

# Physical and cognitive function of older people have improved meaningfully over 30 years

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The increased life expectancy is accompanied by an increased number of years lived with good functional ability in later life. Credit: Mosphotos, Doug Olson

The functional ability of older people is now better compared to that of

people at the same age three decades ago. This was observed in a study conducted at the Faculty of Sport and Health Sciences at the University of Jyväskylä, Finland. The study compared the physical and cognitive performance of people nowadays between the ages of 75 and 80 with that of the same-aged people in the 1990s.

"Performance-based measurements describe how older people manage in their daily life, and at the same time, the measurements reflect one's functional age," says the principal investigator of the study, Professor Taina Rantanen.

Among men and women between the ages of 75 and 80, muscle strength, walking speed, reaction speed, verbal fluency, reasoning and working memory are nowadays significantly better than they were in people at the same age born earlier. In lung function tests, however, differences between cohorts were not observed.

"Higher physical activity and increased body size explained the better walking speed and muscle strength among the later-born [cohort](#)," says doctoral student Kaisa Koivunen, "whereas the most important underlying factor behind the cohort differences in cognitive performance was longer education."

Postdoctoral researcher Matti Munukka continues: "The cohort of 75- and 80-year-olds born later has grown up and lived in a different world than did their counterparts born three decades ago. There have been many favorable changes. These include better nutrition and hygiene, improvements in health care and the school system, better accessibility to education and improved working life."

The results suggest that increased life expectancy is accompanied by an increased number of years lived with good functional ability in later life. The observation can be explained by slower rate-of-change with

increasing age, a higher lifetime maximum in physical performance, or a combination of the two.

"This research is unique because there are only a few studies in the world that have compared performance-based maximum measures between people of the same age in different historical times," says Rantanen.

"The results suggest that our understanding of older age is old-fashioned. From an aging researcher's point of view, more years are added to midlife, and not so much to the utmost end of life. Increased life expectancy provides us with more non-disabled years, but at the same time, the last years of life comes at higher and higher ages, increasing the need for care. Among the aging population, two simultaneous changes are happening: continuation of healthy years to higher ages and an increased number of very old people who need external care."

The study was conducted at the Faculty of Sport and Health Sciences and Gerontology Research Center at University of Jyväskylä, Finland. The first cohort data were collected between 1989 and 1990 and consisted of 500 people born between 1910 and 1914. The second cohort data were collected from 2017 to 2018 and comprised 726 people born in 1938 or 1939 and 1942 or 1943. In both cohorts, the participants were assessed at the age 75 or 80 years. Participants were recruited from the Digital and Population Data Services Agency.

**More information:** Kaisa Koivunen et al. Cohort differences in maximal physical performance: a comparison of 75- and 80-year-old men and women born 28 years apart, *The Journals of Gerontology: Series A* (2020). [DOI: 10.1093/gerona/glaa224](https://doi.org/10.1093/gerona/glaa224)

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*Aging Clinical and Experimental Research* (2020). [DOI: 10.1007/s40520-020-01702-0](https://doi.org/10.1007/s40520-020-01702-0)

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