

Study shows birth weight could help identify children at higher risk of psychological issues

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New research from RCSI University of Medicine and Health Sciences has found that babies with larger birth weights tend to have fewer mental health and behavioral issues in childhood and adolescence.

These findings could help to identify and support children at greater risk of developing [psychological problems](#).

The study, published in *European Child & Adolescent Psychiatry*, examined birth weights and subsequent [mental health](#) in thousands of children in Ireland. Unlike many studies looking at birth weight, it used data that followed the same children repeatedly throughout their childhood and adolescence using the Growing Up in Ireland study, an ongoing study of children born between 1997 and 1998.

The analysis showed that each kilogram below the average birth weight (3.5kg, or 7lbs 11oz) was associated with more reported mental health problems throughout childhood and adolescence. The study also found that these birth-weight-linked problems tend to persist throughout childhood, from ages nine to 17.

The type of problems most strongly linked with birth weight were inattention, impulsivity and hyperactivity, behaviors generally associated with Attention Deficit Hyperactivity Disorder (ADHD). Each kilogram drop below the average birth weight was linked with a 2% increase in risk of ADHD-like behaviors, however such behaviors were within the normal range. That is, even among children with very low birth weights (1.5kg), the average number of ADHD symptoms would probably not meet the threshold for an ADHD diagnosis.

Lower birth weight was also linked with emotional and social problems, particularly in the late teens. These problems were found to be more severe and closer to clinical thresholds, for example for diagnosis of depression or anxiety.

Professor Mary Cannon, professor of psychiatric epidemiology and youth mental health at RSCI and principal investigator on the study, says that "we have known for many years that [low birth weight](#) and premature

birth is linked with higher risk of mental illness in the child. What this study shows is that even small deviations from the typical birth weight might also be relevant."

Niamh Dooley, Ph.D. student and lead author of the study, says that "this relationship between birth weight and child mental health persists even after accounting for factors that could influence both birth weight and mental health, like gender, socioeconomic factors and parental history of mental illness. The effect of birth weight on later mental health is likely small, but it might interact with other risks like genetics and childhood stress, and have implications for understanding the origins of mental health and ill-health."

This study shows the importance of good perinatal care and suggests that improving the overall health of women during pregnancy to ensure optimal birth weight may help reduce the risk of offspring developing mental health problems. Children of low birth weight may benefit from psychological assessments in [childhood](#) and early intervention for mental health symptoms if detected to help minimize the burden of mental illness later in adolescence and adulthood.

Further research by the group has just been published in *Research on Child and Adolescent Psychopathology*. It indicates that a significant percentage of the association between [birth weight](#) and ADHD symptoms in Irish children can be explained by maternal substance-use during pregnancy (smoking, alcohol-use, non-prescription drug-use).

More information: Niamh Dooley et al, The persistent effects of foetal growth on child and adolescent mental health: longitudinal evidence from a large population-based cohort, *European Child & Adolescent Psychiatry* (2022). [DOI: 10.1007/s00787-022-02045-z](https://doi.org/10.1007/s00787-022-02045-z)

Niamh Dooley et al, Explaining the Association Between Fetal Growth

and Childhood ADHD Symptoms: Cross-cohort Replication, *Research on Child and Adolescent Psychopathology* (2022). DOI: [10.1007/s10802-022-00971-9](https://doi.org/10.1007/s10802-022-00971-9)

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