

# Memory problems not the only predictor of later mild cognitive impairment

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Mild cognitive impairment is often seen as a transition stage between the cognitive decline of normal aging and the more serious problems of Alzheimer's disease. But what leads to mild cognitive impairment?

Researchers at Rush University Medical Center have found that lower, though not necessarily impaired, performance on tests measuring story learning or retention and processing speed in [motor tasks](#) dependent on visual control, as well as symptoms of depression, predicted subsequent [cognitive decline](#) in a normal population.

None of the factors alone predicted the onset of mild cognitive impairment a year later. Rather, poor learning had to be accompanied by either slower visuomotor processing speed or depressive symptoms to be significantly related to later problems in cognition.

Using an advanced statistical methodology that analyzed multiple variables at once, the researchers also found that neither gender nor the apolipoprotein E genotype—long believed to be risk factors for mild cognitive impairment—had any substantial influence on later impairment.

The study is published in the July issue of the *Journal of the International Neuropsychological Society*.

"For a long time, researchers believed that memory alone was the only important factor in mild cognitive impairment," said Dr. S. Duke Han,

assistant professor of neuropsychology in the Department of Behavioral Sciences at Rush and lead author on the study. "Our study is one of the first to suggest the importance of other factors in predicting this possible pre-Alzheimer's condition."

The 94 individuals who participated in the study underwent a battery of standard cognitive and psychosocial tests to assess mood, attention, visuospatial abilities, language facility, memory and intelligence. These included the Trail-Making Test, which measures motor speed, [visual attention](#), and [cognitive flexibility](#); the Wisconsin Card Sorting Test, which measures the ability to problem solve; a delayed recall test; the American National Adult Reading Test; and the Geriatric Depression Scale. Information was collected on age, education, gender and genotype.

Lower performance on tests measuring learning, when paired with either slower speed on the Trail-Making Test or a lower score on the depression scale, predicted the development of [mild cognitive impairment](#) a year later with an accuracy of 80 to 100 percent in the test sample.

Provided by Rush University Medical Center

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