

Passing the sniff test: Can we train our brain to boost smell and memory?

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A new study is investigating whether learning to remember smells can boost memory more broadly and reduce the risk of dementia.

The research, led by Dr. Alex Bahar-Fuchs from Deakin University's School of Psychology, builds on a new body of evidence that shows

training our memory for smells can improve [brain function](#) in the part of the brain where other memories are held.

"Problems with the [sense of smell](#), known as the [olfactory sense](#), are common in [older people](#) and, in some cases, these problems actually reflect a decline in thinking processes, or [cognitive abilities](#), such as attention and memory," Dr. Bahar-Fuchs said.

"In fact, a very early sign of dementia due to [neurodegenerative diseases](#) such as Alzheimer's Disease is a decline in people's sense of smell, which is often present years before the onset of other symptoms.

"This is not surprising given that areas of the brain responsible for processing smells are also areas affected very early on by pathological processes seen in Alzheimer's and other causes of dementia.

"Losing our capacity to smell not only affects quality of life, but also places people at risk for loss of independent living as they are less likely to identify and respond appropriately to smells that indicate danger, such as leaking gas or smoke. If we can improve our memory for smells it has the potential to benefit both conditions," Dr. Bahar-Fuchs said.

The Mind Your Nose Study will compare the effects of a smell-based Olfactory Memory Training program (OMT) with those of a Visual Memory Training program (VMT) in older people who are concerned about changes in their memory and thinking (known as 'subjective cognitive decline').

"There is some evidence that training one's memory for smells improves memory more broadly, whereas training one's visual memory only improves memory for [visual information](#)," Dr. Bahar-Fuchs said.

The study is currently in the data collection phase and is recruiting

participants aged 65 and over, living in metropolitan Melbourne who have some concerns over changes in their thinking and memory.

Participants are randomly assigned to complete either a smell-based memory training or a visual based memory training intervention and will complete the training daily over four weeks in their own home. Participants will also be required to complete three assessments over the course of the study which involve measures to assess cognition and olfaction.

"Up until now, it has been difficult to demonstrate that training [memory](#) and thinking in one context can lead to gains in another context, but this research may be a breakthrough in this area and have important implications for dementia prevention efforts," Dr. Bahar-Fuchs said.

Provided by Deakin University

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