

A study on the effects of Income on different dimensions of children development

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Abstract:

A number of studies have shown that children from low-income families in developed areas tend to have lower academic achievement than their classmates. However, it is difficult to determine the extent to which financial status actually affects relationships, as there may be other, unobserved factors that contribute to the differences in relationships between affluent and poor households. This article explores the connection between family financial resources and children's physical, mental, and cognitive growth. It would be helpful to find research that has used reliable methods to investigate the impact of family financial resources on child development. In the present study, the author investigated the association between household income and development. This study explores the impact of household income strategies on family well-being in different geographical locations.

Keywords: Low-income families, Cognitive growth, Household Income, Development

Introduction:

This study examines the influence of parental income on different kinds of development of children *i.e.*, cognitive and non-cognitive development. This article reports on a longitudinal study of children to investigate the impact of different factors on family income in urban and rural areas. This study investigated the impact of parents' involvement, stress, and other factors in the local community on child development. The association between parental income and children's cognitive ability was investigated using available survey data, with a focus on the correlation between income and cognitive skills. The noncognitive development of children depends on the presence of both biological parents, education, physical and mental health of mother, parenting skills and child's health. Cognitive development of children may be affected by various circumstances, including educational attainment of parents, birth weight of offspring (due to nutrition shortfall) etc. The financial crisis may have prevented them from developing the skills, cognitive abilities, and noncognitive qualities that are strongly linked to current outcomes [1][23].

It is difficult to determine whether the observed differences in outcomes between poor and affluent children are due to income or other factors, such as parental education, health, and single parenthood. However, it is clear that having more money at home allows parents to invest more in their children's education. Some people have argued that the research on income and child development has been overstated, while others have claimed that it is still underestimating the impact of income on children's lives. Researchers have found that mentoring, parenting, and human connection have a positive impact on children's outcomes. However, they have also found that family-targeted financial transfers are unlikely to improve children's outcomes. The relationship between a child's mental health and income is influenced by various factors in a child's life. Parents can have a systematic impact on their child's mental health, which is associated with household income. It was found in a study that children who were rated as having poor mental health by their parents were more likely to come from low-income families than children who were rated as having good mental health by their parents. However, when children were asked to rate their own mental health, the income gradient was not as pronounced [5][10][13].

Since poor childhood health has been linked to poor adolescent and adult health, as well as poor job outcomes later in life, finding the socioeconomic antecedents of child physical and mental health is becoming a more significant research and policy priority [13]. A survey cohort study's data helped researchers better comprehend our daily problems. It is becoming increasingly important to identify the social and economic factors that influence children's physical and mental health [13][15][16]. Evidence grows that poor health during childhood can have long-term effects on academic achievement, adolescent and adult health, and labour market outcomes later in life. Researchers examined longitudinal data from a large Australian cohort study to understand these issues better. Figure 1 shows the general structure of factors affecting child development [9][12].

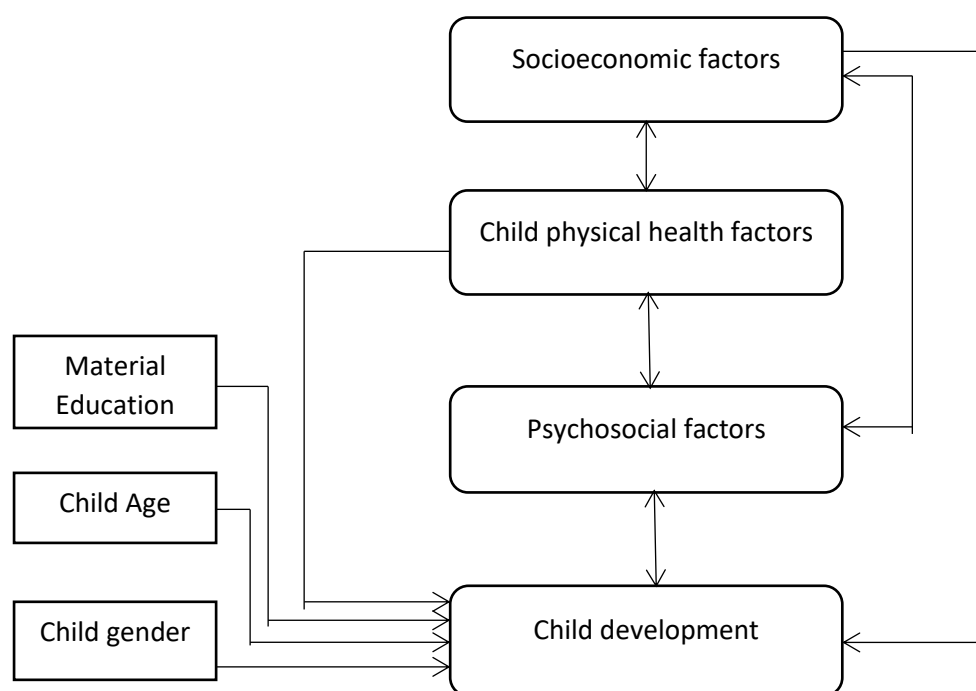


Fig. 1 Structure of various factors on child development

Early childhood developmental health

The child health and development begins in early infancy and can grow up in a safe and nurturing social, emotional, and educational environment [6][7]. Spending time with family, having a safe home, eating a healthy diet, exercising regularly, and getting enough sleep are all essential for good mental health.

Measuring early childhood development

Access to current and historical data on children's wellbeing is critical for developing and changing developmental health policies and putting knowledge into practice. How the household income affects child development is a bigger concern of policymakers [14][17][24]. Table 1 shows various literature and their finding on the correlation of family income and child development [5][9].

Table 1. Literature review on family income and child development

Reference	Analysis
Boyd-Swan et al. [25] 2016	The study found the positive effects of income with reductions to stress symptoms. The reduction in symptoms may reduce poor mental health and increases happiness index.
Komro et al. [26] (2016)	The study investigated onvarious US states and exhibited the variation of minimum wages regarding time. The study found a correlation between high wages and mortality rates in a particular geographical area.
Mocan et al. [27] (2015)	The study exhibited skill-based methodology to assess the earnings variation in various industries to explore the effect of income model in women and the acquired birthweight.
Manley et al. [28] (2015)	This study examined the influence of earnings on children's height and age in Mexico's Oportunidades CCT.
Dermott and Main [29] 2018	The proposed approach was implemented by establishing a consensus among the population of a geographical area on the social necessities of life.
Chzhen and Ferrone [30] 2017	The study investigated how access to necessities varies depending on income levels.

Methodology

The researchers sought to quantitatively define the structural factors, mediators, and moderators of the relationship between neighborhood and early childhood development, with a focus on family income [5][14]. Keyword searches in EconLit, PsycINFO, ERIC, Academic Search Complete, Education Source, MEDLINE, Urban Studies Abstracts, and Google Scholar were conducted to find evaluation papers on child development in the first five years (i.e., up to about 6). Relevant articles were identified using the keywords "neighborhood(s)", "kid", and "children". The search also included phrases such as "development of child", "reading skill of child", "fluency of writing", "understanding of mathematics", "physical development", "emotion level toward the people", "social, emotional, cognitive, cognition, communication, literacy, learning, education, result, impact, and effect". Figure 1 depicts the analysis of the study selection process. [6][7][20].

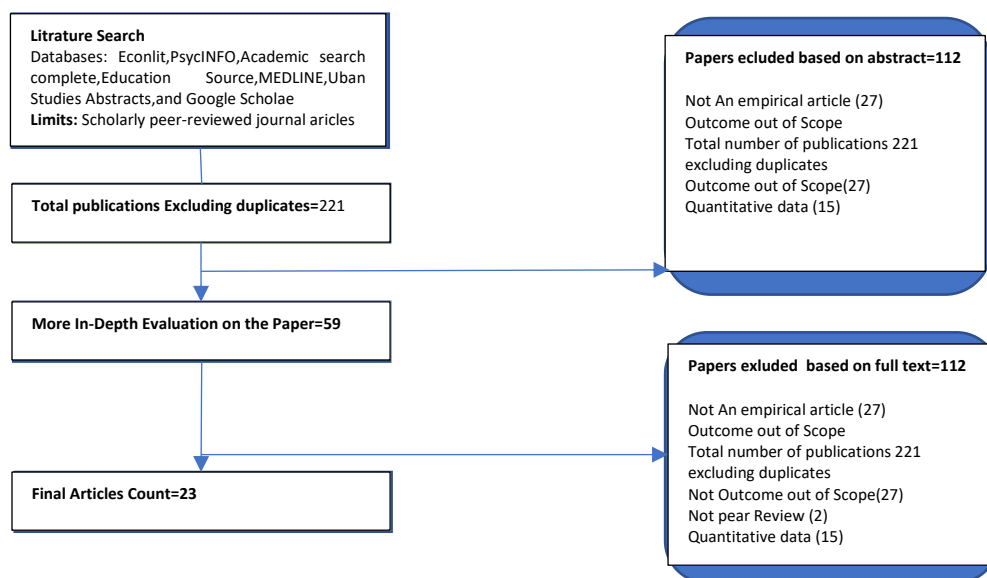


Fig-2 Study selection process

Financial concerns can lead to eating disorders, personality disorders, and other behavioral and psychological problems in children. Mental illness is a global public health concern, affecting 3.2 million people in Australia alone. Many of these individuals require mental health treatment or medication. Families of people with mental illness often face challenges in finding and keeping jobs [3][17].

The Standard of Living (SoL) approach was used to study the costs of mental illness in Australia. The results showed that people with mental illness need to have twice as much disposable income as people without mental illness in order to achieve the same standard of living. People with mental illness who score in the lowest quintile of the SF-36 health survey have treatment costs that are twice as high as people with mental illness who score in the highest quintile. Many people with mental health problems do not seek treatment due to the stigma associated with mental illness. Mental illness should be less stigmatized so that more people can get the treatment they need [3][5]. In the long run, the costs of mental illness are likely to triple. People with mental illness may not be able to afford the costs of treatment due to the current state of financial assistance. The NDIS, which was launched in 2020, is designed to help people with disabilities and mental health conditions. Teen mental health is a major public health issue that is often overlooked by parents, schools, and healthcare providers. Teenagers between the ages of 13 and 17 with mental health problems and suicidal thoughts need to be better identified. Adolescents who are experiencing mental health problems or suicidal ideation often do not seek treatment [3]. Distinct patterns of psychiatric treatment utilisation were associated with mental illness and suicidality in adolescents. More research is needed to understand why adolescents do not use these services [4].

Many adolescents with mental health problems and suicidal tendencies do not use mental health services. This may be due to a lack of knowledge about the factors that influence mental health services for adolescents aged 13 to 17. The data showed that specific criteria should be better known to encourage more treatment utilization by youth with mental illness and suicidal tendencies. Subgroups of adolescents with mental health problems and suicidal tendencies, such as boys and adolescents from low-income families, have different levels of access to treatment

[3]. It is important to think outside the box to connect with this audience. Additional research is needed to determine the specific barriers to the utilization of mental health services, such as school and telephone counseling, that may exist.

Academics, researchers, and politicians have recently focused on the relationship between children's outcomes and family wealth. Identifying the socioeconomic gradient in child development is essential to ensuring that children reach their full potential. Several studies have shown a significant link between low poverty and academic success [2][18][19]. However, researchers have attributed the discrepancy in results to the management of missing data. Multiple imputation requires establishing that each variable is missing at random. However, there is insufficient evidence to suggest that all missing variables occurred by chance. In fact, the amount of missing and non-missing data was found to be systematic. This suggests that data is not always missing at random when using multiple imputation. Poor family income has been linked to problems in early childhood children's social and emotional development, with mothers' psychological distress as a primary mediator [14]. However, it is not yet known how money influences older children or how money affects older children's behavior.

It was shown that family income and children's social-emotional development at age 11 were linked, with maternal psychological discomfort as a mediating factor [14]. Psychological anguish of mothers is a critical mediator in connecting early childhood socio-emotional behaviours issues and low family income [14]. Older children and the specific mechanisms through which money could influence children's behaviour remain a matter of debate. It was shown that family income and 11-year-old children's socioemotional behaviour were linked, with maternal psychological discomfort as a mediating factor [11][19].

An increase in permanent family income prevented the prevalence of behavioural issues in children under the age of 11. This was true for all SDQ subscales except emotional challenges, and it was highest for teacher-reported behavioural issues. Parents' maternal anxiety mediated the connection between income and child behaviour, but not instructors. There is a growing corpus of research showing that the relationship between childhood conduct and income extends into adulthood. This connection appears to be bolstered by the mother's ongoing or repeated emotional distress. Families that are struggling with a parent's mental illness may find these data helpful in their requests for counselling and financial aid.

Obesity is an example of a health disparity that may be avoided (based on personal, demographic, or societal variables). The socioeconomic status of a family is one of the most well-known factors contributing to health inequalities. A socioeconomic gradient is a way of categorising people based on their economic, job, or educational attributes. Socioeconomic factors may impact cognitive development in a number of ways. Low-income families may face challenges such as inadequate housing, inadequate community services, and lack of investment in their children's education. Work-related stress can increase parental tension, and nervous parents have more difficult interactions with their kids. An educated parent has financial resources and problem-solving skills [22]. That is a unique sort of cognitive stimulation that affects children's cognitive growth.

When comparing the social and economic status, employment, and time use of mothers and fathers, it is important to consider both perspectives. The impact of socioeconomic indicators on child development may vary depending on the gender of the parent. For example, a mother's educational attainment is determined by her own academic achievements, not by her father's. Additionally, education appears to play different roles at different stages of development. In early childhood, a mother's education is more important for a child's academic success, while a father's education becomes more important in adolescence. However, gender bias may also influence how

these traits are measured. For example, paternal socioeconomic position has traditionally been used as a proxy for family social class, due to patriarchal norms that dictate that men are the primary breadwinners. This is despite the fact that women have increasingly entered the workforce in recent decades. The current research has shown that higher permanent family income is associated with a lower incidence of behavioral problems in children under 11 years old. Teacher-reported behavior concerns were highest among this group. Maternal anxiety mediated the income-child behavior relationship for parents, but not for teachers [14, 20, 21, 24].

To control for self-selection and endogeneity bias, the researchers used both fixed effects and system techniques. The study found that parental smoking has a negative impact on children's cognitive and noncognitive development. The data suggests that parental smoking harms a child's development in general, with children whose parents smoke having poorer test scores and more behavioral disorders. The findings are consistent with a variety of smoking measurements and model parameters [6]. A new study has linked parental smoking to poor physical and mental health in children. Researchers found that children from households with at least one smoker had lower school attendance and physical health, which in turn affected their cognitive and noncognitive development [8].

The children from higher-income families had stronger cognitive scores and fewer behavioral problems than children from lower-income families. The study investigated how parental socioeconomic position (SEP) influenced four parenting styles: inductive reasoning, consistency, warmth, and anger. The study used high-quality longitudinal data, hybrid models, and generalized moments to make two important discoveries. First, upper-class parents outperformed lower-class parents in inductive reasoning and parental consistency, but not in the two emotion-type parenting styles of warmth and anger. Second, all four parenting styles had a significant impact on children's development. The study also found that higher SEP was associated with a lower risk of child illness or injury. The age-related gradients were tighter for children from higher-income families. Children from lower-income families were more likely to experience certain health problems due to poor nutrition. Several studies have shown that higher levels of wealth protect children against the negative effects of certain specific health problems. Further, it was found that children from lower-income families had lower noncognitive skills than children from higher-income families. Noncognitive skills are important for success in school and in life. The study found that the gap in noncognitive skills between children from different income groups narrowed as the children got older, but it did not disappear [6, 8].

Conclusion:

The study found that family income has a significant impact on children's development, with children from higher-income families generally having better cognitive, academic, and behavioral outcomes than children from lower-income families. However, the relationship between family income and children's health is more complex. The study found that children from lower-income families were more likely to experience certain health problems, such as asthma and obesity. However, the study also found that income assistance measures, such as food stamps and Medicaid, can help to improve children's health. It is revealed that several factors mediate the relationship between family income and children's development. For example, it is observed that mothers' mental health plays a role in how income affects children's development. Mothers' with poor mental health are less likely to be able to provide their children with the emotional and cognitive support they need. The study also found that parenting style plays a significant role in the development of child. Parents with higher incomes are more likely to use positive parenting

practices, such as inductive reasoning and warmth. These parenting practices have been shown to be beneficial for children's development.

The findings may have implications for policymakers. The study suggests that policies that can help to increase family income, such as raising the minimum wage and providing affordable housing, can have a positive impact on children's development. The study also suggests that policies that can support mothers' mental health and parenting practices, such as providing access to mental health services and parenting education, can also have a positive impact on children's development. The study suggests that we need to better understand the burden of mental illness and develop cost-effective solutions. In addition, it is important to be conscious of the impact of poverty on children's development and to support policies that can help to improve the lives of low-income families.

Reference:

1. Khanam, R., & Nghiem, S. (2016). Family Income and Child Cognitive and Noncognitive Development in Australia: Does Money Matter? *Demography*, 53(3), 597–621. <https://doi.org/10.1007/s13524-016-0466-x>
2. Khanam, R., Nghiem, S., & Rahman, M. (2019). The income gradient and child mental health in Australia: does it vary by assessors? *The European Journal of Health Economics*, 21(1), 19–36. <https://doi.org/10.1007/s10198-019-01106-6>
3. Nghiem, S., Khanam, R., Vu, X. B., & Tran, B. X. (2019). Implicitly Estimating the Cost of Mental Illness in Australia: A Standard-of-Living Approach. *Applied Health Economics and Health Policy*, 18(2), 261–270. <https://doi.org/10.1007/s40258-019-00526-y>
4. Islam, M. I., Khanam, R., & Kabir, E. (2020). The use of mental health services by Australian adolescents with mental disorders and suicidality: Findings from a nationwide cross-sectional survey. *PLOS ONE*, 15(4), e0231180. <https://doi.org/10.1371/journal.pone.0231180>
5. Khanam, R., & Nghiem, S. (2017). Family Income and Child Cognitive Development: A Response to Marks. *Demography*, 54(2), 809–812. <https://doi.org/10.1007/s13524-017-0567-1>
6. Noonan, K., Burns, R., & Violato, M. (2018). Family income, maternal psychological distress and child socio-emotional behaviour: Longitudinal findings from the UK Millennium Cohort Study. *SSM - Population Health*, 4, 280–290. <https://doi.org/10.1016/j.ssmph.2018.03.002>
7. González, L., Cortés-Sancho, R., Murcia, M., Ballester, F., Rebagliato, M., & Rodríguez-Bernal, C. L. (2020, January). The role of parental social class, education and unemployment on child cognitive development. *Gaceta Sanitaria*, 34(1), 51–60. <https://doi.org/10.1016/j.gaceta.2018.07.014>
8. Srivastava, P., & Trinh, T. A. (2021). The effect of parental smoking on children's cognitive and non-cognitive skills. *Economics & Human Biology*, 41, 100978. <https://doi.org/10.1016/j.ehb.2021.100978>
9. Cano, T. (2022). Social class, parenting, and child development: A multidimensional approach. *Research in Social Stratification and Mobility*, 77, 100648. <https://doi.org/10.1016/j.rssm.2021.100648>
10. Borga, L. G., München, D., & Kukla, L. (2021). The socioeconomic gradient in child health and noncognitive skills: Evidence from the Czech Republic. *Economics and human biology*, 43, 101075. <https://doi.org/10.1016/j.ehb.2021.101075>
11. Aughinbaugh, A., & Gittleman, M. (2003). Does Money Matter? *Journal of Human Resources*, XXXVIII(2), 416–440. <https://doi.org/10.3368/jhr.xxxviii.2.416>

12. Gray, M., & Smart, D. (2009). Growing Up in Australia: The Longitudinal Study of Australian Children: A Valuable New Data Source for Economists. *Australian Economic Review*, 42(3), 367–376. <https://doi.org/10.1111/j.1467-8462.2009.00555.x>
13. Doran, C. M., & Kinchin, I. (2019). A review of the economic impact of mental illness. *Australian Health Review*, 43(1), 43. <https://doi.org/10.1071/ah16115>
14. Duncan, G. J., Magnuson, K., & Votruba-Drzal, E. (2014). Boosting Family Income to Promote Child Development. *The Future of Children*, 24(1), 99–120. <https://doi.org/10.1353/foc.2014.0008>
15. Fleury, M. J., Ngui, A., Bamvita, J. M., Grenier, G., & Caron, J. (2014). Predictors of Healthcare Service Utilization for Mental Health Reasons. *International Journal of Environmental Research and Public Health*, 11(10), 10559–10586. <https://doi.org/10.3390/ijerph111010559>
16. Hafekost, J., Lawrence, D., Boterhoven de Haan, K., Johnson, S. E., Saw, S., Buckingham, W. J., Sawyer, M. G., Ainley, J., & Zubrick, S. R. (2016). Methodology of Young Minds Matter: The second Australian Child and Adolescent Survey of Mental Health and Wellbeing. *Australian & New Zealand Journal of Psychiatry*, 50(9), 866–875. <https://doi.org/10.1177/0004867415622270>
17. Johnson, S. E., Lawrence, D., Hafekost, J., Saw, S., Buckingham, W. J., Sawyer, M., Ainley, J., & Zubrick, S. R. (2016). Service use by Australian children for emotional and behavioural problems: Findings from the second Australian Child and Adolescent Survey of Mental Health and Wellbeing. *Australian & New Zealand Journal of Psychiatry*, 50(9), 887–898. <https://doi.org/10.1177/0004867415622562>
18. Khanam, R., Nghiem, H. S., & Connelly, L. B. (2009). Child health and the income gradient: Evidence from Australia. *Journal of Health Economics*, 28(4), 805–817. <https://doi.org/10.1016/j.jhealeco.2009.05.001>
19. Khanam, R., Nghiem, H. S., & Connelly, L. B. (2013). WHAT ROLES DO CONTEMPORANEOUS AND CUMULATIVE INCOMES PLAY IN THE INCOME-CHILD HEALTH GRADIENT FOR YOUNG CHILDREN? EVIDENCE FROM AN AUSTRALIAN PANEL. *Health Economics*, 23(8), 879–893. <https://doi.org/10.1002/hec.2961>
20. Noble, K. G., Houston, S. M., Brito, N. H., Bartsch, H., Kan, E., Kuperman, J. M., Akshoomoff, N., Amaral, D. G., Bloss, C. S., Libiger, O., Schork, N. J., Murray, S. S., Casey, B. J., Chang, L., Ernst, T. M., Frazier, J. A., Gruen, J. R., Kennedy, D. N., Van Zijl, P., . . . Sowell, E. R. (2015). Family income, parental education and brain structure in children and adolescents. *Nature Neuroscience*, 18(5), 773–778. <https://doi.org/10.1038/nn.3983>
21. Dahl, G. B., & Lochner, L. (2012). The Impact of Family Income on Child Achievement: Evidence from the Earned Income Tax Credit. *American Economic Review*, 102(5), 1927–1956. <https://doi.org/10.1257/aer.102.5.1927>
22. Ganzel, B. L., Morris, P. A., & Wethington, E. (2010). Allostasis and the human brain: Integrating models of stress from the social and life sciences. *Psychological Review*, 117(1), 134–174. <https://doi.org/10.1037/a0017773>
23. Linver, M. R., Brooks-Gunn, J., & Kohen, D. E. (2002). Family processes as pathways from income to young children's development. *Developmental Psychology*, 38(5), 719–734. <https://doi.org/10.1037/0012-1649.38.5.719>
24. Minh, A., Muhajarine, N., Janus, M., Brownell, M., & Guhn, M. (2017). A review of neighborhood effects and early child development: How, where, and for whom, do neighborhoods matter?. *Health & place*, 46, 155–174. <https://doi.org/10.1016/j.healthplace.2017.04.012>
25. Boyd-Swan, C., Herbst, C. M., Ifcher, J., & Zarghamee, H. (2016). The earned income tax credit, mental health, and happiness. *Journal of Economic Behavior & Organization*, 126, 18–38. <https://doi.org/10.1016/j.jebo.2015.11.004>

26. Komro, K. A., Livingston, M. D., Markowitz, S., & Wagenaar, A. C. (2016, August). The Effect of an Increased Minimum Wage on Infant Mortality and Birth Weight. *American Journal of Public Health*, 106(8), 1514–1516. <https://doi.org/10.2105/ajph.2016.303268>
27. Mocan, A., Vodnar, D., Vlase, L., Crişan, O., Gheldiu, A. M., & Crişan, G. (2015, September 3). Phytochemical Characterization of *Veronica officinalis* L., *V. teucrium* L. and *V. orchidea* Crantz from Romania and Their Antioxidant and Antimicrobial Properties. *International Journal of Molecular Sciences*, 16(9), 21109–21127. <https://doi.org/10.3390/ijms160921109>
28. Manley, J., Fernald, L., & Gertler, P. (2014). Wealthy, healthy and wise: does money compensate for being born into difficult conditions? *Applied Economics Letters*, 22(2), 121–126. <https://doi.org/10.1080/13504851.2014.929618>
29. Dermott, E., & Main, G. (Eds.). (2018). *Poverty and social exclusion in the UK: Vol. 1: Volume 1 - The nature and extent of the problem* (1st ed.). Bristol University Press. <https://doi.org/10.2307/j.ctt22p7k42>
30. Chzhen, Y., Gordon, D. & Handa, S. Measuring Multidimensional Child Poverty in the Era of the Sustainable Development Goals. *Child Ind Res* 11, 707–709 (2018). <https://doi.org/10.1007/s12187-017-9490-7>