

Gestational age at birth, chronic conditions, and school outcomes

Young person's version of a research paper

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What is the study about?

This study looks at academic outcomes and special education needs across gestational age, for children born with and without chronic health conditions (e.g. long-term conditions affecting the brain, lungs, or heart).

'Gestational age' means how far into their mother's pregnancy a baby is born. Most pregnancies last 39 or 40 weeks (just over nine months), but anything over 37 weeks is classed as full term by clinicians. Babies born before 37 weeks of gestation are called 'preterm'.

What did the study do?

This study used de-identified information about children's education and health (from the [Education and Child Health Insights from Linked Data \(ECHILD\) project](#)) to examine:

- the education outcomes of pupils in England at Key Stage 1 (KS1) (age 7) and Key Stage 2 (KS2) (age 11)
- special educational needs by age 11, considering how far into pregnancy they were born (gestational age), birth size, and early chronic conditions identified by age 2.



See the glossary on the final page for a description of the commonly used terms throughout the paper

Who is in the study?

306,717 pupils

attending state schools in England



who were born between
1 September 2004 and
31 August 2005

What did the study find?

1

Children born even a few weeks early, at 37-38 weeks of pregnancy, were less likely to meet expected levels of attainment in KS1 and KS2 compared to those born at 40 weeks. Special educational needs also increased with a shorter length of pregnancy.

2

A greater proportion of children with special educational needs or not achieving expected levels of attainment in KS1 and KS2 was attributable to them having chronic conditions, rather than being born preterm (at less than 37 weeks).



3

Children with a lower birthweight, living in a more deprived area, born later in the school year, born to a younger mother, and with older siblings were more likely to have special educational needs.



lower birthweight



living in a more deprived area*



born later in the year



younger mother



older siblings



increased likelihood of having special educational needs

*Index of Multiple Deprivation

4

Children who were **born in the autumn** were more likely to achieve expected academic outcomes than those born in the summer, likely due to their older age at school start.



children born in
September 2004

were more likely to
achieve expected
academic
outcomes than



children born in
August 2005

What needs to change?



Increasing support
for children with
special educational
needs and/or
chronic conditions



Equipping educational
professionals to
support the needs of
children born preterm



Providing support
that facilitates
healthy behaviours
for the most
vulnerable mothers



Providing additional
support prior to
school entry for
summer-born
preterm children

Key message

Research using the ECHILD database could help to guide policy on offering early assistance to children who are at risk of experiencing poor outcomes during their school years.



Research summary glossary

ADR UK (Administrative Data Research UK): ADR UK, a major investment by the Economic and Social Research Council (ESRC), is a UK-wide partnership transforming the wealth of public sector data into research assets and policy-relevant insights.

Early term: Babies born after 37 weeks of gestation but before 39 weeks. They are not considered premature.

ECHILD (Education and Child Health Insights from Linked Data): A national data resource linking together de-identified data from hospitals, schools and social care services for children in England.

Gestational period: The period between conception and birth. The average human pregnancy lasts 40 weeks.

HES (Hospital Episode Statistics): A data resource containing records of all patients admitted to NHS hospitals in England.

KS1 (Key Stage 1): Students aged between 5 and 7 (Years 1 and 2).

KS2 (Key Stage 2): Students aged between 7 and 11 (Years 3, 4, 5 and 6).

NPD (National Pupil Database): A key data store for the Department for Education, covering education, skills and children's services data for individual learners in England.

Preterm: Babies born before 37 weeks of gestation. These babies are considered premature.

SEN (special educational needs): Section 20 of the Children and Families Act 2014 defines a child as having Special Educational Needs (SEN) if he or she “has a learning difficulty or disability which calls for special education provision to be made for him or her”.

State schools: All children in England between the ages of 5 and 16 are entitled to a free place at a state school. State schools receive funding through their local authority or directly from the government.