

By Robert S. Wilson

Mental Stimulation and Brain Health: Complex, Challenging Activities Can Support Cognitive Health in Older Adults

Observational and interventional studies are investigating the effects of mental stimulation on cognitive function, and the results are promising.

There are wide individual differences in late-life trajectories of change in cognitive function. Cognition declines precipitously in some individuals but gradually or not at all in others. Longitudinal studies have linked more rapid cognitive decline in old age with increased risk of disability, dementia, and death. With the aging of the United States population, the scope of the public health problem associated with late-life cognitive decline is projected to substantially increase in the coming decades. As a result, there is an urgent need for strategies to delay the development of cognitive impairment in old age.

How might mental stimulation enhance brain reserve? Longitudinal neuroimaging studies provide some clues.

This article examines participation in mentally stimulating activity as a means of enhancing brain health in old age. The article will first review observational studies of the association between mentally stimulating activity and cognitive health, and consider hypotheses about the basis of that association.

A discussion will follow about recent research on interventions designed to enhance cognitive and brain health in elders.

Mental Stimulation and Cognitive Function: Observational Studies

A basic challenge in research on cognitively stimulating activity is how best to define and assess it in people of varying socioeconomic, cultural, and ethnic backgrounds. The most widely used approach has been to collect self-reported data about frequency of participation in various activities judged to be mentally stimulating. These include activities such as reading, visiting a museum, or playing card games. People indicate whether or how often they participate in these types of activities, then results are combined to yield one or more summary indicators of overall level of participation in mentally stimulating activities.

In the past two decades, a number of longitudinal studies have used self-report scales to measure frequency of mentally stimulating

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