

Researchers study how early sight loss affects movement development in children

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Researchers from the School of Psychology at Queen's University Belfast in collaboration with Guide Dogs NI have conducted a new research study to understand the impact of sight loss on how early movement develops, with the aim of improving movement skills for children with a vision impairment.

Using the state-of-the-art Movement Innovation Lab at Queen's University, the team were able to capture the [movement skills](#) of 43 [children](#), to help understand the challenges children with sight loss have by running skills-based tests for basic movements including balancing, throwing, catching, bouncing and jumping, and comparing these with children who are sighted.

The team compared different groups of children, both sighted and with degrees of [vision impairment](#)/sight loss, adapting the tasks for children with vision impairment, for example, by playing a beep noise to indicate where to throw or using balls with bells inside.

The results from the data collected found that the children with full vision and children with a minor vision impairment performed many of the tasks to the same level, however children with a more severe vision impairment found the movement skills tests more difficult.

Dr Matthew Rodger, from the School of Psychology at Queen's, Principal Investigator for the study, said: "We found that the degree of vision impairment experienced by the children had a substantial impact

on their performance in these tasks. Our analysis has helped us identify specific aspects of movements that seem to be affected. We now want to build on this knowledge to investigate if and how sounds can be designed to help children with vision impairment better perform fundamental movement skills.

"Our goal is to help children with a more severe vision impairment carry out everyday tasks by themselves, setting them up for a more independent future."

Fiona Brown, Head of Mobility Services at Guide Dogs NI, said: "Early development studies show that 80 percent of our learning is done through sight, so children with sight loss need early intervention to replace this and help them meet milestones for basic movement skills. Our collaboration with Queen's has the potential to make a huge difference to the lives of children living with sight loss, right from birth.

"The data that the research provides will be used to inform our work with children and young people, helping us to provide more targeted support for children with [sight loss](#) and their families."

Provided by Queen's University Belfast

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