Children's Well-being: Does Family Income Matter? Evidence from the UK Millennium Cohort

Children growing up in families experiencing poverty and adverse living conditions do less well in school and show more behaviour problems than their more privileged peers. Is income itself important, or does the association between poverty and indicators of children's well-being reflect other differences within families, such as parental education, family stability, or parenting? This study uses data collected for the UK Millennium Cohort Study (MCS) to assess the independent role of income in shaping young children's outcomes.

Key findings

- Income shows an independent association with children's cognitive development and behavioural adjustment, over and above a number of interlinked risk factors (maternal age, parental education, parental social class, parental worklessness, housing tenure, overcrowding, number of siblings, area deprivation, and family instability).

- The timing and persistence of income poverty matters, and persistent exposure to poverty is a major risk factor.

- Cognitive development (in particular verbal skills) is more strongly associated with income poverty than behavioural adjustment.

- Poverty is also associated with poorer maternal mental health, less effective parenting behaviour, and a reduced likelihood of using child care.

- Maternal mental health and parenting partly mediate associations between poverty and child outcomes, but also show independent associations with children's outcomes at age 5.

- Other factors reducing associations between income and child outcomes include use of child care and social support networks in the local area.

Conclusion

Income matters for young children's outcomes over and above other interlinked risks. In addition, the findings highlight the multiple risks that children and families living in poverty are facing, including problems in maternal mental health, parenting, access to child care and supportive neighbourhoods.

Background

The association between income and children's well-being is well established in the social sciences. Furthermore, the question of whether money has a *causal* impact on children's outcomes has recently been addressed in a systematic review of the literature (Cooper & Stewart, 2013), which concluded that the association between income and children's outcomes is indeed causal. Most of the evidence cited was based on US studies, calling for more research within the UK context. In this study (Schoon, Cheng, Jones & Maughan, 2013) we use evidence from the UK Millennium Cohort Study (MCS) to assess the independent association between poverty and children's outcomes over and above a number of interlinked risk factors; we also take into account the timing and duration of poverty, and the role of potential mediating mechanisms.

The Data
The UK Millennium Cohort Study (MCS) is an on-going longitudinal study following the lives of over 18,000 children born at the turn of the millennium. For this study, children's well-being was conceptualised as a multidimensional construct, embracing cognitive, social, emotional and behavioural development by age 5. Age 5 was chosen as the focal point due to its proximity to school entry and the importance of early functioning for later attainment and wellbeing. In a first step we assessed associations between income poverty and children's cognitive, emotional, social and behavioural adjustment, and explored the roles of timing and duration of poverty exposure. We then took into account a number of other adverse factors, such as family instability, family demographics, housing, and area deprivation, assessing their independent and combined risk effects. In addition we examined the roles of potential protective factors and processes (including maternal mental health, parenting, child characteristics, use of child care, and social support) in reducing the adverse implications of exposure to poverty and associated multiple risks on children's outcomes.

Poverty and child wellbeing
We used the OECD definition of relative poverty (i.e. family income below 60% of the equivalised national median household income) to index poverty exposure at child ages 9 months, 3 and 5 years. The majority of parents with young children (about 60%) did not experience poverty at any of these assessment points; about a fourth moved in and out of poverty; and about 1 in 10 experienced persistent poverty. The experience of income poverty in early life was associated with poorer cognitive development and psychosocial adjustment of the cohort children at age 5. Figure 1 illustrates the unadjusted associations between family poverty and children's naming vocabulary scores at age 5.

Figure 1. Child Age 5 Naming Vocabulary Score (measured with the British Ability Scales) by Family Poverty across three sweeps of data collection
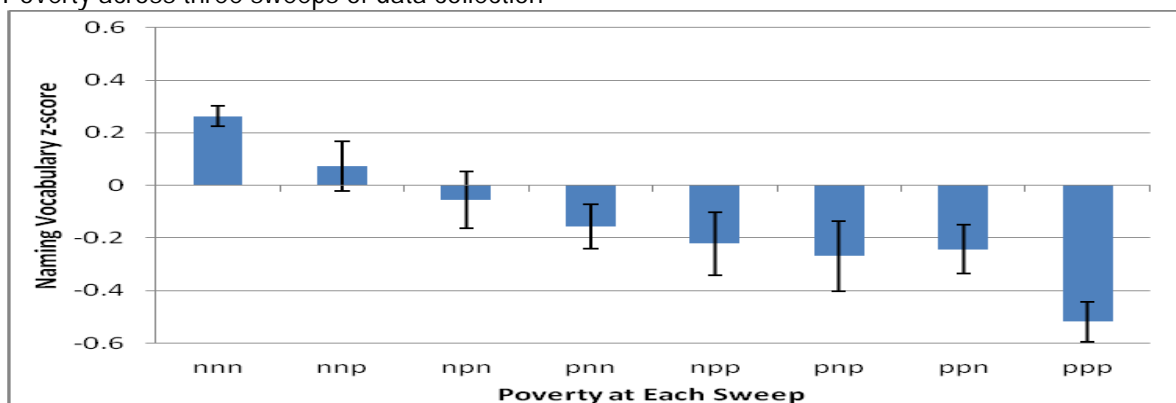
Note: Poverty coded as 'p' (poor) or 'n' (not poor) at each of 3 MCS study sweeps (child ages 9 months, 3 years and 5 years). Thus 'nnn' refers to not being poor at any sweep; 'ppp' refers to persistent poverty; 'pnn' refers to poverty at 9 months only; and so forth.

Children experiencing persistent poverty scored .7 of a standard deviation lower than those who had never experienced poverty. Furthermore, even experiencing poverty only once, especially during the early years (see group 'pnn' in Figure 1), showed a significant association with children's outcomes. Thus persistent poverty is a crucial risk factor for children's development across domains, although the timing, duration, and context of poverty also matter.

Do family structure and family instability during a child's first five years account for the associations between poverty and children's outcomes?

Despite the high profile of family-related issues in policy debates, and in particular family stability, there is relative little evidence regarding the relative roles of family instability, poverty and other interlinked risk factors on children's outcomes. Children growing up in stable two-parent families (about 75% of the sample) were less likely to experience poverty than those experiencing a family break-up. However, children growing up in stable single parent families (about one in ten) experienced the highest rates of poverty. Table 1 shows the associations between family poverty, family instability and other socio-demographic risk factors and children's general cognitive ability at age 5.

Table 1: Predicting children's general cognitive ability by poverty, family instability and family demographics, controlling for child characteristics (child age, sex, and ethnicity)

	Model 1		Model 2		Model 3		Model 4	
Poverty exposure (Ref: none)	B	SE	B	SE	B	SE	B	SE
Once	-.21*	.03			-.18*	.03	-.14*	.03
Twice	-.49*	.04			-.41*	.04	-.24*	.05
Three times	-.58*	.04			-.50*	.04	-.27*	.05
Family status at birth (Ref: married)								
Single			-.20*	.03	-.12*	.03	-.07$	.03
Cohabit			-.48*	.03	-.10$	.04	-.01	.04
Family transitions (Ref: none)								
1			-.05	.03	.01	.03	.02	.03
2+			-.17*	.05	-.09	.05	-.04	.05
Other risks								
Young mother (W1)							-.14$	.05
Parents no education (W1)							-.26*	.05
Low social class (W1)							-.14*	.03
Workless household (W1)							-.10$	.04
Rented housing (W1)							-.12*	.03
Overcrowding (W1)							-.15#	.05
3+ sibs (W1)							-.19$	.07
Area deprivation (W1)							-.10$	.04
R^2	.12		.09		.12		.14	

Table Notes: * $p<0.001$; # $p<0.01$; $ $p<0.05$

The findings suggest that repeated and persistent poverty is significantly associated with children's general cognitive ability at age 5 (Model 1), as are variations in family structure and stability (Model 2). The association between poverty and general cognitive ability is slightly stronger than that between family structure and instability and general cognitive ability, explaining 12% of the variation in the outcome versus 9%. Model 3 puts these two sets of factors together. The association between poverty and general cognitive ability cannot fully be explained through indicators of family structure and instability. Model 4 controls for additional socio-demographic risk factors; these further reduce associations between poverty and child outcome, but do not remove them completely. Model 4

furthermore suggests independent risk effects of other socio-demographic factors. In particular, poor parental education, low social class and lack of home ownership are significantly associated with children's general cognitive ability over and above the risks associated with poverty, family structure and family instability. The most serious risk is however associated with the accumulation of risk factors and their combined effects.

Do aspects of mothers' mental health and parenting behaviours mediate the associations between family poverty and child outcomes?

Parental mental health and parenting behaviours (including cognitive stimulation and warm and supportive parent-child interactions) have been identified in the literature as potential mediators, helping us to understand how family poverty might impact on children's development. Our findings showed that poverty was significantly associated with higher levels of maternal distress, and with less effective parenting. Maternal mental health as well as warm and engaged parenting partially mediated associations between poverty and indicators of children's outcomes, but could not account for them completely, suggesting that other mediating mechanisms may also be involved.

Resource factors that may reduce the negative impact of family poverty on child outcomes

We further explored potential resource factors that might reduce the effects of poverty and associated risk factors on children's outcomes, focusing in particular on the use of child care and neighbourhood characteristics. Our indicators of child care included both formal and informal care, while characteristics of the neighbourhood included having friends and family in the neighbourhood and perceptions of neighbourhood safety. These factors significantly moderated the risk effects associated with poverty (with more positive outcomes for children in childcare and where families lived in a safe and supportive neighbourhood) - yet could not completely eliminate them.

Summary

The findings confirm previous studies in showing modest but robust associations of poverty with young children's outcomes, independent of a range of interlinked risks. Though our analyses cannot confirm that these associations are causal, they point to potentially malleable factors (such as parental education, housing, parental mental health, parenting behaviour, access to child care and safe neighbourhoods) that may be valuable targets for intervention.

References

Cooper, K., & Steward, K. (2013). Does money affect children's outcomes? York: Joseph Rowntree Foundation. http://www.jrf.org.uk/publications/does-money-affect-childrens-outcomes.

Schoon, I., Cheng, H., Jones, E., & Maughan, B. (2013). Wellbeing of children: Early influences. London: Institute of Education.

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