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**DISTRIBUTION /POSTING:**

Distribution date (including year), time: Monday, Oct. 7, 2019

Embargo date, time: XXX Friday, Oct. 11, 2019

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**Vocus contact lists:**

Vocus outlet lists (which desk?):

**SHORT Headline for Web, Eurekalert, Email Subject:**

Slower Walkers Have Older Brains And Bodies at 45

**Duke Today headline** (Make sure it sings and reflects our priorities)

New Zealand Study Connects Walking Speed with Brain Health in 45-Year-Olds

**Subhead** (Sentence case): Retrospective analysis shows the slower walkers could have been identified at age 3

**EUREKALERT!:**

post date – Monday, Oct. 7, 2019

EurekAlert 75-word Teaser (Can just be lead paragraphs): The walking speed of 45-year-olds can be used as a marker of their aging brains and bodies. The evidence was there in neurocognitive testing these individuals took at age 3 to indicate which would become the slower walkers. At 45, slower walkers have “accelerated aging” on a 19-measure scale devised by researchers, and their lungs, teeth and immune systems tended to be in worse shape than the people who walked faster.

Primary Keyword - (see supplemental sheet) Medicine/Health

keywords - (see supplemental sheet) Diagnostics, Gerontology, Aging,

Journal or Meeting – JAMA network open

DOI Number – 10:1001/jamanetworkopen.2019.13123

Funders – US National Institute on Aging (NIA), UK Medical Research Council, New Zealand Health Research Council, New Zealand Ministry of Business, Innovation, and Employment (MBIE), Lundbeck Foundation.

Grant Numbers AG032282, AG049789, AG028716, MR/P005918/1, R288-2018-380.

EurekAlert Tweet (150 characters): Slow walkers at age 45 look older, have older brains and bodies.

**EurekAlert Multimedia (repeat as necessary):**

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**News & Media Topics:**

- Energy & Environment
- Health & Medicine
- Politics & Public Policy
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- Science
- University News
- No Topic

**DUKE SOCIAL MEDIA:**

Twitter feed (No more than 200 characters; please use active, relevant @tags and #hashtags): Slow walkers at age 45 look older, have older brains and bodies.

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DUKE UNIVERSITY NEWS  
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EMBARGOED FOR RELEASE: **TIME**, Friday, Oct. 11, 2019

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### **Slow Walkers At Age 45 Have Older Brains And Bodies**

DURHAM, N.C. -- The walking speed of 45-year-olds, particularly their fastest walking speed without running, can be used as a marker of their aging brains and bodies.

Slower walkers were shown to have "accelerated aging" on a 19-measure scale devised by researchers, and their lungs, teeth and immune systems tended to be in worse shape than the people who walked faster.

"The thing that's really striking is that this is in 45-year-old people," not the geriatric patients who are usually assessed with such measures, said lead researcher Line J.H. Rasmussen, a post-doctoral researcher in the Duke University department of psychology & neuroscience.

Equally striking, the evidence was there in neurocognitive testing these individuals took as children to indicate which would become the slower walkers. At age 3, their scores on IQ, understanding language, frustration tolerance, motor skills and emotional control could have predicted their walking speed at age 45.

"Doctors knew that slow walkers in their seventies and eighties tend to die sooner than fast walkers their same age," said senior author Terrie E. Moffitt, the Nannerl O. Keohane University Professor of Psychology at Duke University, and Professor of Social Development at King's College London. "But this study covered preschool to the forties, and found that a slow walk is a problem sign decades before old age."

The data come from a long-term study of nearly 1,000 people who were born during a single year in Dunedin, New Zealand. The 904 research participants in the current study have been tested, quizzed and measured their entire lives, mostly recently from April 2017 to April 2019 at age 45.

The study appears Oct. 11 in JAMA Network Open.

MRI exams during their last assessment showed the slower walkers tended to have lower total brain volume, lower mean cortical thickness, less brain surface area and higher incidence of white matter "hyperintensities," small lesions associated with small vessel disease of the brain. In short, their brains appeared somewhat older.

Adding insult to injury perhaps, the slower walkers also looked older to a panel of eight screeners who assessed each participant's 'facial age' from a photograph.

Gait speed has long been used as a measure of health and aging in geriatric patients, but what's new in this study is the relative youth of these study subjects and the ability to see how walking speed matches up with health measures the study has collected during their lives.

"It's a shame we don't have gait speed and brain imaging for them as children," Rasmussen said. (The MRI was invented when they were five, but was not given to children for many years after.)

Some of the differences in health and cognition may be tied to lifestyle choices the individuals have made. But there is also evidence in the early life measures for those who would become the slower walkers, Rasmussen said. "We may have a chance here to see who's going to do better health-wise in later life."

This research was supported by grants the US National Institute on Aging (AG032282, AG049789, AG028716), the UK Medical Research Council (MR/P005918/1), the Jacobs Foundation, the New Zealand Health Research Council (16-604), the New Zealand Ministry of Business, Innovation and Employment, the Lundbeck Foundation (R288-2018-380), the US National Science Foundation (NSF DGE-1644868), the US National Institute of Child Health and Human Development (T32-HD007376).

CITATION: "Association of Neurocognitive and Physical Function With Gait Speed in Midlife," Line Rasmussen, Avshalom Caspi, Anthony Ambler, et al. .JAMA Network Open, Oct. 11, 2019. DOI: 10.1001/jamanetworkopen.2019.13123