

Maths skills count for premature babies

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A new study conducted by the University of Warwick links being born premature with low wages.

Researchers have identified a link between being born preterm and decreased intelligence, reading and in particular [mathematical ability](#) and have highlighted an effect on earnings into adulthood.

Head of the research, Professor Dieter Wolke said: "This study is of importance because it could be used to flag up the need for extra support at school for [children](#) who are born pre-term."

The research Preterm Birth and Adult Wealth: Mathematics Skills Count is published in the Association of Psychological Science's journal *Psychological Science*.

For the study, funded by the Nuffield Foundation, the researchers examined data from two large, longitudinal studies: the National Child Development Study follows children born in 1958 and the British Cohort Study follows children born in 1970. In total data on more than 15,000 individuals were examined. Both of the studies recruited all children born in a single week in England, Scotland, and Wales, and researchers have followed up with these children through to adulthood. Those participants who were born preterm, which is at less than 37 weeks, were compared to those who were born full-term.

The academics detected that in both cohorts mathematical ability in childhood had a direct effect on how much they earned as an adult, independent of later educational qualifications. The researchers highlighted a number of inequalities in wealth and employment. In the 1970 cohort 32.5% of adults born preterm were manual workers compared to 25% of those born full-term, 3.3% were unemployed compared to 2.5% born full-term and 57.6% versus 49.1% had a below average family income. Similar figures were found to apply to the 1958 cohort.

Previous studies have established that brain injury suffered by preterm children is likely to result in cognitive difficulties that may cause learning difficulties resulting in underachievement at school.

Professor Wolke said: "Numerical ability is important for making financial decisions and previous studies have linked difficulty with maths to difficulty managing personal finances and even defaulting on mortgages.

"Basic mathematical skills are increasingly important in modern jobs. Being able to identify cognitive problems early on could result in specialist, tailored education being developed to help prevent these children underachieving at school and later on as adults."

Worldwide 11% of infants are born preterm which amounts to around 15 million births per year. The rate of babies being born prematurely is rising; in 1990 7.2% were born before 37 weeks compared to 2010 when the figure increased to 8.6%. Preterm birth resulting from a number of causes has been associated with adverse developmental and psychological outcomes.

Prof. Wolke is based at the University of Warwick, Department of Psychology and at Warwick Medical School which conducts research into areas including epidemiology, trials of complex interventions at individual, family and community levels, and understanding socio-cultural and environmental determinants of mental health and wellbeing.

More information: *Psychological Science*, [DOI: 10.1177/0956797615596230](https://doi.org/10.1177/0956797615596230)

Provided by University of Warwick

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