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## Press release

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### The onset of cognitive decline begins at 45

Abundant evidence has clearly established an inverse association between age and cognitive performance, but the age at which cognitive decline begins is much debated. Until now, the general consensus was that the onset of decline did not begin until 60. A study published in the *British Medical Journal*, conducted by an Inserm research team, directed by Archana Singh-Manoux (Centre for Research in Epidemiology and Population Health), shows that our memory and capacity for reasoning and understanding start to decline at the age of 45. This research is part of the Whitehall II cohort study and focused on more than 7,000 people over a ten-year period.

Increased life expectancy implies fundamental changes in the composition of populations, with a significant rise in the number of elderly people. These changes are likely to have a massive influence on the life of individuals and on society in general. Abundant evidence has clearly established an inverse association between age and cognitive performance, but the age at which cognitive decline begins is much debated. Recent studies concluded that there was little evidence of cognitive decline before the age of 60.

However, clinical studies demonstrate a correlation between the presence of amyloid plaques in the brain and the severity of cognitive decline. It would seem that these amyloid plaques are found in the brains of young adults.

Few assessments of the effect of age on cognitive decline use data that spans over several years. This was the specific objective of the study led by researchers from Inserm and the University College London.

As part of the Whitehall II cohort study, medical data was extracted for 5,198 men and 2,192 women, aged between 45 and 70 at the beginning of the study, monitored over a 10-year period. The cognitive functions of the participants were evaluated three times over this time. Individual tests were used to assess memory, vocabulary, reasoning and verbal fluency.

The results show that cognitive performance (apart from the vocabulary tests) declines with age and more rapidly so as the individual's age increases. The decline is significant in each age group.

For example, during the period studied, reasoning scores decreased by 3.6 % for men aged between 45 and 49, and 9.6 % for those aged between 65 and 70. The corresponding figures for women stood at 3.6% and 7.4% respectively.

The authors underline that evidence pointing to cognitive decline before the age of 60 has significant consequences.

"Determining the age at which cognitive decline begins is important since behavioural or pharmacological interventions designed to change cognitive aging trajectories are likely to be more effective if they are applied from the onset of decline." underlines Archana Singh-Manoux.

"As life expectancy continues to increase, understanding the correlation between cognitive decline and age is one of the challenges of the 21<sup>st</sup> Century" she adds.

## Sources

### Timing of onset of cognitive decline: results from Whitehall II prospective cohort study

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