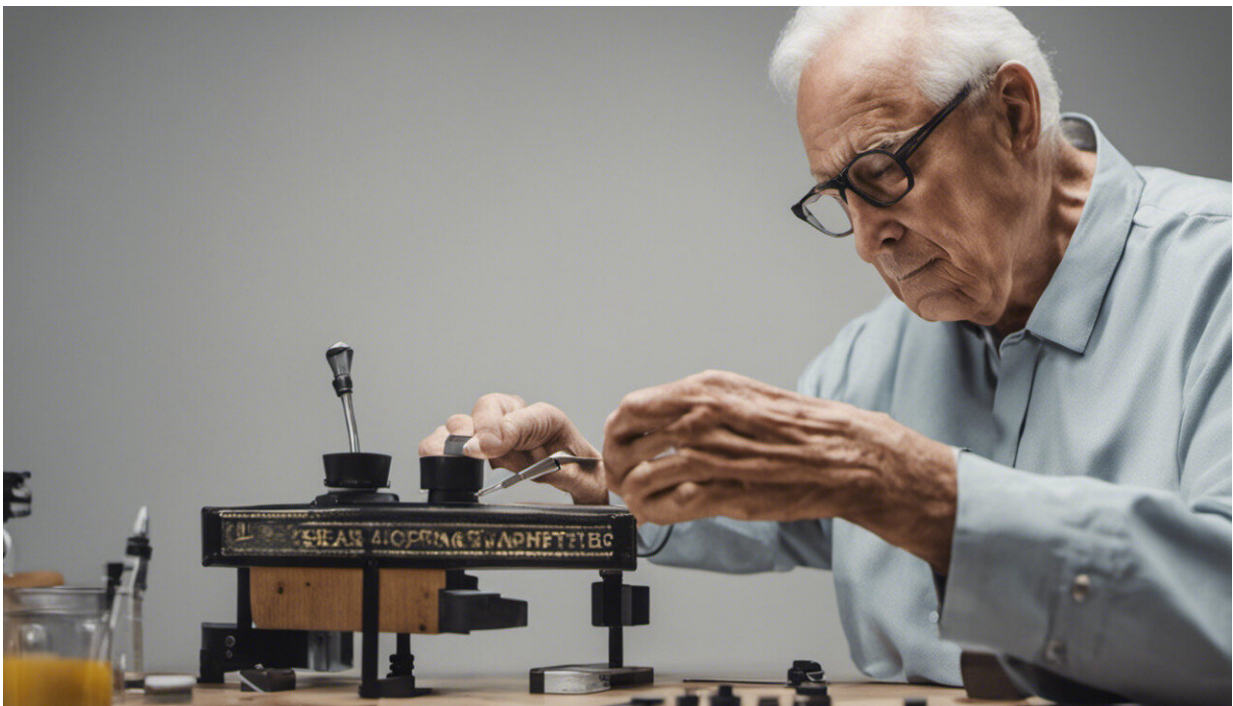


Home-based training for older adults found to improve manual dexterity and cognitive functioning

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Credit: AI-generated image ([disclaimer](#))

Among the many harmful effects of aging, a decline in hand dexterity can lead to difficulties in the performance of daily activities, such as writing, cooking, gardening, craftwork, and the ability to open bottles and jars. These detrimental, aging-associated changes are observed in

both men and women, especially in those older than 65 years of age.

Preserving hand dexterity is therefore essential for day-to-day living among older adults. In a study by a team at Japan's University of Tsukuba, researchers hypothesized that home-based repetitive [manual dexterity](#) training is capable of selectively improving cognitive function. They examined [brain activation](#) (cognitive load) patterns during the performance of manual dexterity training. Their paper is published in the journal *European Review of Aging and Physical Activity*.

In total, 57 elderly adults (mean age: 73.6 ± 6.1 years; male: 31.6%, female: 68.4%) residing in Ibaraki Prefecture were randomly divided into 28 intervention groups (mean age: 72.9 ± 5.6 years; male: 32.1%, female: 67.9%) and 29 control groups (mean age: 74.4 ± 6.5 years; male: 31%, female: 69%). The intervention group performed manual dexterity training daily for 12 weeks.

It was found that the intensity of the level of training undertaken positively correlated with the amount of active blood hemoglobin that could be measured in the [prefrontal cortex](#). Among the cognitive functions, executive function was observed to considerably improve in the intervention group compared with the control group. Other cognitive functions did not considerably improve; however, the effect size of these functions was higher in the intervention group than in the [control group](#).

The findings of this study suggest that home-based manual dexterity training can improve hand dexterity and cognitive functioning in [older adults](#).

More information: Jaehoon Seol et al, Effects of home-based manual dexterity training on cognitive function among older adults: a randomized controlled trial, *European Review of Aging and Physical Activity* (2023). [DOI: 10.1186/s11556-023-00319-2](https://doi.org/10.1186/s11556-023-00319-2)

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