

Quantity and quality of mental activities and the risk of incident mild cognitive impairment

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Study objective and summary result

The present study examined whether the numbers of mentally stimulating activities performed in midlife and late life are associated with the risk of incident mild cognitive impairment (MCI), and it found that a greater number of mentally stimulating activities, particularly if performed in late life, is associated with a reduced risk of MCI.

What is known and what this paper adds

Several investigations have reported that mentally stimulating activities are associated with reduced risks of cognitive decline. This investigation characterizes the association in the case of MCI.

Participants and setting

The investigators analyzed data from 2,000 individuals (49.9% male; minimum baseline age, ≥ 70 years; median baseline age, 77.8 years) who participated in the Mayo Clinic Study of Aging (MCSA), a population-based study that follows residents of Olmsted County, Minnesota. These MCSA participants were cognitively unimpaired at baseline. The data analyzed in this investigation were collected between June 2006 and December 2016.

Design, size, and duration

The MCSA participants underwent cognitive evaluations at baseline and every 15 months during follow-up. These evaluations included neurologic examinations, ascertainment of cognitive risk factors, and neuropsychological testing. MCI diagnoses were made according to the revised Mayo Clinic criteria. Validated instruments were used to collect data on the participants' levels of engagement in book-reading, craft activities, computer activities, game-playing, and social activities in midlife (i.e., the ages of 50–65 years) and late life (i.e., the year before baseline). Cox proportional hazards models were used to identify predictors of incident MCI.

Main results and the role of chance

Over follow-up (median duration, 5.0 years), 532 participants developed MCI. The factors associated with reduced risks of

Table Association between the number of mentally stimulating activities in late life and the risk of incident MCI

No. of mentally stimulating activities performed in late life	Hazard ratio (95% confidence interval) for incident MCI relative to engagement in 0 mentally stimulating activities
1	0.80 (0.58–1.10)
2	0.72 (0.53–0.99)
3	0.55 (0.40–0.77)
4	0.44 (0.30–0.65)
5	0.57 (0.34–0.96)

MCI included greater numbers of mentally stimulating activities in late life.

Bias, confounding, and other reasons for caution

Engagement in mentally stimulating activities was self-reported. Given the observational study design, reverse causality cannot be ruled out.

Generalizability to other populations

The reliance on data from a single Minnesota county may limit the generalizability of the results.

Study funding/potential competing interests

This study was funded by the NIH, various foundations, and various scholarly consortia. Some authors report receiving consulting fees, committee appointments, and funding from healthcare companies; receiving funding from the US Department of Defense; serving as investigators for industry- and nonprofit-sponsored clinical trials; and receiving publishing royalties. Go to Neurology.org/N for full disclosures.

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The authors of the full-length article and the journal editors edited and approved the final version.

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