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Forage longer for berries, study on age-related memory decline suggests

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Like birds which stop foraging too early on a berry-laden bush, a new study suggests older people struggle to recall items because they flit too often between 'patches' in their memories.

The study by the University of Warwick published in the journal *Developmental Psychology* seeks to model the mechanisms behind memory decline in old age.

Its findings indicate that specific changes in the way older people access their memories, rather than a general 'slowing down' in mental processing speed, may be to blame for some aspects of memory decline. Using what is known as an 'animal fluency test', a group of 185 participants aged between 29 and 99 were asked to name as many animals as they could in three minutes.

It has long been known that performance declines in line with age on these kinds of tests.

Typically, people will begin by naming animals in a semantically distinct 'patch' such as pets - for example dog, cat and hamster.

When this patch becomes depleted and they can no longer recall any similar animals they jump to another patch, for example predatory animals such as tiger, lion and panther.

People who perform best at these tests seem to be able to identify the

optimal frequency to switch patches, ie once a patch has been depleted to the point where their energies are better focused on another, more fruitful patch.

The model developed by the University of Warwick researchers suggests that as people age, they tend to change patches too frequently, meaning they abandon patches before they have exhausted their full potential.

It is this mechanism, known as cue maintenance, which the researchers believe is behind age-related decline in memory search.

Dr Thomas Hills, Associate Professor in the Department of Psychology at the University of Warwick, said: "Memory can be compared to a physical landscape where people move between patches in order to recall items.

"Older people don't just move more slowly around that memory landscape, the way they move differs to the way younger people move.

"You could say that their memory tends to be more flighty – like a bird which is foraging on a bush full of berries but only picks a few of them before moving to another bush.

"Moving between bushes takes energy and the next bush along might not be as full as the previous bush so this is not always a good strategy.

"Likewise, with memory there is an optimal time to leave each patch - and it seems older people simply leave too soon."

Although further research is required to understand more deeply the mechanisms involved in memory search, Dr Hills had this suggestion to use these findings on a practical level.

"For example, if you forget your shopping list at the supermarket, try to focus on recalling items category by category, rather than flitting between different types of groceries. At the same time, try to use what you've already recalled to help you recall what you've forgotten," he said.

The study "Mechanisms of Age-Related Decline in Memory Search across the Adult Life Span" is available here.

Provided by University of Warwick

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