Study finds oldest children in school-grade outperform youngest in NAPLAN

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Credit: Anna Frodesiak/Wikipedia

A new Curtin University study has found a child's birthday can affect their NAPLAN results, with the oldest children in a classroom on average outperforming their younger classmates.

Published in The Australian Educational Researcher, the research reviewed the performance of all (more than 80,000) Western Australian government school students in Years three, five, seven and nine who sat

the NAPLAN numeracy, spelling, reading, or punctuation and grammar tests in 2017.

In WA children start school at the beginning of a calendar year, if they are turning five by 30 June of that year. The research found that as a group the older children in the class, born in July, performed significantly better than the youngest, born the following June.

Research co-author Associate Professor Rachael Moorin, from the School of Public Health at Curtin, said the same pattern was found in all year groups and all tests, however it was strongest among Year three students and progressively weakened through years five, seven and nine.

"We found the relative position of your birthday to the school cut-off date, can affect how well you do at school so there is evidence of an academic benefit for children at the older end of their cohort," Associate Professor Rachael Moorin said.

"This could be because the older children are more mature and relatively more confident than their peers in the same grade. However, while our study finds that relative age is significant, many other factors are also important in determining academic success."

Co-author Professor John Phillimore, Executive Director of the John Curtin Institute of Public Policy (JCIPP) at Curtin University, said the findings supported the hypothesis that age-related immaturity of relatively young children disadvantaged them in academic competition, but this decreased as the age difference became a smaller proportion of their lived years.

"The research also examined the performance of the 2% of WA government school children who were outside their recommended year and found accelerated students on average significantly outperformed

their older classmates while delayed progress students performed significantly worse than their younger classmates," Professor Phillimore said.

"A likely explanation for this reverse relative age effect is that accelerated students are often promoted because they are high academic achievers and delayed children are sometimes held back because they are performing below expectations."

Lead author Dr. Martin Whitely, Research Fellow at JCIPP, and Professor Phillimore previously led research that found in WA and around the world the youngest children in a school-year were more likely to be diagnosed with and 'medicated' for Attention Deficit Hyperactivity Disorder (ADHD).

This research found that in 2013 a WA primary school student born in June was approximately twice as likely to take an ADHD drug as their older classmates, born the previous July.

Dr. Whitely a former teacher said it was normal for the younger children in a class to be a little bit behind their older peers academically and in terms of behavior.

"It doesn't matter where you put the cut-off date, or how much flexibility you give parents in deciding if their child is ready for school; some kids are always going to be the youngest in the class," Dr. Whitely said.

"We need to recognize the difference that being less mature makes and not be alarmed if they are a little behind academically, or worse still treat immature behavior like it is a medical condition."

The paper is titled "The effect of a child's relative age on numeracy and literacy test results: an analysis of NAPLAN in Western Australian

government schools in 2017."

More information: Martin Whitely et al. The effect of a child's relative age on numeracy and literacy test results: an analysis of NAPLAN in Western Australian government schools in 2017, *The Australian Educational Researcher* (2020). DOI: 10.1007/s13384-020-00399-4

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