

How a raisin can predict a toddler's future academic ability

November 19 2015



A small child in Mumbai, with a shaved head, eating bread with her hand.
Credit: Wen-Yan King/Wikipedia

A simple test using a raisin can predict how well a toddler will perform

academically at age eight, according to research conducted at the University of Warwick.

Using just the piece of dried fruit and a plastic cup they have devised a test based on how long a 20-month old child can wait to pick up a raisin in front of them.

The toddlers were given a raisin that was placed under an opaque cup within easy reach. After three training runs toddlers were asked to wait until they were told (60 seconds) they could touch and eat the raisin. During the study it was found that those who were born very prematurely were more likely to take the raisin before the allotted time. In a follow on study the academics found that those who couldn't inhibit their behavior as toddlers weren't performing as well in school as their full-term peers seven years later.

Senior author, Professor Dieter Wolke, who is based at the University of Warwick's Department of Psychology and at Warwick Medical School, said: "An easy, five-minute raisin game task represents a promising new tool for follow-up assessments to predict attention regulation and learning in preterm and term born children. The results also point to potential innovative avenues to early intervention after preterm birth."

The study *Preterm Toddlers' Inhibitory Control Abilities Predict Attention Regulation and Academic Achievement at Age 8 Years* will be published in the Nov. issue of *The Journal of Pediatrics*.

Data were collected as part of the prospective Bavarian Longitudinal Study which began in Germany in 1985 and is still underway. During the study, 558 children born at 25 to 41 weeks gestation were assessed for self-control once they were 20 months old. The results of those born preterm 25-38 weeks were compared to those born a healthy full term between 39-41 weeks.

Around age eight, the same children were evaluated by a team of psychologists and pediatricians using three different behavior ratings of attention from mothers, psychologists and the whole research team. Academic achievement—including mathematics, reading and spelling/writing—was assessed utilizing standardized tests.

The findings concluded that the lower the gestational age, the lower a toddler's inhibitory control—and the more likely those children would have poor attention skills and low [academic achievement](#) at eight years old

Julia Jaekel, lead author of the study and honorary research fellow at the University of Warwick and assistant professor of child and family studies at University of Tennessee, Knoxville, said: "This new finding is a key piece in the puzzle of long-term underachievement after [preterm birth](#)".

The academics believe that being able to identify cognitive problems early on could result in the development of specialist, tailored education to help prevent these children underachieving at school and later on as adults.

More information: Preterm Toddlers' Inhibitory Control Abilities Predict Attention Regulation and Academic Achievement at Age 8 Years, [dx.doi.org/10.1016/j.jpeds.2015.10.029](https://doi.org/10.1016/j.jpeds.2015.10.029)

Provided by University of Warwick

Citation: How a raisin can predict a toddler's future academic ability (2015, November 19) retrieved 4 September 2024 from <https://medicalxpress.com/news/2015-11-raisin-toddler-future-academic-ability.html>

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