

Famous artworks showed early signs of disease: study

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Brushstrokes in paintings could help early diagnosis of neurodegenerative diseases, according to a [study](#) published on Thursday of works by famous sufferers such as Salvador Dali and Willem De Kooning.

The analysis was carried out on 2,092 paintings, including those of two artists with Parkinson's Disease, Dali and Norval Morriseau, and two with Alzheimer's Disease, De Kooning and James Brooks.

Works by Marc Chagall, Pablo Picasso and Claude Monet, who were not known to suffer from any such disease, were also included for comparison.

"Knowing that you have a problem sooner rather than later is always going to be an important medical breakthrough," Alex Forsythe from the University of Liverpool, one of the authors of the study, told AFP.

Fractal analysis—a way to study patterns that is already used to spot fake paintings—was used to gauge the relative complexity of the works.

Fractals are often described as "fingerprints of nature".

For De Kooning and Brooks, the study showed a sharp decrease in the complexity starting around the age of 40—long before their Alzheimer's [diagnosis](#).

De Kooning received an official diagnosis in 1989—the year he turned 85—and Brooks when he turned 79.

In the case of Dali and Morriseau, the research found an increase in "fractal dimension" in middle age followed by decline starting from their late 50s.

Dali was diagnosed with drug-induced Parkinsonism after his right hand began shaking severely when he turned 76.

Morriseau's diagnosis came at the age of 65.

The indicator for Chagall, Monet and Picasso showed an increase in complexity into old age.

"What I'm hoping is this research will trigger thinking about what's happening in the brain much earlier," Forsythe said.

"With dementia, people are concerned about their memory getting worse. This shows something happening long before that," she added.

The study drew on research including of US president Ronald Reagan's linguistic decline starting in 1980—long before he revealed his Alzheimer's diagnosis in 1994 at the age of 83.

The article was published in the American Psychological Association's *Neuropsychology* journal and was co-written with Ronan Reilly from Maynooth University in Ireland and Tamsin Williams from Britain's National Health Service.

More information:

medicalxpress.com/news/2016-12-alzheimer_1.html

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