

Investing in early childhood

What can policymakers learn from Dynamics of Inequality Across the Life-course (DIAL) research?

Key Findings

- Early childhood investments are key to social mobility, and inequalities which can be measured in early childhood have grown in recent years.
- A range of pre-birth factors can be linked to later outcomes. Children born very pre-term or with very low birth weight are at greater risk of later issues such as lower IQ, mental ill-health or remaining unpartnered.
- Toddlers who experience good mental and verbal stimulation and supportive parenting have more advanced language and social skills.
- Both mothers' education and fathers' occupational status are linked to children's educational outcomes.
- Universal early childhood programmes can deliver significant health benefits.

Contributing Projects

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Editors

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About DIAL

Dynamics of Inequality Across the Life-course (DIAL) is a multi-disciplinary research programme consisting of thirteen European projects. The projects examine the sources, structures and consequences of inequalities in contemporary societies. The programme is funded by NORFACE for the period 2017–2021.

Policy context

The European Foundation for the Care of New-born Infants¹ has developed standards of care which include:

- Support for research into maternal and new-born health to ensure evidence-based care, reduce mortality and morbidity and improve quality of life.
- Early identification of women at risk of pre-term birth to reduce infant mortality and later health issues.
- Support for coordinated, specialised and effective follow-up and continuing care services for babies and children at risk of later developmental difficulties, as well as for their families.
- National frameworks to minimise risks before, during and after birth.

The Europe 2020 Strategy under the Lisbon Treaty of 2009 made tackling child poverty and social exclusion key policy areas for the European Union. The European Commission later adopted a Social Investment Package² which recommended a three-pillar approach:

- access to adequate resources
- access to affordable quality services
- children's right to participate.

It stressed the importance of early intervention and preventative approaches to develop more effective policies. The European Child Guarantee³ was adopted by the European Council in June 2021.

Long-term trends

Have links between early childhood and inequality changed over time? A study⁴ which addressed the question found the socio-emotional skills gap between children from the highest and lowest socio-economic groups widened substantially over 30 years, with the increase particularly pronounced for boys.

By comparing mothers' responses to questions on child behaviour in two cohorts – for example, whether the child was restless, solitary, squirmy or fidgety – they drew up comparable scales for externalising and internalising socio-emotional skills.

Maternal education and behaviour was an important determinant of children's socio-emotional skills in both cohorts, but the benefit of having a mother with higher level education and in employment was significantly larger in the most recent cohort. Inequality between children of mothers who smoked during pregnancy and those who did not had also increased.

The research showed social and emotional skills at age 5 were significant predictors of unhealthy behaviours later in life, such as smoking or having a higher BMI. The findings provide a key rationale for early intervention in reducing life course inequalities.

Before birth: The risks

DIAL research examined factors which affect babies before birth, including background factors in parents' lives which may cause both short and long-term risks.

One study⁵ investigated the interaction between children's genes, maternal smoking and birth weight. It found each additional daily cigarette smoked during pregnancy reduced birthweight by 20–40 grams, regardless of the child's genetic predisposition. There was no evidence genetic inheritance could cushion the damage from smoking.

A second study⁶ looked at how treatment with steroid drugs during pregnancy could leave children vulnerable to mental and behavioural difficulties. It found those whose mothers were treated with corticosteroids were significantly more likely to suffer developmental, emotional and behavioural disorders by age 11.

Further research⁷ which reviewed evidence on links between pre-natal depression and later neuropsychiatric outcomes in children found a limited amount of evidence which supported the association.

Outcomes of pre-term risks

A major strand of DIAL research looked at the later outcomes of children born pre-term or with very low birth weight. While most lead healthy lives, on average these adults are characterised by a number of adversities. These include cardiometabolic risk factors, airway obstruction, less physical activity, poorer visual function, lower cognitive performance, and a behavioural phenotype that includes inattention and

internalising and socially withdrawn behaviour. An initial review suggested a range of common core assessments which could be used to assess adults in this category⁸: they included biomarkers, body composition, respiratory outcomes, ophthalmic outcomes, cognitive and motor function, mental health, personality, socio-demographic factors, health-related quality of life and relationships.

DIAL research covering these questions included:

A review of existing evidence⁹ which found studies consistently showed an increased risk of being on psychotropic medication in adult life. However, there was only moderate evidence these children had increased risk of mental health disorders or other symptoms appearing in adulthood.

An analysis of existing research¹⁰ which suggested adults born preterm or with low birth weight were less likely than adults born full-term to experience a romantic partnership, sexual intercourse, or to become parents. However, preterm birth or low birth weight did not seem to impair the quality of relationships with partners or friends.

Research¹¹ finding that the peer relationships of adolescents born pre-term were associated with lower levels of subjective wellbeing. However, it found no effect on general well-being around family, school or physical appearance. Foetal growth restriction appeared to have no impact and nor did sex, parental education or ethnicity.

A study spanning seven countries¹² which found IQ was significantly lower among adults born very preterm or with very low birth weight, with an average of approximately 12 IQ points less than those born at term.

A study¹³ which looked at whether physical activity was associated with better mental health and well-being among very preterm adolescents. It found young people who exercised more had fewer problems with their peers, higher levels of psychological well-being, better self-perception and body image and were happier at school. But the differences between preterm and term-born children were small.

A study¹⁴ which assessed whether there had been changes in mother-reported emotional and behavioural problems over time among moderate and late pre-term children, which showed mixed results.

Parental inputs in early childhood

What difference can parents make in the early years of childhood? DIAL research¹⁵ investigated the impact of social inequality on children's early behavioural and developmental outcomes along with how parents gave emotional support, disciplinary practices, parent-child interactions and routines, and found:

Toddlers who experienced more mental and verbal stimulation and more supportive parenting styles had more advanced language and social skills.¹⁶

Those who were strictly disciplined were more likely to show behavioural difficulties at age 5.

Families from lower socio-economic groups were more likely to show less favourable parenting behaviour early on, although there were a wide range of behaviours within and across social groups.

There was a significant relationship between parental education and school achievement at the end of primary school in the Netherlands, and one fifth of this association was explained by differences in parenting behaviours.

Children with higher educated parents experienced more positive parenting, had more advanced vocabulary, and exhibited fewer behavioural difficulties. Children with a more difficult temperament or with parents who suffered from distress tended to experience more negative parenting and exhibited more behavioural difficulties.¹⁷

Children of depressed and stressed parents used language less well despite having an adequate listening comprehension and vocabulary. Those with positive home learning environments, which included activities such as reading stories, painting and nursery rhymes, had better listening comprehension skills and use of language.¹⁸

Time investments by parents do not necessarily yield equal results: one study¹⁹ found that time spent with mothers or both parents together had a greater effect on emotional and behavioural skills as well on verbal ones. However, this does not mean that children should necessarily spend more time with their mother. The finding was found to be driven by the group of fathers who spend relatively little time on educational activities with their children. Therefore, fathers should be encouraged to spend more time with their

children. Building the foundation during paternity leaves could be a possible way of doing this.

DIAL research²⁰ has also demonstrated how the length of parental leave may have long-lasting impacts on children's wellbeing. In particular, children who had spent just five months at home with their mother were found to have lower levels of life satisfaction as adults compared to those who had spent the full first year at home. The research suggests that countries where paid parental leave is substantially less than one year could benefit from reviewing these policies.

External inputs

What can policymakers do to improve children's life chances and mitigate inequalities at an early stage? One piece of DIAL research²¹ evaluated the short- and medium-term health impacts of Sure Start, a universal early childhood programme in England, and found access to a centre increased hospitalisations during infancy but decreased them thereafter.

These impacts were driven by hospitalisations for preventable conditions and were concentrated in disadvantaged areas, so enriching early childhood environments might reduce inequalities in health. Less intensive programmes could deliver significant health benefits.

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