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INSPIRING SOCIAL CHANGE

DOES MONEY AFFECT CHILDREN'S OUTCOMES?

Evidence abounds that children in lower-income households do less well than their peers on many outcomes, including in health and education. But is money itself important, or do these associations reflect other household differences, such as parental education levels or attitudes toward parenting? This study reviewed the evidence, focusing on research investigating whether money is the cause of these differences in children's outcomes.

Key points

- This review identified 34 studies with strong evidence about whether money affects children's outcomes. Children in lower-income families have worse cognitive, social-behavioural and health outcomes in part *because they are poorer*, not just because low income is correlated with other household and parental characteristics.
- The evidence was strongest for cognitive development and school achievement, followed by social-behavioural development. Income also affects outcomes indirectly impacting on children, including maternal mental health, parenting and home environment.
- The impact of increases in income on cognitive development appears roughly comparable with that of spending similar amounts on school or early education programmes. Increasing household income could substantially reduce differences in schooling outcomes, while also improving wider aspects of children's well-being.
- A given sum of money makes significantly more difference to children in low-income than better-off households (but still helps better-off children).
- Money in early childhood makes most difference to cognitive outcomes, while in later childhood and adolescence it makes more difference to social and behavioural outcomes.
- Longer-term poverty affects children's outcomes more severely than short-term poverty.
- Although many studies were from the US, the mechanisms through which money appears to affect children's outcomes, including parental stress, anxiety and material deprivation, are equally relevant in the UK.

The research
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BACKGROUND

Children in lower-income households tend to fare less well in school and to have worse health than their better-off peers. However, it is not clear how far this is due to differences in financial resources and how far to other household factors (e.g. levels of parental education or parenting approaches). Such uncertainty leaves room for considerable difference of opinion about policy solutions. Would raising household income make a difference to children's outcomes, or would it be better to focus on investing in schools or improving parenting skills?

This review examined studies which used particular research techniques to separate the effect of money from other correlated factors, to isolate whether money was a direct cause of differences in outcomes. It identified 34 relevant, high-quality studies from OECD and European Union countries examining children's health, social, behavioural and cognitive outcomes, as well as intermediate outcomes affecting children, such as maternal mental health, parenting and the home environment.

Does money matter, and how much?

The studies indicated clearly that money makes a difference to children's outcomes. Less well-off children have worse cognitive, social-behavioural and health outcomes in part because they are poorer, not just because low income is correlated with other household and parental characteristics. Low income affects direct measures of children's well-being and development, including their cognitive ability, achievement and engagement in school, anxiety levels and behaviour. The evidence on cognitive development and school achievement was the clearest and most common, followed by that on social and behavioural development. Of the 34 studies, only five found no evidence of a money effect on any of the outcomes examined, with methodological reasons for this in at least four cases. The studies also found effects of low income on outcomes that indirectly affect children, including parenting, the home environment, maternal depression, and smoking during pregnancy.

The effect of low income on cognitive and schooling outcomes appears to correlate broadly with the effects of spending corresponding amounts on school or early education programmes. Rough calculations suggest that increases in household income would not eliminate differences in schooling outcomes between low-income children and others, but could contribute to substantially reducing these differences. For example, increasing household income for children in receipt of free school meals (FSM) by £7,000, which would raise them to the average income for the rest of the population, might be expected to eradicate around half the gap in Key Stage 2 outcomes between FSM and non-FSM children.

What else is known about income effects?

The review found strong evidence that income effects are non-linear: an additional dollar or pound makes most difference to children in households on lower incomes than for those in better-off households. All thirteen of the 34 studies which asked this question reached the same conclusion. So does additional income cease to have any effect beyond a certain point? The evidence for this was mixed. Some studies found no impact of additional income on families above the poverty line (mostly taken as the official US poverty line), but others found that income continues to affect some health and schooling outcomes much higher up the income distribution scale, albeit a smaller effect than in less well-off households.

Evidence on whether money matters more at some stages of childhood than others was inconclusive, and seemed to depend partly on the type of outcome. Just five of the 34 studies considered this issue. They mostly focused on cognitive outcomes, and most indicated that financial resources in early childhood matter most. For behavioural outcomes, in contrast, the one relevant study found that income in later childhood is more important. As evidence in this area was so limited, the review explored a broader set of studies that did not qualify for inclusion in the main evidence base. These were less clear in relation to the hypothesis that income in early childhood is more important for cognitive outcomes than income later on. However, they supported the idea that income in later childhood and adolescence is more important for behavioural outcomes than income earlier on.

Longer-term experience of poverty seems to affect children's outcomes more severely than short-term periods of low income. This was a common finding in observational studies, but was difficult to interpret because income is more accurately measured over a longer time period. Nonetheless, some evidence suggests that at least part of this association is causal.

None of the studies directly tested whether the source of income matters for children's outcomes, and nothing in their findings suggested that the source is relevant. Many studies examined increases in income as a result of benefit changes and found positive effects on a range of children's outcomes, similar to the smaller number of studies examining other sources of income change.

Just one study examined the importance of who within the household received additional income. It found that children's educational outcomes improved if mothers received additional money, but not if fathers did. This finding is consistent with wider evidence and with 'purse versus wallet' theories which predict that mothers are more likely to spend income on children than fathers are.

Assessing the size of money effects

Of the 34 studies, six used evidence from randomised controlled trials, 13 evidence from natural experiments or other external variation in financial resources (e.g. an oil shock affecting a particular region in Norway, or variation in benefit entitlement across US states), while 15 used 'fixed-effect' techniques on longitudinal household survey data, focusing on within-household changes in income and outcomes over time. Both the size and significance of identified effects were sensitive to the methods used, with fixed-effect studies identifying considerably smaller effects than those using other approaches. This is likely to be because of measurement error in household survey data on income, which is difficult to capture accurately at any given point because of its volatility and complexity. Measures of income change over time can therefore be particularly inaccurate. Other techniques are less subject to this problem as they frequently use a known quantifiable change in income, such as an alteration to the benefit system. Fixed-effect results seem to significantly underestimate the true size of money effects, and researchers using these techniques need to be aware of this issue.

Conclusion

There is strong evidence that households' financial resources are important for children's outcomes, and that this relationship is one of cause and effect. Protecting households from low income is unlikely to provide a complete solution to less well-off children's worse outcomes, but ought to be a central part of Government efforts to promote children's opportunities and life chances. The impact of increases in income on cognitive outcomes appears to be comparable with the effects identified for spending on early childhood programmes or education. However, income influences many different outcomes at the same time, including maternal mental health and children's anxiety levels and behaviour. Few other policies are likely to affect such a range of outcomes at once.

The downside of this picture, particularly in the current economic climate, is that reductions in household income are likely to have wide-ranging negative effects. Part of the Government's deficit reduction strategy is to reduce welfare budgets in order to limit spending cuts to essential public services, including education, with a view to protecting children's life chances. However well intentioned, the evidence from this review suggests that such a strategy is likely to be self-defeating, especially in a context of high unemployment. Reductions in financial resources in low-income households will damage the broader home environment in ways that will make it harder for public services to deliver for children.

Although most of the studies reviewed were from the US, the mechanisms through which income appears to affect children's outcomes are likely to apply equally in the UK. The studies found supporting evidence for two central theoretical models regarding *how* income affects children's outcomes, one relating to the stress and anxiety caused by low income – the 'family stress' model – and the other to parents' ability to invest in goods and services that further child development – the investment model. However, this review focused on quantitative evidence, which is not always effective in answering 'why?' questions. Qualitative research would offer further insight.

About the project

This research was by Kerris Cooper and Kitty Stewart, Centre for Analysis of Social Exclusion, London School of Economics and Political Science.

The review used systematic review techniques to identify relevant research studies from 1988 to 2012. Studies were only included if they used randomised controlled trials, natural experiments, instrumental variable techniques or fixed-effect approaches on longitudinal data. In all, 46,668 studies were screened; 34 met the full criteria and a further 58 were included in additional discussion. The majority of these studies were from the US, with some from the UK, Canada, Norway and Mexico.

FOR FURTHER INFORMATION

This summary is part of JRF's research and development programme. The views are those of the authors and not necessarily those of JRF.

The full report, **Does money affect children's outcomes? A systematic review** by Kerris Cooper and Kitty Stewart, is available as a free download at www.jrf.org.uk

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