

## EFFECT OF VIRTUAL REALITY COGNITIVE TRAINING IN INDIVIDUALS WITH MILD COGNITIVE IMPAIRMENT

Zhong et al. (2021)

**Snapshot!** This meta-analysis focused on the evidence for [Cognitive Training using Virtual Reality](#) as an intervention to help improve health and manage chronic disease in people with mild cognitive impairment. The review analysed data from **17 studies** of VR Training with a total of 744 participants. Researchers concluded that VR Cognitive Training might improve overall brain function and *Executive Function* (our ability to plan our behaviours & goals), although the effects were short term.

### WHO?

#### People with mild cognitive impairment

Mild Cognitive Impairment, called MCI for short, is a health condition involving problems with memory, language, thinking, or judgement. It is described as mild because interference with daily life is not as significant as in dementia. A person with MCI may notice memory slips themselves, and their friends and family may notice memory changes as well. Mild Cognitive Impairment may increase a person's risk of developing dementia later in life.



### WHAT? [Virtual Reality Cognitive Training](#)

**Virtual reality** is a simulated computer experience that can be similar (or different) to the real world.

**Cognitive training** is a non-drug treatment where individuals practice tasks that target specific cognitive functions, such as memory, attention, or problem-solving.

### WHY?

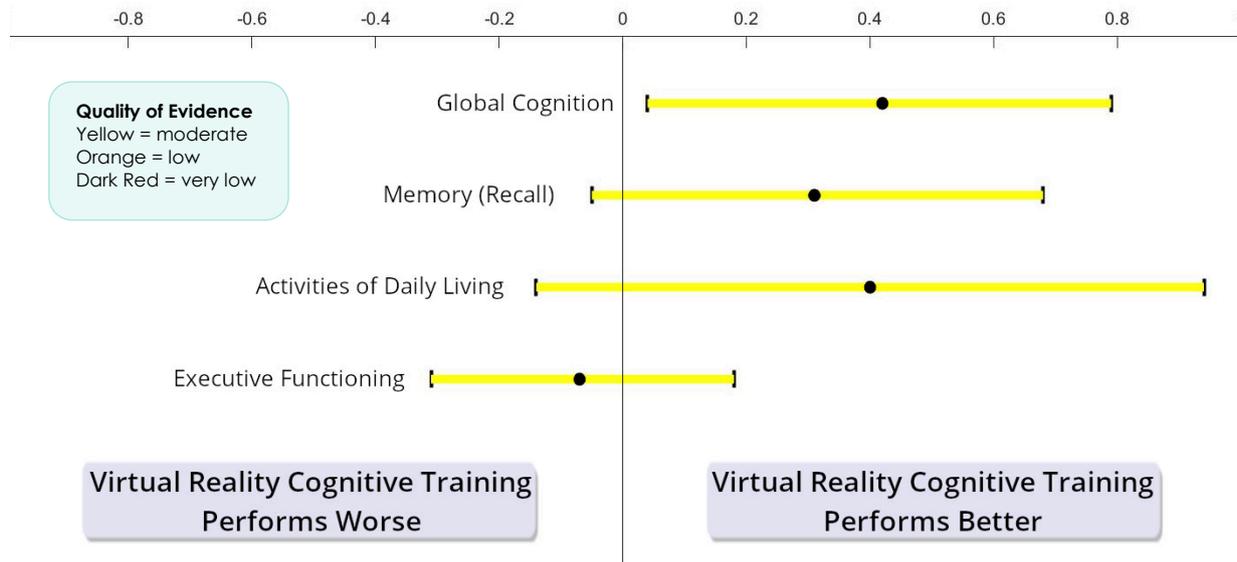
The goal of this paper was to clarify the effects of Virtual Reality Cognitive Training for individuals with Mild Cognitive Impairment as a possible health intervention.

### HOW? [Systematic Review & Meta-analysis](#)

A **systematic review** involves carefully reviewing all studies that have been published to answer the research question.

A **meta-analysis** combines all the results across the selected studies, so we can see the overall impact of the treatment.

## Effects of Virtual Reality Training in the short-term



### Key Terms

#### Global cognition

Global cognition is a measurement of our thinking abilities. This includes our memory, speaking, reasoning, visual perception and attention skills. Virtual reality may have a medium effect on improvement in global cognition

#### Instrumental Activities of Daily Living

This measures our ability to perform important and complicated everyday tasks, such as calling on a telephone, housekeeping and handling finances.

#### Executive Function

These are mental skills that help our ability to plan, create goals and think flexibly with self-control.

### Reading the graph

#### Comparison Group

##### *Control*

In this study results were compared to people who did not do cognitive training but may have done other activities such as social interaction or informal games.

#### Effect

The "effect" tells you how large and meaningful the differences between groups are. The effect is marked with a **black dot**.

Effects between 0.2-0.4 are considered small, 0.5-0.8 are considered a medium effect, above 0.8 are considered large.

#### Confidence Interval

The confidence interval is marked with the **two black lines**.

This tells you the range of possible values for where the true average score for a population may be.