

Falling IQ scores in childhood may signal psychotic disorders in later life

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New research shows adults who develop psychotic disorders experience declines in IQ during childhood and adolescence, falling progressively further behind their peers across a range of cognitive abilities. The researchers from King's College London's Institute of Psychiatry, Psychology & Neuroscience (IoPPN) and Icahn School of Medicine at Mount Sinai in the United States found falls in IQ start in early childhood, and suggest educational interventions could potentially delay the onset of mental illness.

Psychotic [disorders](#), such as schizophrenia, are severe mental illnesses affecting 1-3% of the UK population that cause a range of abnormalities in perception and thinking. The study, published today in *JAMA Psychiatry*, is the first to track IQ scores and [cognitive abilities](#) throughout the entire first two decades of life among [individuals](#) who develop psychotic disorders in adulthood.

Dr Josephine Mollon from King's IoPPN, now with Yale University, said: 'For individuals with psychotic disorders, [cognitive decline](#) does not just begin in adulthood, when individuals start to

experience symptoms such as hallucinations and delusions, but rather many years prior - when difficulties with intellectual tasks first emerge - and worsen over time. Our results suggest that among adults with a psychotic disorder, the first signs of cognitive decline are apparent as early as age 4.'

Previous studies have shown that deficits in IQ begin many years before hallucinations and delusions first appear in patients with psychotic disorders, but the timing of when these IQ deficits emerge has not been clear. The new study provides the clearest evidence to date of early life cognitive decline in individuals with psychotic disorders.

The study included 4322 UK-based individuals who were followed from 18 months to 20 years old. Those who developed psychotic disorders as adults had normal IQ scores in infancy, but by age 4 their IQ started to decline, and continued to drop throughout childhood, adolescence and early adulthood until they were an average of 15 points lower than their healthy peers.

As well as falling behind in IQ, individuals who developed psychotic disorders lagged increasingly behind their peers in cognitive abilities such as working memory, processing speed and attention.

IQ scores fluctuate among healthy individuals, and not all children struggling at school are at risk of developing serious psychiatric disorders. Senior author Dr Abraham Reichenberg, Professor of Psychiatry at the Icahn School of Medicine at Mount Sinai and with King's IoPPN said: 'It is important to bear in mind that many children will experience some difficulties with schoolwork or other intellectual tasks at some point in their lives, and only a small minority will go on to develop a psychotic disorder.'

The results suggest that adults who develop psychotic disorders do not go through a

deterioration in cognitive function, but instead they fail to keep up with normal developmental processes. Early interventions to improve cognitive abilities may potentially help stave off [psychotic symptoms](#) from developing in later life.

'There are early interventions offered to adolescents and young adults with psychosis,' said Dr Reichenberg. 'Our results show the potential importance of interventions happening much earlier in life. Intervening in childhood or early adolescence may prevent cognitive abilities from worsening and this may even delay or prevent illness onset.'

The researchers are now examining changes in the brains of individuals who go on to develop [psychotic disorders](#), as well as potential environmental and genetic risk factors that may predispose individuals to poor cognition.

More information: 'Course of Cognitive Development From Infancy to Early Adulthood in the Psychosis Spectrum' *JAMA Psychiatry* (2018).
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Provided by King's College London

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