

# Use your brain and keep cells coming

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MANY people express concerns about the potential impact of ageing on their abilities, and especially their cognitive functioning. Our perceived mental abilities can be an important aspect of our sense of identity and wellbeing.

Fortunately, recent scientific findings show how we can bolster our cognitive functioning to help counter or reduce the impact of ageing.

When we engage in certain habits, challenges and activities, many of our cognitive abilities are less vulnerable to decline, and may even continue to develop, reflected in increased competence or wisdom. Recognising this is most relevant given our ageing workforce. A relatively recent, and

most heartening, health discovery is we continue to develop brain cells and neural pathways throughout our lives.

Such “neurogenesis” and “neuroplasticity”, which support effective lifelong learning, are especially facilitated by such activities as regular exercise (especially including 40 minutes or so of aerobic exercise several times a week), taking on cognitive challenges such as engaging in complex learning while paying mindful attention, and seeking out novelty as well as situations which inspire or move us. Meditation and active social engagement also help.

Our mental abilities, and the brain structures and neural pathways that support them, mainly decline with disuse — it is a case of use it or lose it.

However, a famous example of how our brains can keep developing as we age, along with our skills, is the fact London taxi drivers have larger hippocampi (the hippocampus is a brain structure involved in memory) the longer they have been in the job. This reflects the extra effort and

experience they have put into learning so many locations and routes.

A famous study of Minnesota nuns also showed when people continued habits of rich mental stimulation throughout a lifetime, their apparent cognitive ability could be so well preserved it disguised the impact of such conditions as Alzheimer’s disease, never suspected until the pathology was found at post-mortem.

As Elkhonon Goldberg described in *The Wisdom Paradox*, some mental processes strengthen with age. If our work or other pursuits involve much practice at analysing and solving particular problems we develop more sophisticated forms of problem solving, based on pattern recognition, which become second nature. We can solve more problems more quickly and with an economy of effort.

The practice of such complex problem solving bolsters intuition and facilitates competence and wisdom. In a culture that seems overly focused on the benefits of youth, such resourcefulness is often underestimated.

Older people might be slower at learning skills, but may well compensate for that, especially if they have always been mentally active. Our long-term cognitive abilities depend not only on our intellectual potential, but also the effort and practice we have applied and the quality of our learning and mentoring along the way.

The person from whom I learnt most about neuroplasticity was Ernest Rossi, a psychotherapy genius whom I first encountered in his 70s, after a stroke that still affects his speech. He used some new experiences in his rehabilitation to invent one of the most creative and powerful psychotherapy techniques I have seen, a technique now found to influence the impact of about 200 genes influencing a vast range of physical and mental health abilities and problems.

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