

To investigate the benefits of PSTG on cognitive functions and emotional states in healthy older adults (Fig.2), the research team, led by Rui Nouchi and Ryuta Kawashima, conducted a randomized controlled trial study (RCT).

Seventy-two older adults between the age of 60-75 were randomly assigned to either a PSTG or a KQTG group. They were asked to play PSTG (12 processing speed games) or KQTG (4 knowledge quizzes) for 4 weeks. They played for 15 minutes a day, for at least 5 days a week.

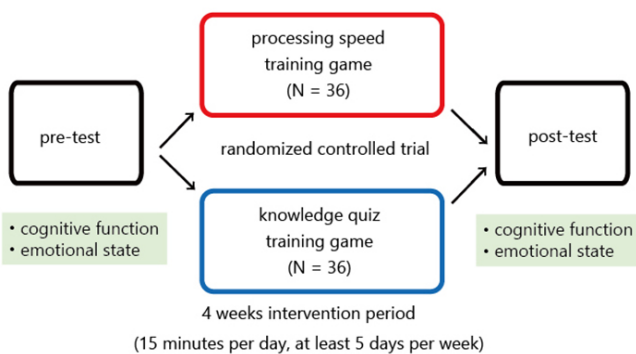


Figure 2: A summary of the study procedure. Credit: Tohoku University

Cognitive functions and [emotional states](#) were measured before and after the 4-week intervention period. And results showed that [participants](#) who played PSTG had improved processing speed and inhibitions, as well as reduced depressive moods compared to those who played KQTG (Fig.3).

"Our results extended previous findings demonstrating that short-term processing speed training has positive effects on the cognitive functions of elderly people," said Dr. Nouchi. "To familiarize the general public with cognitive training, it is important to reduce costs for intervention and to develop user-friendly intervention tools. I believe that our study can provide new, useful and effective tools for cognitive training."

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The research result was published in *Frontiers in Aging Neuroscience*.

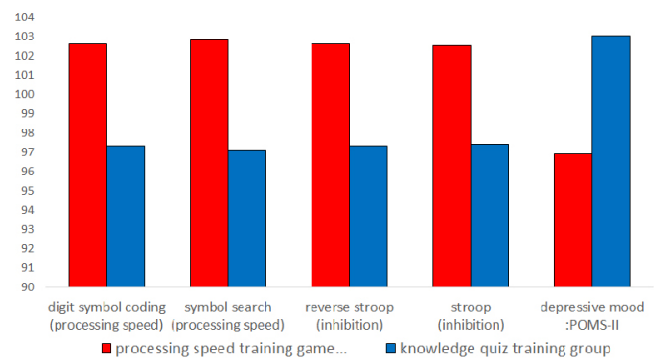


Figure 3: Standardized changed score (post-test score minus pre-test score). Credit: Tohoku University

More information: Rui Nouchi et al. Small Acute Benefits of 4 Weeks Processing Speed Training Games on Processing Speed and Inhibition Performance and Depressive Mood in the Healthy Elderly People: Evidence from a Randomized Control Trial, *Frontiers in Aging Neuroscience* (2016). [DOI: 10.3389/fnagi.2016.00302](https://doi.org/10.3389/fnagi.2016.00302)

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