NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

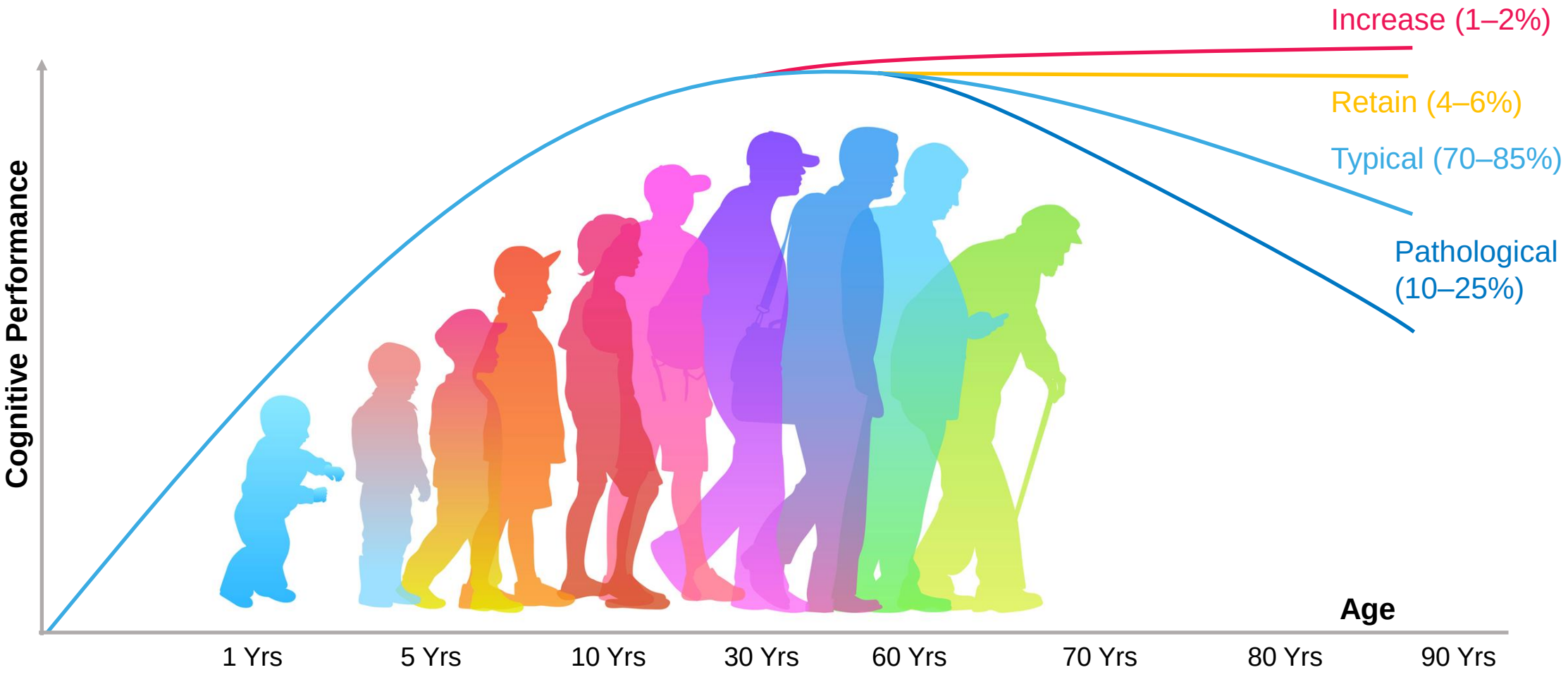
CC0007 Science and Technology for Humanity

Cognitive Ageing: Performance, Reserve, Resilience

Prof Balázs Gulyás, NTU

Cognitive Maturation and Ageing:

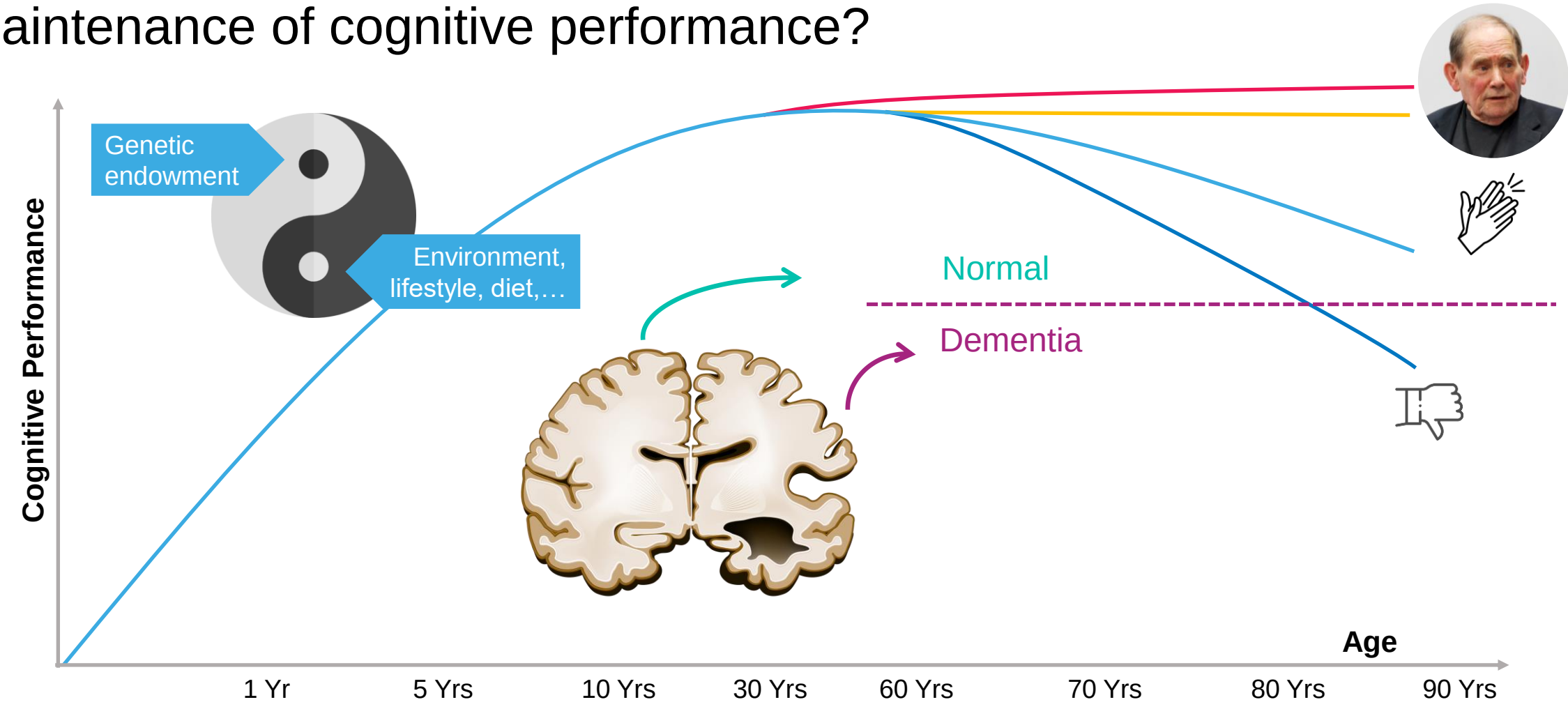
Changes in cognitive performance



Cognitive Maturation and Ageing:

Ageing-related challenges in cognitive performance 1

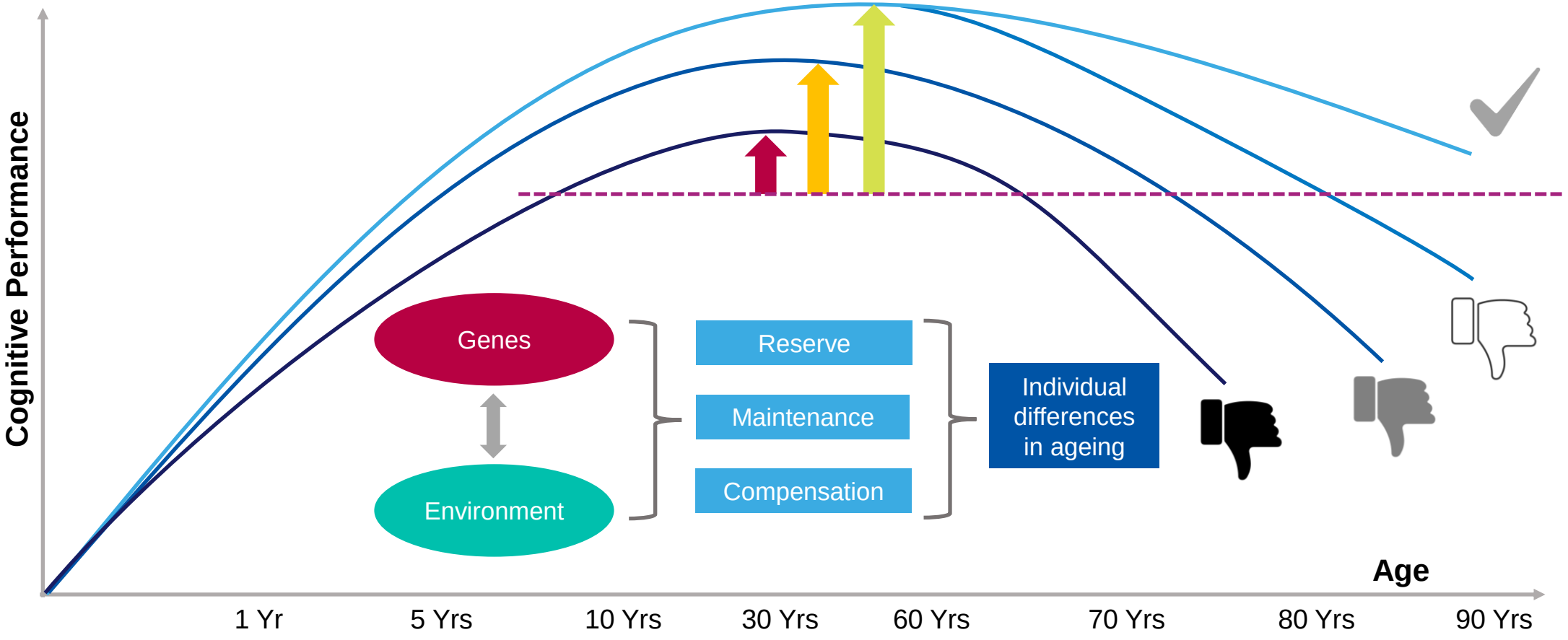
Maintenance of cognitive performance?



Cognitive Maturation and Ageing:

Ageing-related challenges in cognitive performance 2

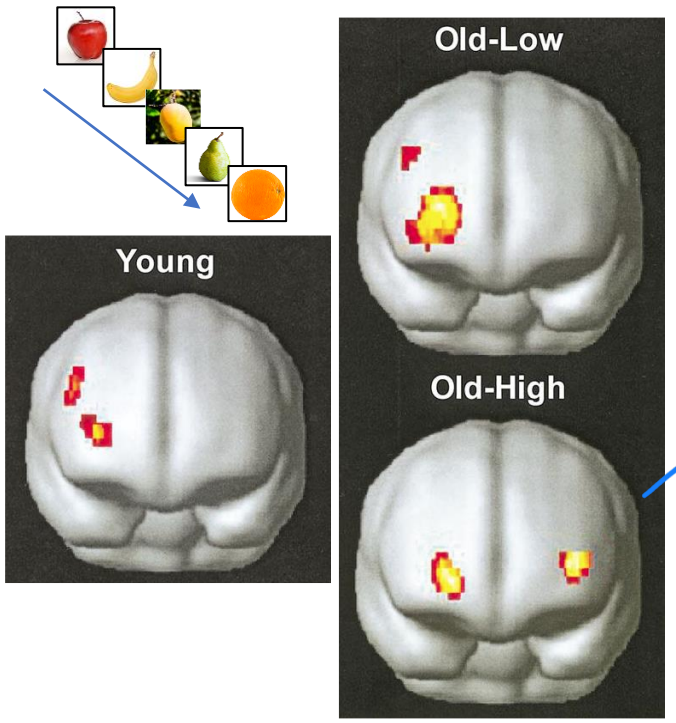
Problems with cognitive reserve?

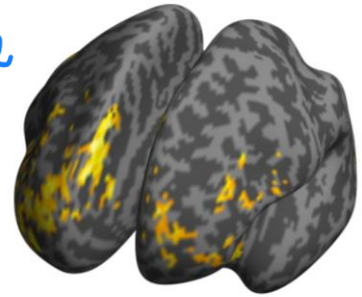


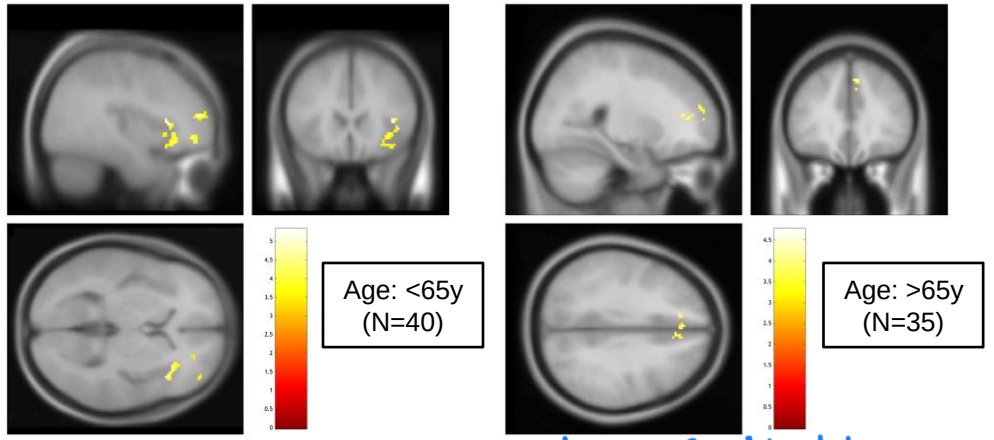
Cognitive Maturation and Ageing:

Ageing-related challenges in cognitive performance 3

Compensation? Maintenance and practice?

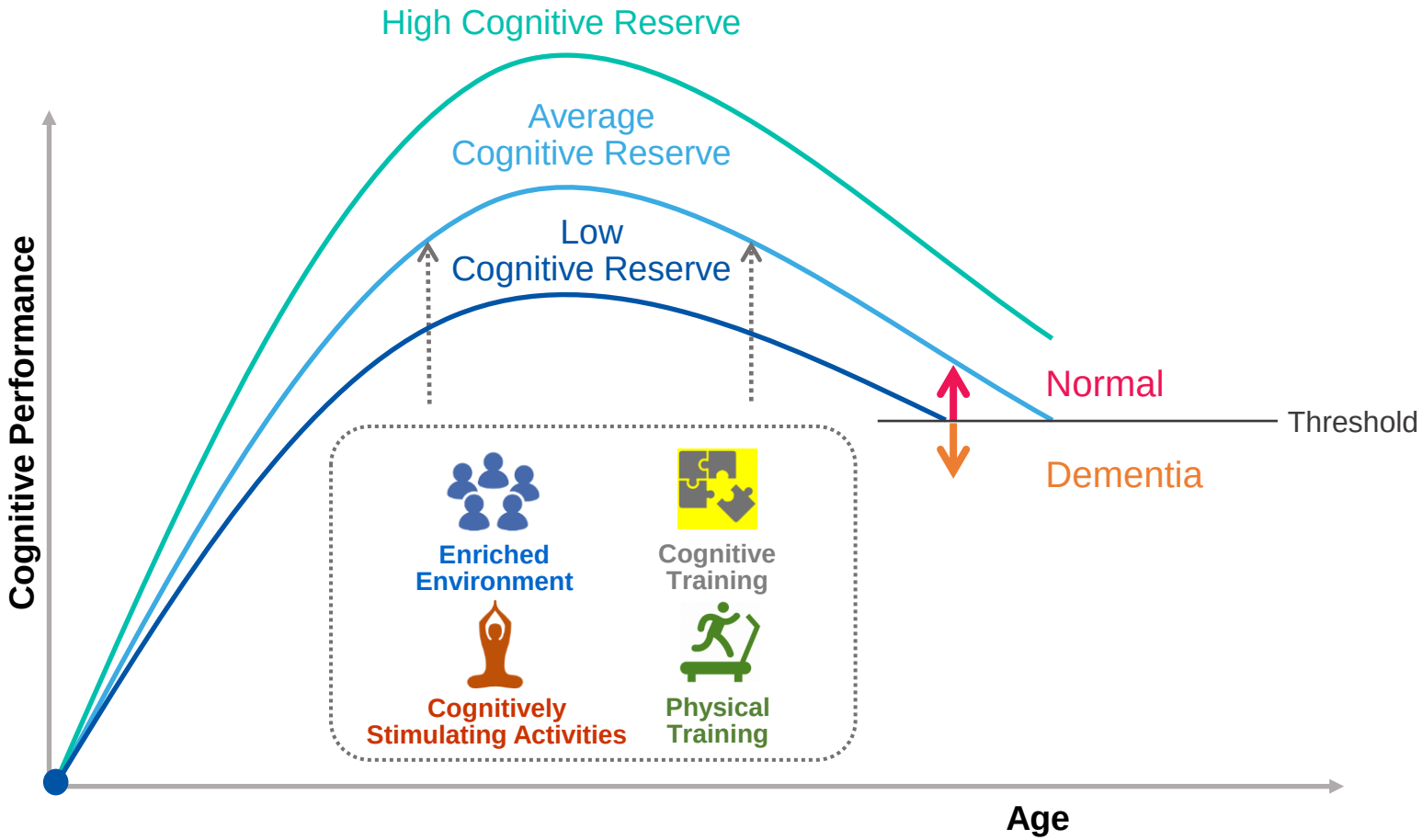






Left panel: Cabeza, R., Albert, M., Belleville, S., Craik, F. I. M., Duarte, A., Grady, C. L., Lindenberger, U., Nyberg, L., Park, D. C., Reuter-Lorenz, P. A., Rugg, M. D., Steffener, J. & Rajah, M. N. (2018). Maintenance, reserve and compensation: The cognitive neuroscience of healthy ageing. *Nature Reviews Neuroscience*, *19*(11), 701–710. https://doi.org/10.1038/s41583-018-0068-2
Right panel: NTU Cognitive Neuroimaging Centre (CONIC)

Importance of Cognitive Reserve Building, Maintenance and Compensation



Gulyás, B., Mitra, R., Vyas, A., Amin, S. M., Gulyás, V., Padmanabhan, P. (2018). Aging, brain aging and cognitive resilience. *Innovation*, *16*(1), 33-38. http://www.innovationmagazine.com/volumes/v16n1/coverstory2.html

The Blue Zones

- Family
- Social life
- Life purpose and meaning
- Spirituality/religion
- Stress reduction
- Moderate calories intake
- Moderate alcohol intake
- Plant-based diet
- Regular physical activity