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Preliminary genetic link to developmental coordination disorder, dyspraxia identified

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New research by scientists at Oxford Brookes University has identified specific genes which could provide vital information about the biology of developmental coordination disorder (DCD), also known as dyspraxia. Dyspraxia is a common motor coordination condition which is estimated to affect at least one child in every classroom.

DCD can impact a child's handwriting and coordination skills such as tying a shoelace or catching a ball. The condition can limit school achievement, impact cognitive development, constrain career opportunities and increase children's risk of developing mental health issues.

Despite the condition affecting five per cent of children, as common as dyslexia or autism, very little is known about why some children struggle with motor coordination.

Genetic data research is first step in understanding causes of DCD

Scientists examined genetic data from over 4,000 participants in the Avon Longitudinal Study of Parents and Children who had their motor coordination tested when they were seven years old. These data were used to link common genetic variants with motor coordination difficulties, allowing them to better understand the genetic and cellular processes that are involved in DCD.

The researchers say that this is the first step in understanding the causes of DCD.

"If we can identify genes, we can use this information to understand why some children develop DCD," says Dr. Hayley Mountford, Research Fellow in the Department of Biological and Medical Sciences at Oxford Brookes University and lead author of the study.

Clear potential to unravel the biology of DCD

Many children with motor coordination difficulties remain undiagnosed and coupled with a lack of research, this has a vast impact on the visibility of DCD in both the public and the medical community.

"Although this is a preliminary study, these findings show a clear potential for genetics studies to unravel the underlying biology of DCD," adds Dr. Mountford. "We need to replicate these findings in larger datasets to uncover the reasons why some children are at a higher risk. This will lead to developments in the diagnosis of DCD, improving the lives of affected families."

The paper, Genome Wide Association Study of Motor Coordination, is published in *Frontiers in Human Neuroscience*.

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