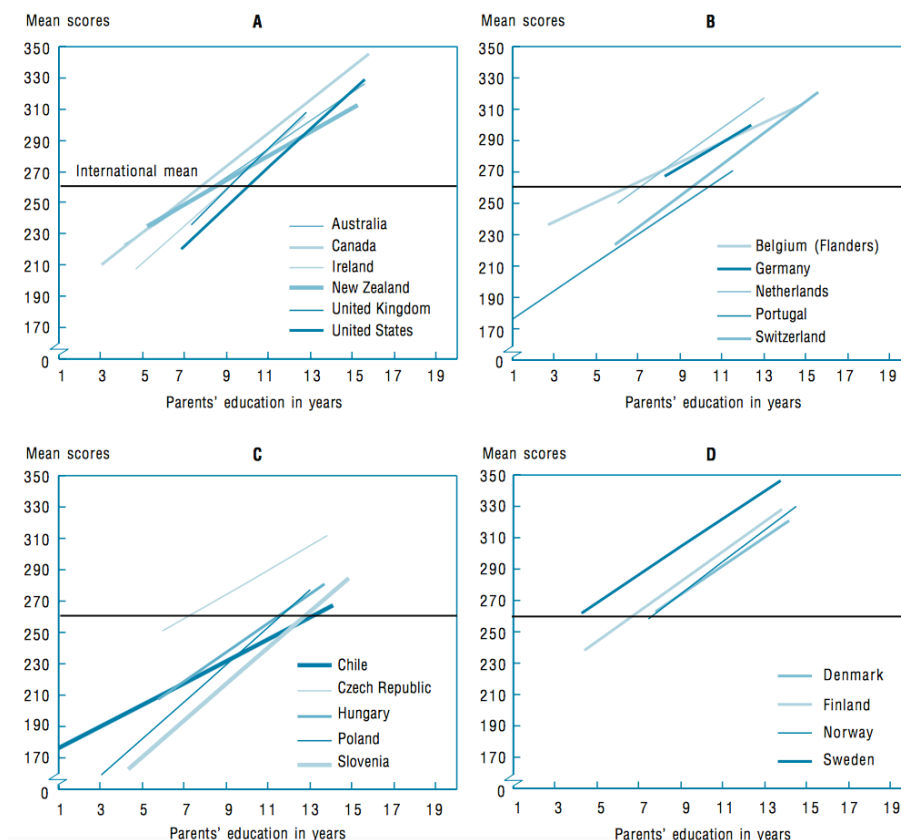
Is it possible to raise average standards of performance without tackling inequality? Evidence suggests that there is a relationship between income inequality and educational outcomes across the economic spectrum – in other words, even the children of well educated and affluent parents perform better in more equal societies. This can be seen in Figure 7, in which data from Douglas Willms, of the University of New Brunswick, Canada, is used to show the relation between young adults' literacy scores from the International Adult Literacy Survey and their parents' level of education - in Finland, Belgium, the UK and the USA (Willms, 1999).

At the bottom of the social ladder, the country you live in makes a marked difference to educational outcomes, but the difference also persists right up the social scale. Of the countries in Figure 7, the UK and USA have high levels of income inequality and steep social gradients in educational performance, Belgium and Finland are more equal and have flatter gradients. It is clear that an important influence on average performance – on national levels of achievement – in each of these countries is the steepness of the social gradient. The USA and UK have low average performance, pulled down across the social gradient.

This pattern has also been demonstrated for a wider set of developed countries by OECD and Statistics Canada (2000). Countries were grouped by income inequality with the most unequal countries in group A, and the most equal in group D (see Figure 8). Literacy scores of 15 year olds tend to be higher in the more equal countries, where nearly all socioeconomic groups have scores above the international mean. The social gradient is also shallower in these countries than in the most unequal countries (OECD and Statistics Canada, 2000).

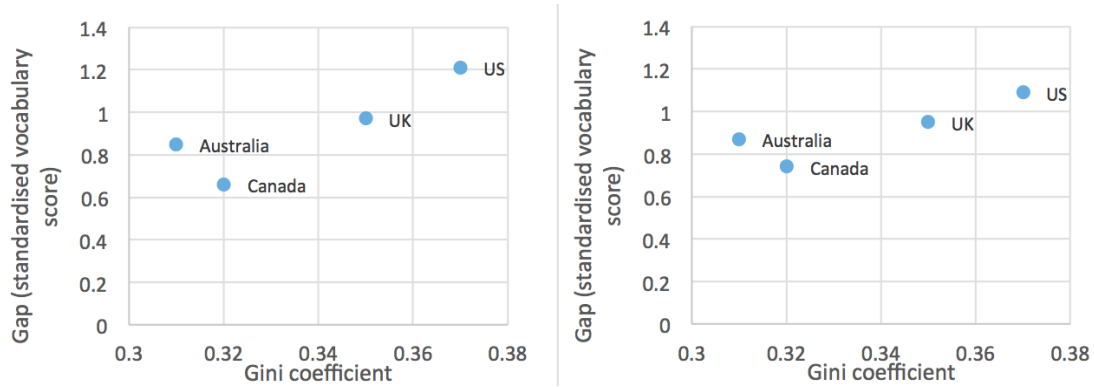


**Figure 7: Even among the children of the best educated parents there is a literacy gradient: children in more equal, rich countries tend to score higher than those in more unequal, rich countries (Willms, 1999)**

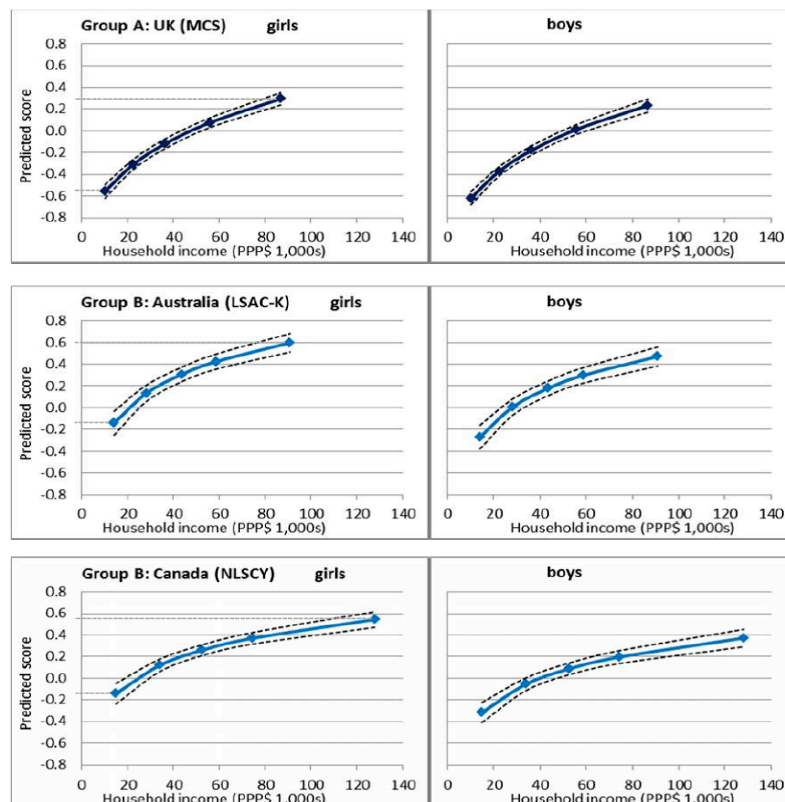


**Figure 8: The tendency for higher average literacy scores in more equal, rich countries holds for a broad range of countries and distributions of income (Oecd and Statistics Canada, 2000)**

A 2013 report from the Programme for the International Assessment of Adult Competencies (PIAAC) showed similar social gradients in adult literacy (OECD, 2013) while a 2010 OECD analysis of PISA literacy scores for 65 countries, by parents' socioeconomic status showed between-country variation in both the level and slope of the social gradient and a trend for more unequal countries to have steeper gradients (Bird, 2014). Bradbury and colleagues compared inequalities in literacy in the US, UK, Canada and Australia (Figure 9) and showed that gaps were larger in the two most unequal countries, the UK and USA (Bradbury *et al*, 2011).



**Figure 9: Inequalities in literacy are less pronounced in Canada and Australia, compared with the UK and USA (Bird, 2014; Bradbury *et al*, 2011)**



**Figure 10: Children from families with low parental education or low income fell further behind their peers in the UK than in Australia and Canada (Bird, 2014)**

In a recent doctoral thesis supervised by one of the authors (KP), verbal cognition at age 5 was compared for three cohorts of children from the UK (Millennium Cohort Study),

Australia (Longitudinal Study of Australian Children) and Canada (National Longitudinal Study of Canadian Youth) (Bird, 2014). At age 5, just as at age 15 in the PISA data, steep social gradients were present in all 3 cohorts in a pattern that was consistent with the level of income inequality in the country (see Figure 10). Standardised scores on verbal cognition were converted into ‘months of development’ for comparison: children from families with low parental education or low income fell further behind their peers in the UK, the most unequal country of the three.

## 2 – INEQUALITY AND CHILDHOOD

Social inequalities in cognitive performance and educational outcomes start early in life and are persistent, shaping children’s long-term trajectories. As we have shown in the studies reviewed above, family social status and societal levels of income inequality are both relevant factors. In this section, we review how socioeconomic status and inequality affect family life, indirectly affecting children’s capabilities and attainment, and how they impinge directly on children’s cognitive and school performance.

### Impact of low social status and inequality on parents

Evidence suggests that social and economic inequality affects the quality of family life and relationships, thus hampering the capacity of parents and caregivers to provide an optimal environment for child development and wellbeing. As Usha Goswami’s report in this CPRT series reminds us (Goswami 2015), much is now known about the importance of the early years for later development. Learning begins at birth and the first few years of life are a critical period for brain development. This early learning can be enhanced or inhibited by the environment in which a child grows up.

Essential for early learning is a stimulating social environment. Babies and young children need to be in caring, responsive environments with strong attachments to those who care for them. They need to be talked to, loved, and interacted with. They need opportunities to play, talk and explore their world, and they need to be encouraged within safe limits, rather than restricted in their activities or punished.

In societies with higher levels of income inequality, far more parents will be suffering from mental health problems, including depression and anxiety, and substance and alcohol misuse, well-known risk factors for poor child development (Pickett and Wilkinson, 2007; Pickett and Wilkinson, 2010). Even mild to moderate depression and anxiety can have adverse effects on family life. The correlation between income inequality and mental illness is very strong in international comparisons and in some of the most unequal developed countries, such as the UK and USA, between a fifth and a quarter of the adult population, many of whom will of course be parents, have experienced mental illness within a 12 month period (Pickett and Wilkinson, 2010).

A recent study of American counties found higher levels of child maltreatment in areas with higher levels of income inequality, even after adjusting for parents’ level of education, levels of welfare and benefits, child poverty rates and state-level variations in rates of maltreatment (Eckenrode *et al*, 2014). Some families react to deprivation with more punitive and unresponsive parenting, even to the extent of becoming neglectful or abusive (Mcloyd, 1990; Mcloyd and Wilson, 1990). Children living in low-income families experience more family conflict and disruption and are more likely to witness or experience violence, as well as to be living in more crowded, noisy and substandard housing (Evans and English, 2002) and the quality of the home environment is directly related to income (Garrett *et al*, 1994). Another American study linked rising divorce rates to larger increases in county-level income inequality (Levine *et al*, 2010).

It is important to note here that associations between income inequality and compromised outcomes for children cannot be explained away by family breakdown, as is frequently asserted by right wing politicians and the media. Although children raised in single parent households in some of the more unequal developed countries, like the UK, are indeed at a disadvantage, there is no international association between child wellbeing and the prevalence of single parent households. In the more equal developed countries, such as the Scandinavian countries, the links between single parenthood and poverty, found within countries like the UK, are broken through universal and welfare provision of family support and services.

Other consequences of inequality derive from the ways in which income inequality heightens the importance of status and consequently income and status competition: people work longer hours and accumulate more household debt in more unequal societies (Bowles and Park, 2005; Iacoviello, 2008). Lack of time for family life and the stress of debt are significant problems in the lives of families in unequal societies. UNICEF UK commissioned a qualitative study of family life in three countries to explore relationships between inequality, consumerism, and family life and the lived experiences of children. They conducted ethnographic and focus group studies in Sweden, which has low inequality and high child wellbeing; Spain, with midrange inequality and high wellbeing and the United Kingdom, with high inequality and low wellbeing (Ipsos-Mori and Nairn, 2011). In their summary findings, they reported that:

British families [were] struggling, pushed to find the time their children want, something exacerbated by the uncertainty about the rules and roles operating within the family household. And we found less participation in outdoor and creative activities amongst older and more deprived children.

Many UK children do not refer to material goods when talking about what makes them happy, and also understand the principles of moderation in consumption, but many have parents who feel compelled to purchase, often against their better judgement.

Children [have a] growing awareness of inequality as they approach secondary school and the role of consumer goods in identifying and creating status groups within peer groups...Whilst many UK parents are complicit in purchasing status goods to hide social insecurities this behaviour is almost totally absent in Spain and Sweden. Inequality also has its part to play in access to sporting and creative activities in the UK.

It is important to emphasise that difficulties in family relationships and parenting are not confined to the poor. Within the UK Millennium Cohort Study, a large study of children born in 2000 and 2001, even mothers in the second from the top social class group are more likely to report feeling incompetent as a parent or having a poor relationship with their children, compared to those in the topmost group (Wilkinson and Pickett, 2010). A 2014 study of 31 European countries found that people felt higher levels of status anxiety at all levels of the social hierarchy in more unequal countries (Layte and Whelan, 2014).

When parents' ability to provide a nurturing and stimulating environment for development is compromised by their experiences of inequality then children miss out on some of the essential building blocks for cognitive development and later educational attainment. Figure 11 shows that children growing up in professional families in the US hear a vastly richer vocabulary during their early years than children in working class families or families receiving benefits.

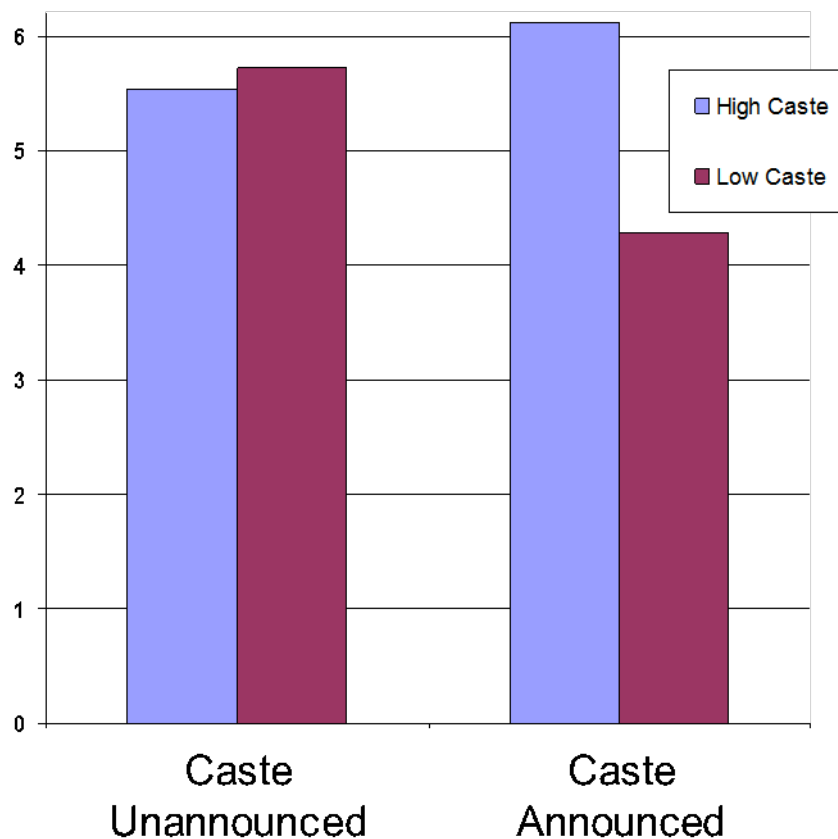
Family Status	Words heard per hour	Words heard in a 100-hour week	Words heard in a 5,200 hour year	Words heard in 4 years
Welfare	616	62,000	3 million	13 million
Working class	1,251	125,000	6 million	26 million
Professional	2,153	215,000	11 million	45 million

**Figure 11: Children from families receiving welfare benefits and in working class families hear fewer words than children in professional families.**  
(Heckman, 2011; Hart and Risley, 1995)

### Impact of low social status and inequality on children

Recent studies clarify that greater income inequality leads to increased status anxiety among adults across the socioeconomic spectrum (Layte, 2012), to reduced solidarity (Paskov and Dewilde, 2012), to lower levels of agreeableness (de Vries, Gosling, and Potter, 2011), and a greater tendency to 'self enhance', i.e. consider oneself to be better than average (Loughnan *et al*, 2011). It is therefore natural to expect that children will also become aware of status differences within their own society, and be affected by the psychosocial context in which they are growing up. The age at which children become consciously aware of class and status differences may vary, but research has found that children are fully conscious of differences before they leave primary school: they can rank occupations hierarchically and place people into social classes by indicators such as clothing, houses, and cars (Simmons and Rosenberg, 1971; Tudor, 1971).

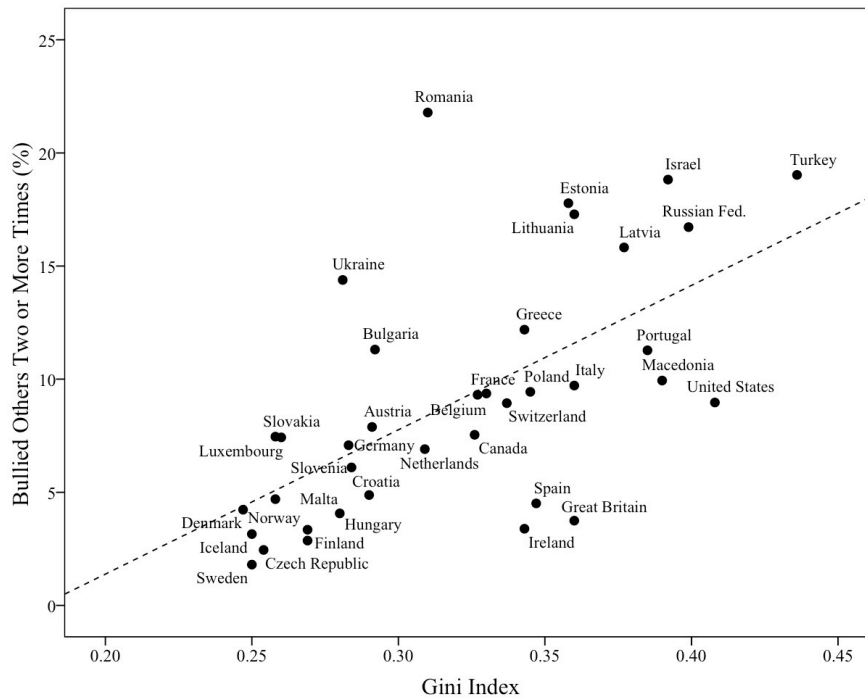
Status differentiation, or one's awareness of how other people perceive your status, affects physiology, cognitive performance and emotions. A meta-analysis of 208 laboratory studies of acute psychological stressors and cortisol responses, most of which were conducted with students and young people, showed that stronger cortisol responses were elicited if tasks were uncontrollable or characterized by 'social-evaluative threat' (threats to self-esteem or social status) (Dickerson and Kemeny, 2004). Children's cognitive performance was shown to be affected by status differentiation in a study of 11-12 year old Indian boys (Figure 12). Boys from high and low castes could solve mazes equally well before they knew each other's caste, lower caste children did much less well as soon as caste was publically declared (Hoff and Pandey, 2004). The same phenomenon was shown for social class by Croizet and Dutrévis, children of low socioeconomic status performed less well when told that tests were a measure of intelligence (Croizet and Dutrévis, 2004).



**Figure 12: The effect of caste identity on children's cognitive performance (Hoff and Pandey, 2004)**

Similar processes were evident when black and white American school children and college students were given cognitive tests (Steele and Aronson, 1995). When told the tests were to measure intelligence, the black students did much less well, as this provoked their awareness of stereotyped perceptions of African Americans. Such 'stereotype threat' can lead to worse performance when gender or class differences are invoked, as well as ethnic differences. Other experiments have shown how the creation of artificial differences in status can lead to differences in behaviour and performance (Peters, 1987).

Income inequality seems to have powerful effects on relationships between children. Pickett and Wilkinson have found that the proportion of children finding their peers kind and helpful is lower in more unequal rich countries (Pickett and Wilkinson, 2007a). Elgar and colleagues looked at income inequality and school bullying in 117 nationally representative samples of adolescents between 1994 and 2006, finding that inequality was significantly related to bullying others and being a victim of bullying, and the relationship was partially mediated by country differences in homicides, suggesting that a social milieu of interpersonal violence affects children as well as adults (Figure 13) (Elgar, Pickett *et al*, 2013). Similarly, juvenile homicides rates are, like adult homicide rates, correlated with income inequality (Pickett, Mookherjee, and Wilkinson 2005). These associations reflect the importance of loss of face and people's sensitivity to feeling disrespected and looked down on in societies where status is more salient.



**Figure 13: Income inequality and school bullying by 11-year-olds in 37 countries (Elgar *et al*, 2009)**

Studies of socioeconomically mixed neighbourhoods find that poor children gain no advantage in wellbeing from living in affluent neighbourhoods. In a UK study, poor boys living in well off neighbourhoods were the most likely, and poor boys in poor areas the least likely, to have behavioural problems, whereas rich children living in poor neighbourhoods were more likely to engage in antisocial behaviour (Odgers *et al*, 2015). In the US Moving to Opportunity programme, started in the 1990s, in which poor families were randomised to receive help to move to more affluent neighbourhoods, children whose families had moved before the age of 13 had better long-term socioeconomic outcomes than control children, whereas those who moved when they were 13 years or older did worse, perhaps because disruption of friendship networks is more likely to result in social exclusion for older children (Chetty, Hendren and Katz, 2015). Living in more unequal communities seems to enhance awareness of status differences and differences in opportunities and social inclusion, consistent with the literature that shows health benefits for ethnic minorities of living in communities with higher proportions of people of the same ethnicity (Pickett and Wilkinson, 2008).

However, another body of research studies ask whether or not children living in 'better' neighbourhoods do better in school (Leventhal and Brooks-Gunn, 2000) and generally finds that children living in affluent neighbourhoods exhibit greater school readiness and higher attainment than their counterparts living in neighbourhoods with people of lower socioeconomic status. This may be because such neighbourhoods have better resources, or because relationships between people are better in affluent neighbourhoods, or because social norms and expectations are different.

### **Impact of low social status and inequality on teachers**

Researchers at the University of Bristol found that black children are systematically marked down by teachers, when they compared marks given in national tests marked remotely with marks given by teachers in the classroom (Burgess and Greaves, 2013). In contrast, Indian and Chinese students tended to be marked upwards. White British children from poor

neighbourhoods were also marked down, compared to children from more affluent neighbourhoods. The researchers interpreted these findings as reflecting unconscious stereotyping and found that discriminatory marking was most pronounced in areas with fewer black or poor children. This phenomenon, where children do better or worse depending on what their teachers expect of them is known as the 'Pygmalion effect' and has been reported in the literature since the late 1960s (Rosenthal and Jacobson, 1968; Ferguson, 2003). The phenomenon is not confined to the USA and UK; a recent study in India found that teachers gave lower scores to exam papers they believed to come from lower caste children (Hanna and Linden, 2012).

This is obviously a sensitive issue and the purpose of discussing it here is not to point the finger at teachers but to highlight both how structural and cultural inequalities have deep-seated effects on sub-conscious perceptions and the need for teacher training that explicitly addresses issues of social class and socioeconomic status and their relevance in the classroom. Social class has been called the 'zombie stalking English schools' by Diane Reay of the University of Cambridge, who argues that social class has never been adequately addressed within education (Reay, 2006). Efforts to widen participation in higher education have benefited the middle class more than poorer children (Blanden *et al*, 2005), whilst teachers and schools have been expected to reduce (that is to say, fix) educational inequalities whatever the broader social context of poverty and inequality. Reay describes working class children who have a sense of educational worthlessness, and who feel that they are not valued or respected within their schools. They feel that teachers look down on them, make them look stupid, think they're dumb...she suggests that working class children are too often seen as 'inadequate learners with inadequate cultural backgrounds'. She points to the paradox of the current English educational assessment system, which is promoted as raising standards, whilst it actually entrenches failure in working class children. Meanwhile, teacher training courses are bereft of texts and curricula that would enable trainees to think about social class, socioeconomic position and inequality in relation to education, schools and classrooms. As Reay (2006) concludes:

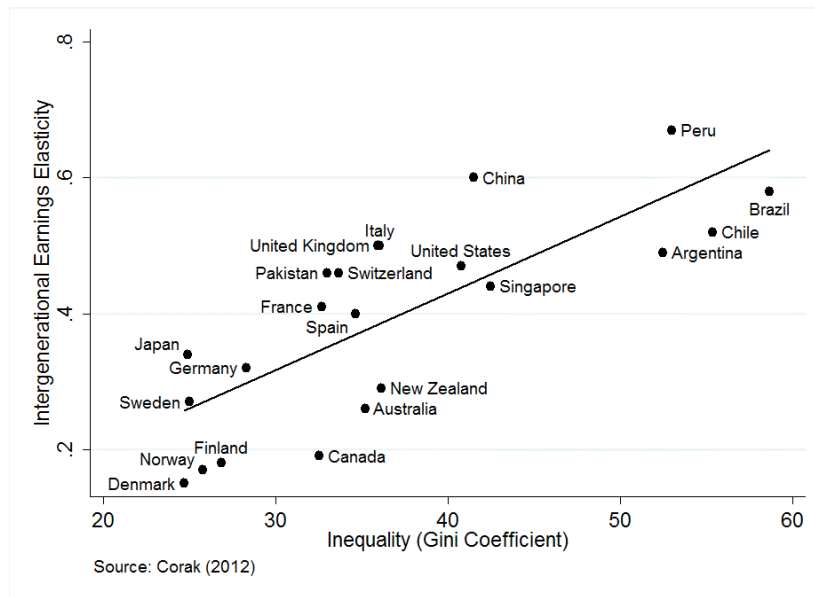
We cannot rely on serendipity, the fortuitous chance that teachers will educate themselves about the importance of social class in schooling, that they will have knowledge and understanding of the different class cultures of the children in their classes.

## **Social mobility**

Social mobility is typically measured as intergenerational income or educational mobility, in other words the correlation between children's earnings or educational levels as adults and the incomes or educational levels of their parents. Much has been written on declining or stagnating social mobility in the UK over the past half century, but there is consensus that social mobility is certainly not increasing, and that in comparison to other rich, developed countries, social mobility in the UK is low.

It is also clear that there is a strong correlation between a country's level of income inequality and its social mobility: it appears that equality of opportunity is not possible without greater equality of outcomes (Figure 14).

Using data from the nationally representative 1970 British birth cohort study, the Social Mobility & Child Poverty Commission found that better-off children who were less able at age 5 were 35 per cent more likely to become high earners as adults than children who scored highly for cognitive development at age 5 but came from poor families (Mcknight, 2015). Affluent families provide a 'glass floor' for their children, protecting them from downward social mobility; the Commission describes this as the 'hoarding' of educational and employment opportunities by the wealthy and privileged.



**Figure 14: The so-called ‘Great Gatsby Curve’: more inequality is associated with less mobility across the generations.**

### 3 – CLOSING THE GAP: WHAT WORKS?

#### Educational spending

Throughout this review, international comparative studies have highlighted how societal levels of income inequality compromise children’s educational achievements and engagement with education. Such studies can also provide useful evidence on whether country-level social policy, such as a higher level of public spending on education, might be beneficial. In a 2012 study, Siddiqi and colleagues, from the University of Toronto and Harvard University, examined national income, income inequality and government spending on education in relation to reading literacy among adolescents (Siddiqi *et al*, 2011). They used OECD data on 119,814 students in 5,126 schools in 24 countries. After controlling for individual pupil and school differences, they found that Gross Domestic Product per person, a measure of average income or standards of living, had a statistically significant but small positive effect on literacy, whereas educational spending had no effect. Income inequality had a large negative effect on literacy among these adolescents. Economic growth and the allocation of the proceeds of growth to public education is not the answer to poor educational outcomes.

The Programme for International Student Assessment (PISA) 2012 report also provides useful information for assessing educational spending. It showed that spending on education grew faster in the UK than the OECD country average and no country saw a faster rise in spending on further and higher education over the past two decades. But although the UK enrolls a high proportion of young children into early education programmes, it spends less than the per-pupil OECD average on these young children. The public vs private share of spending on education has also changed very rapidly in the UK. In 2000, just under 15 percent of spending was private, by 2009 it was over 30 percent. Primary school teachers’ pay is above the OECD average in the UK but class sizes are larger than in most other countries.

#### The Pupil Premium

The pupil premium was one of the UK Coalition government’s flagship education policies, introduced in England in April 2011 with the aim of increasing the educational attainment of

disadvantaged pupils. Additional funding is paid to schools according to the number of children eligible for free school meals and in local authority care, and Ofsted reports that in 2013-2014 schools received £953 for each eligible primary school pupil and £900 for each eligible secondary pupil.

The earliest report by Ofsted in 2012 found that less than 10 percent of school leaders reported that the Pupil Premium had 'significantly changed the way they supported pupils from disadvantaged backgrounds' (Ofsted, 2012). By 2013, this situation had improved and Ofsted found that more schools were introducing new initiatives and some were starting to raise attainment, but provision remained patchy (Ofsted, 2013). Ofsted now reports on use of the pupil premium funding in its regular school inspection reports, reporting how eligible pupils are doing compared to others in the school and to national attainment.

In its most recent report, published in November 2014 and based on 151 inspection reports, as well as national data, Ofsted again found improvements in effective use of the Pupil Premium to raise attainment (Ofsted, 2014). The most commonly reported use of the funding is for additional staff, including both teachers and teaching assistants, to support English and mathematics tuition. There was an association between the overall effectiveness of a school and the effect of the Pupil Premium, with all of the 86 schools judged to be good or outstanding closing attainment gaps. This was not evident in the 15 schools judged inadequate, where the Pupil Premium was not having an impact on the progress of eligible pupils.

Ofsted suggests that it may be too early to determine whether the Pupil Premium will close the attainment gap, although the report makes it clear that inspectors find the most progress in schools with strong leadership, good governance and robust tracking systems. There are also clear geographical variations in attainment for eligible children. In the worst performing areas, Barnsley, Portsmouth, South Gloucestershire, North Lincolnshire and Northumberland, only one in four children eligible for free school meals achieves five good GCSE passes including English and mathematics. In the best performing areas, Kensington and Chelsea, Westminster, Southwark, Tower Hamlets and Lambeth, three fifths of eligible pupils achieve the benchmark. These are stark differences, and the inclusion of some very deprived local authorities in the better performing areas suggests there is potential for improvement elsewhere. All this suggests that the Pupil Premium helps good schools, with good leadership, to do even better for their students but isn't enough to overcome the problems of weaker schools.

### **System changes: Scandinavia and England**

A case study that exemplifies how whole system change can transform education throughout society is offered by Finland, which has a wholly non-selective system from early childhood to age 16 and whose pupils score consistently highly on the international PISA tests (Benn and Millar, 2006). Finland underwent wholesale reform about 40 years ago, moving to an entirely comprehensive school system, improving the quality of teacher training and raising the status of the teaching profession. All teachers have a Master's degree and also have a high degree of autonomy in what and how they teach, within a national curriculum framework. Children start school at a later age than in many other countries, are subject to less standardised testing, and have more break time during the school day. After rapid improvement in its education attainment, Finland topped the PISA league tables in 2000, 2003, and 2006, came third in 2009 and, although it moved down the rankings slightly in 2012, it remained the best performing country overall in Europe.

In contrast, Sweden has seen a steep decline in its PISA rankings, and a May 2015 report from the OECD urged the Swedes to undergo 'a comprehensive education reform', limiting parent and pupil choice, to restore previously high educational standards (OECD, 2015). In the 1990s Sweden began to allow private ('free') schools to compete with public schools for government funds. The OECD report recommended that Sweden needs higher teacher

salaries, better training, and more stringent entry requirements for teachers, a better system of schools inspection, and a focus on the integration of immigrants into education. Sweden's declining performance following the introduction of free schools is of course salient in England, where free schools (non-profit-making, independent, state-funded schools which are not controlled by a local authority) were introduced by the Coalition government in 2010. More than 400 free schools were approved for opening between 2010 and 2015. By July 2015, Ofsted had rated a quarter of the 93 mainstream free schools it had inspected to that date as inadequate or requiring improvement (Adams, 2015).

In addition to free schools, since 2002 academy schools have been promoted as a way to improve educational standards, and particularly for disadvantaged children. In a report from the Centre for Economic Performance at the London School of Economics, Stephen Machin and Olmo Silva found 'little evidence that academies helped pupils in the bottom 10 percent and 20 percent of the ability distribution' (Machin and Silva, 2013). Primary school academies have only been established since 2010 and evidence on their performance in raising educational standards and closing educational gaps for poor children is limited. In January 2015, however, the Commons Select Committee on Education found 'no convincing evidence of the impact of academy status on attainment in primary schools' (House of Commons Education Committee, 2015). Astonishingly, during its inquiry into academies and free schools, the Committee found that the 'memorandum submitted by the Department for Education failed to address (the) terms of reference and instead presented a sustained paean of praise to the success of the policy. In consequence, (they) called DfE officials as witnesses to put on the record facts about the programme and how it was run'. Further critique of DfE's handling of evidence on the efficacy of academies in the primary sector has been provided to CPRT by Warwick Mansell (Mansell, 2015a, 2015b).

In its 2015 report on the performance of academy chains, The Sutton Trust found that 44 per cent of individual academies were below the government's definition of a 'coasting' school and three out of four academy chains have at least one school below that benchmark (Hutchings *et al*, 2015). Some chains were achieving impressive outcomes for disadvantaged students but a larger group of chains were showing no improvements since The Sutton Trust's previous year's report, and the authors concluded that these schools may be harming the prospects of their disadvantaged pupils. The majority of the chains analysed were underperforming on attainment for their disadvantaged pupils compared to mainstream schools.

### **Random allocation of children to schools**

If increasing parental choice through free schools appears to have no benefits for educational attainment, and may increase educational inequalities, what policies might encourage a more diverse distribution of students in schools and thus enhance a more equitable distribution of parental investment? The OECD report on Sweden recommends that municipalities impose some restrictions on parental choice to achieve this. In the UK, since 2008, Brighton and Hove local authority has used random allocation of children to schools as a tie-breaker for over-subscribed schools rather than using distance from home to school. The policy aimed to reduce social class segregation in schools and improve the opportunities for poor children to access high quality schools.

A 2010 study found that random allocation alone did not give poor children a greater chance of getting a place at a high quality school but did find a significant weakening of the dependence of school attended on students' prior attainment (Allen *et al*, 2013). Some pupils from the wealthiest areas with high standardised test scores were admitted to lower quality schools than might have been expected. This was balanced by a broader group of pupils who were admitted to higher performing schools, but all these changes were shaped much more by alterations in local catchment areas than by random allocation.

## **Public vs. private, selection vs. comprehensive schooling**

A full examination of the evidence on comprehensive education, local authority control of schools and whether or not the existence of private and independent state schools raise standards for everybody is published by the Local Schools Network (Benn and Downs, 2015). It highlights the strong international evidence from OECD that comprehensive schooling narrows educational inequality gaps by social class (OECD, 2012), the failure of the grammar school system to boost social mobility, as well as the qualitative studies that explore the long-term damage caused to people who failed the 11 plus, the selective examination for entry to grammar schools which in most local authorities was phased out during the 1960s and 1970s. It also draws attention to the OECD findings, based on PISA results, that state schools in the UK outperform private schools, once the socioeconomic background of pupils has been accounted for (OECD, 2010a).

## **Organisations receiving public funding**

A number of organisations work at arm's length from government but receive public funding for their work to tackle inequality and/or social and educational disadvantage. Two of the most prominent are the Equality and Human Rights Commission (EHRC) and the Educational Endowment Foundation (EEF). Because it supports and evaluates projects with direct practical application in schools, many of which are now coming to fruition, EEF is particularly relevant to teachers and is discussed separately below. EHRC was set up by Parliament and functions as an arms-length public body. It has a broad remit to uphold human rights, promote diversity and challenge intolerance across the UK (other than Northern Ireland), and indeed it was formed in 2007 by merging three organisations: the Commission for Racial Equality, the Disability Rights Commission and the Equal Opportunities Commission. Education is therefore only one aspect of its work, but this work does include the development of resources for primary schools, notably 'Equal Choices, Equal Chances', a toolkit for Key Stage 2 which aims to raise pupils' aspirations and help them to understand and address stereotyping.

## **Third sector organisations**

A much larger number of organisations in this area are independent of government funding. Some, like The Equality Trust and the Sutton Trust, have a generic focus. Others address the needs and concerns of specific groups. Thus UCL's Institute for Education lists no fewer than nineteen organisations that offer resources to support Black and Minority Ethnic (BME) education, while the concerns of the Advisory Council for the Education of Romany and Other Travellers (ACERT) are self-evident. The power of the arts to engage the disengaged, lift aspirations and improve attainment is now more widely understood among educators. Many of Britain's orchestras, theatres, dance companies and galleries do important outreach work, while the Prince's Foundation for Children and the Arts has an ambitious range of projects for giving disadvantaged children direct hands-on experience of the visual and performing arts at the highest level, involving thousands of children each year. The principle here is that not only are the arts educationally and culturally important, but also that they have special power to engage children's attention and interest, the essential first step to improving their learning outcomes. The same goes for those organisations which provide opportunities for engaging in sport to children who otherwise would not have them.

It is of course not possible to list all relevant third sector organisations, but this provides a sense of the scale of activity, much of it based on charitable donations and/or voluntary effort.

## **The Education Endowment Foundation**

In 2011 the Sutton Trust and the Education Endowment Foundation (EEF) started to produce 'toolkits' which provide accessible summaries of educational research for teachers

and schools on what works to improve the attainment of disadvantaged pupils up to age five (the Early Years Toolkit) and from age five onwards (the Teaching and Learning Toolkit) (<https://educationendowmentfoundation.org.uk/toolkit/toolkit-a-z/>). The toolkits are updated as new research evidence is produced and reviewed. Research reviewed in the toolkit has shown, for example, that reducing class sizes is generally ineffective, setting by ability has negative effects and teaching assistants have little impact on children's achievement. In contrast, introducing social and emotional learning modules, talk-rich teaching, peer tutoring, and meta-cognition ('learning to learn') and self-regulation approaches all improve the attainment of disadvantaged pupils.

The Education Endowment Foundation conducts randomised controlled trials of interventions that aim to reduce educational inequalities. Teachers and policy makers can access new and updated findings at: <https://educationendowmentfoundation.org.uk/>. At the time of writing, one of EEF's projects is being undertaken by Cambridge Primary Review Trust in conjunction with the University of York. It involves the development and evaluation of an intervention programme based on Robin Alexander's work on dialogic teaching (Alexander, 2008) which aims to increase pupils' engagement and improve their attainment in reading, mathematics and science. From existing international research there is already strong *prima facie* evidence that inclusive, well-structured and cognitively challenging classroom talk improves learning processes and outcomes, and a growing number of studies have used randomised control trials of the kind commended by EEF (Resnick *et al*, 2015; Hattie 2009). This project, like all of those funded by EEF, focuses on talk in classrooms with a high proportion of pupils judged disadvantaged in terms of standard indicators such as free school meals. One of its distinctive features is that it attends as closely to the talk of the teacher as to that of the pupil because it is the teacher's talk that prompts, mediates (or not uncommonly inhibits) what the pupil says and hence the thinking, understanding and learning to which that talk may lead. Further information is available at <https://educationendowmentfoundation.org.uk/projects/improving-talk-for-teaching-and-learning/>.

EEF has already published reports from a number of cognate studies in the primary sector which show significant attainment gains from relatively brief interventions, so the prospects for the CPRT study are good. These include collaborative learning, peer tutoring, feedback, oral language, philosophy for children, and active learning in science. Yet it is curious to note that DfE, which part-funds EEF, strongly resisted the inclusion of a programme of study for spoken language in the current National Curriculum, only changing its stance at the last moment in response to sustained pressure from professional organisations and academics, including CPRT's chairman.

## **Big Education**

The progressive think-tank Compass has developed the Big Education initiative (Compass Education Group, 2015) through its inquiry into a new system of education, which is built on the premise that, as well as its intractable inequalities, the UK's

big problem is...how small our education system has become. By small we mean narrow, restrictive and lacking in ambition and imagination. For both learners and teachers the space in the system is claustrophobic and does not allow people to stretch and expand, to push and be pulled, to know a life without limits. Schools have become factories of limited learning to fit with one dominant view of what it means to be human – the worker-consumer in the competitive global economic race at a time when for so many work no longer pays enough to live by – let alone provide work that allows us to flourish. It is small in the sense that too much of it is selfish and self-serving at time when success increasingly comes from collaboration and cooperation. It forces us to look down at short horizons, not up at the vast landscapes of what a good society could be like.

The report is refreshing in that it paints a picture of a radically different educational system, based on democratic values and principles, with a focus on developing human capabilities throughout the life-course in an inclusive, connected and community based system. Although the report is visionary, rather than a conventional evidence-based review, it offers much food for thought for educators and policy makers.

The report's emphasis on communality and mutuality chimes with the vision for primary education set out by the Cambridge Primary Review, whose 12 aims for primary education include 'encouraging respect and reciprocity', 'promoting interdependence and sustainability', 'empowering local, national and global citizenship', 'celebrating culture and community' and 'enacting dialogue', while the report's curriculum framework strongly advocates a vision extending well beyond the 3Rs on which 'small education' governments tend to fixate (Alexander, 2010: 197-199 and 237-278). An increasing number of primary schools are using the CPR aims and curriculum framework as the basis for their work and examples may be found at <http://cprtrust.org.uk/networks/schools-alliance/>.

### **Reducing social and economic inequality**

Among health inequalities researchers there is a popular analogy used to teach students about different approaches to population health. Students are asked to imagine people falling off a cliff. If there is an ambulance waiting at the bottom of the cliff a person who falls can be quickly taken to hospital where they will receive effective treatment, but this is a costly business. We can also imagine that there is a safety net, halfway down the cliff, that catches some people who fall, and so they are less injured than they would otherwise have been. This is similar to medical care used to manage chronic diseases like high blood pressure and diabetes and is known as secondary prevention. Primary prevention is putting a barrier at the edge of the cliff to stop people falling down in the first place, this is like preventing disease through getting people to stop smoking or take up exercise. But none of these strategies stops people running towards the cliff edge in the first place. If we could stop people doing that none of the later, not entirely effective, preventive and treatment strategies would be needed.

The educational parallel to the ambulance and the cliff analogy is that educationally focused policies and interventions cannot deal with the structural issues of poverty and inequality which are the root causes of educational inequality. Primary prevention consists of early childhood interventions, such as Sure Start. Secondary prevention consists of policies like the pupil premium, and intensive remedial education interventions might be used to treat pupils who are failing in the system. But these strategies and programmes will be needed *ad infinitum* unless the root causes of educational inequality are addressed, and they will always be expensive and never be more than partially effective.

So what can be done to reduce social and economic inequality? The Scientific Board of Progressive Economy, a European based social democratic think-tank authored a call for change for a new egalitarian ideal for Europe (Stiglitz *et al*, 2014). This included several suggestions to reduce social and economic inequality, such as more progressive taxation of incomes, higher inheritance tax, taxation of property and rents, reductions in VAT and taxes and regulations to curb financial speculation and tax avoidance. Higher minimum income standards and payment of a living wage are crucial policies to free families from the time and psychological burdens of low-paid and insecure employment. Families also need to be able to rely on social security when needed, and for that social security to be sufficient to avoid poverty, including food and fuel poverty.

The report also calls for a European Child Equal Opportunity Programme to tackle child poverty and create equal opportunity for children. Social investment in children needs to be raised and monitored, and early-age and high quality childcare coverage, especially for children at risk should be a priority, to strengthen child development and help parents to

work, thereby reducing family poverty. Women's pay and employment prospects are also crucial to the prevention of child poverty.

One of us (KP), in collaboration with Richard Wilkinson, has recently shown that changes in income inequality over a decade are related to changes in child wellbeing. We compared childhood wellbeing in the 2007 and 2013 UNICEF reports on child wellbeing in wealthy countries, using twenty indicators that were defined consistently in both the 2007 and 2013 reports, and which included reading, mathematics and science literacy, participation in further education and NEETs. Increases in a country's Gini coefficient of income inequality between 2000 and 2009 were significantly associated with greater decline in child wellbeing (Pickett and Wilkinson, 2015).

The new United Nations Sustainable Development Goals, due to be ratified in September 2015, are a new, universal set of goals that will apply to the UK just as much as to developing and low-income countries, unlike their predecessors, the Millennium Development Goals. There is an explicit goal to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Other relevant goals include the ending of poverty, the promotion of health and wellbeing, gender equality and empowerment of women and girls, reducing inequality within and among countries. Targets and indicators will be measured and monitored within this new framework for global social policy.

#### **4 - CONCLUSION: THE MAIN POINTS**

##### **Inequality and educational outcomes**

- The most important influence on educational attainment, on how well a child develops in the early years, performs in school, in later education and in adulthood, is family background.
- Children do better if their parents have higher incomes and higher levels of education and they do better if they come from homes where they have a place to study, where there are reference books and newspapers, and where education is valued.
- Average levels of educational attainment and children's engagement in education are better in more equal societies.
- Inequalities in educational attainment and outcomes have a social gradient. It is not just poor children who do less well than everybody else: across the social spectrum children do less well than those with household social position just above their own families.
- Inequalities in educational outcomes are more profound in more unequal countries, such that even the children with the highest social position in high inequality societies do less well than their counterparts in more equal societies.

##### **Inequality and childhood**

- Parental experience of adversity is passed on to children through pathways that include poverty of time and resources, domestic conflict and violence, parental mental illness and substance use.
- Both quantitative and qualitative evidence show how low relative income and income inequality increase the strain on family life and relationships.

- When children believe themselves to be judged negatively by others, their stress levels are heightened, their cognitive performance is adversely affected, and they feel bad about themselves. In more unequal societies, the quality of social relationships between children suffers – they are less likely to find their peers kind and helpful and more likely to bully or be bullied.
- Whether consciously or not, teachers are affected by class and social status prejudice and may discriminate against children with low status. Teacher training in the UK does not systematically include explicit consideration of the meaning of social class and inequality within education.

### **Closing the gap: what works?**

- Spending on education, including targeted spending such as the Pupil Premium, can certainly make a difference, and the evidence shows that it is most likely to do so in schools which are already successful. Yet targeted spending is not sufficient on its own to close the attainment gap and reduce educational inequalities.
- With regard to other policies of the current government, the Swedish experience suggests that free schools lead to deteriorating educational achievement and DfE's claim that academies improve attainment among disadvantaged pupils has been challenged on evidential grounds.
- Yet school-based interventions can help and there are good summaries of evidence available to teachers and policy makers from organisations such as the Educational Endowment Foundation (EEF), which promotes and evaluates practical strategies for narrowing the attainment gap between disadvantaged children and others.
- One promising area, the focus of several EEF projects including one led by the Cambridge Primary Review Trust itself, is the substance and quality of classroom talk. Another is a 'big education' which raises its sights beyond the traditional fixation on the 3Rs and education for work, essential though these are, and attends no less to education for human fulfilment, interdependence and the good society, also prominent in CPRT's vision.
- Many publicly funded and independent statutory and third sector organizations produce evidence and interventions to tackle education with significant reach and impact.
- However, reducing educational inequality will ultimately depend on reducing social and economic inequality.

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### Useful web links

<http://www.equalityhumanrights.com/>  
<http://www.suttontrust.com/>  
<https://educationendowmentfoundation.org.uk/>  
<http://libguides.ioe.ac.uk/content.php?pid=622005&sid=5143065>  
<http://www.childrenandarts.org.uk/>  
<https://www.equalitytrust.org.uk/learn-and-play>  
<http://www.shinetrust.org.uk/>  
<http://www.ncb.org.uk/areas-of-activity/education-and-learning>  
<http://www.faireducation.org.uk/>  
<http://www.savethechildren.org.uk/resources/online-library/ending-hidden-exclusion>  
<http://righttosucceed.org.uk/>  
<http://www.centreforum.org/>  
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3. Goswami, U. (February 2015), *Children's Cognitive Development and Learning*.
4. Pickett, K. and Vanderbloemen, L. (September 2015), *Mind the Gap: tackling social and educational Inequality*
5. Hogan, D., Kwek, D. and Renshaw, P. (\*September 2015), *Research on teaching: what do we know and how should we act?*
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