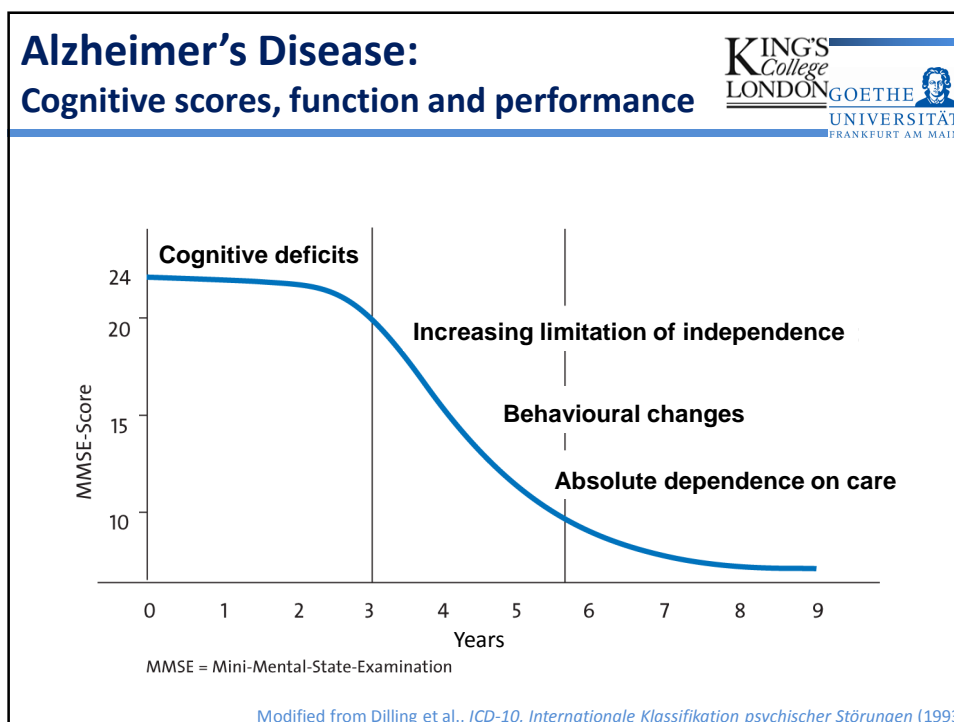


Navigating Psychopathology

Dementia in Science and Life-Writing

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University of Warwick, 22nd October 2018



Alzheimer's Disease: Clinical picture and pathogenesis

The clinical picture: personality changes

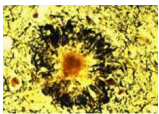
- Progressive memory deficits
- Impaired motor function
- Loss of independence

Pathophysiology: cholinergic cell death


- Death of neurons in various brain areas, especially in the **NBM**
- Loss of important messenger
- Loss or impaired function of specific enzymes and receptors

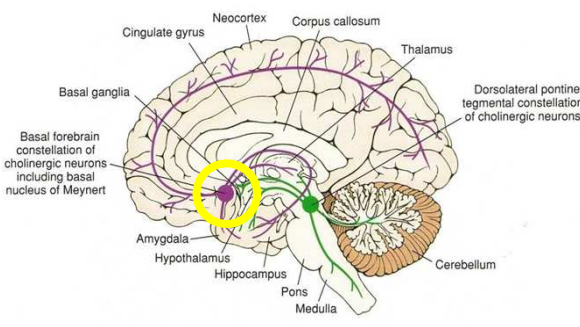
Cholinergic hypothesis

Amyloid hypothesis



Tau hypothesis




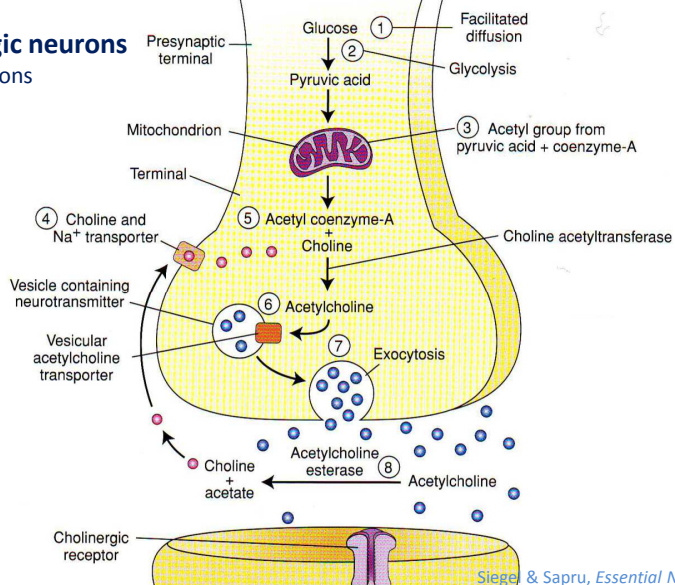


Siegel & Sapru, *Essential Neuroscience* (2006)
Sisodia & St. George-Hyslop, *Nat Rev Neurosci*, 2002

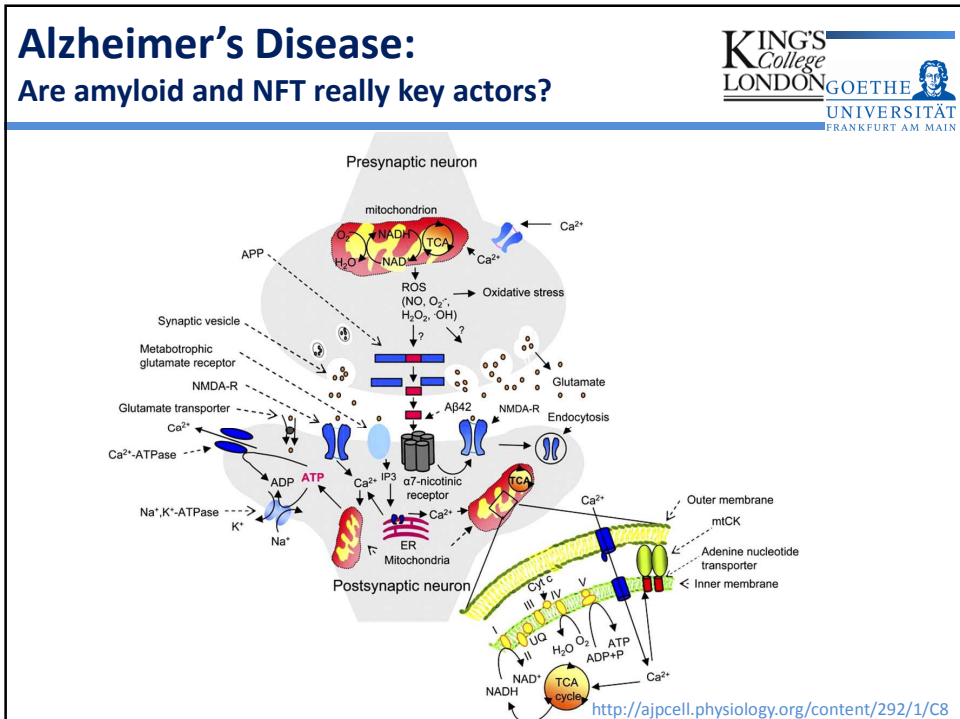
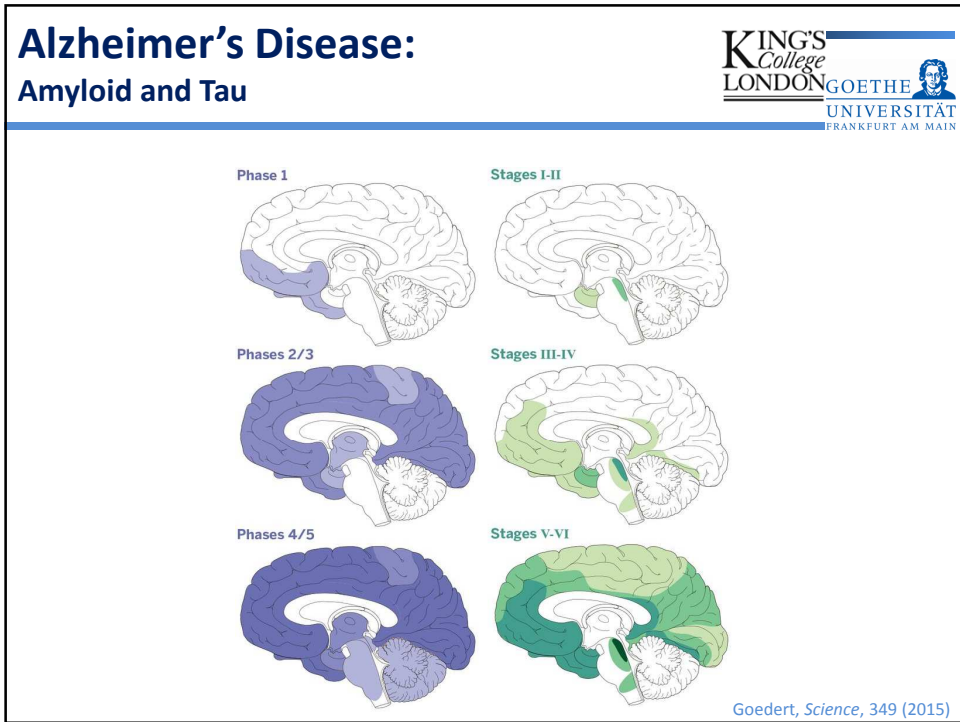
Alzheimer's Disease: How the most commonly used drug works

Cholinergic neurons
Motor neurons
ANS & CNS





Siegel & Sapru, *Essential Neuroscience* (2006)



What is epidemiology?

Definition



'Epidemiology is the study of how often diseases occur in different groups of people and why. Epidemiological information is used to plan and evaluate strategies to prevent illness and as a guide to the management of patients in whom disease has already developed.'

Target population

Study sample

[https://www.bmj.com/\[what is epidemiology?\]](https://www.bmj.com/[what is epidemiology?)


What is epidemiology?

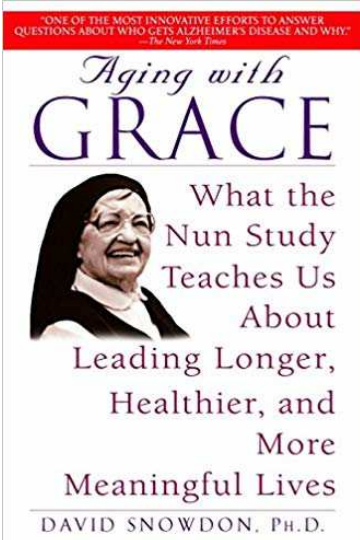
Study sample: School Sisters



'[Since joining the sisterhood, the nuns had] the same reproductive and marital histories; had similar social activities and support; did not smoke or drink excessive amounts of alcohol; had similar occupations, income and socioeconomic status; lived in the same houses and ate food prepared in the same kitchens; and had equal access to preventive and medical care services.'

Snowdon et al., *JAMA* 275 (1996), pp. 531-532






David Snowdon

Aging with Grace.
The Nun Study and the Science of Old Age: How We Can All Live Longer, Healthier and More Vital Lives.
(London: Fourth Estate, 2001)

Linguistic Ability in Early Life and Cognitive Function and Alzheimer's Disease in Late Life
Findings From the Nun Study

David A. Snowdon, PhD; Susan J. Kemper, PhD; James A. Mortimer, PhD; Lydia H. Greiner, BSN; David R. Wekstein, PhD; William R. Markesbery, MD

JAMA 275 (1996):
Key findings and comments/interpretations



1. Association between two linguistic measures and poor performance on seven cognitive tests
2. Strong relationship between cognitive ability in early life and cognitive function and AD in late life.
3. Sisters with low linguistic ability in early life may have had less **neurocognitive reserve** capacity.
4. Low linguistic ability in early life is a potent marker of both AD risk and the extent of AD lesions present at death.

Aging with Grace

Key statements



'Somehow, a one-page writing sample could, fifty-eight years after pen was put to paper, strongly predict who would have cognitive problems.'

'[...] intellectual stimulation throughout adulthood might be the key to keeping aging brains sharp and preventing Alzheimer's [...].'

'[...] within 85 to 90 percent accuracy, we could predict who would get Alzheimer's disease about sixty years later and who would not – simply by evaluating their autobiographies.'

Snowdon, *Aging with Grace* (2001), pp. 112, 113, 114

Letters regarding *JAMA* 275 (1996):


Key concerns

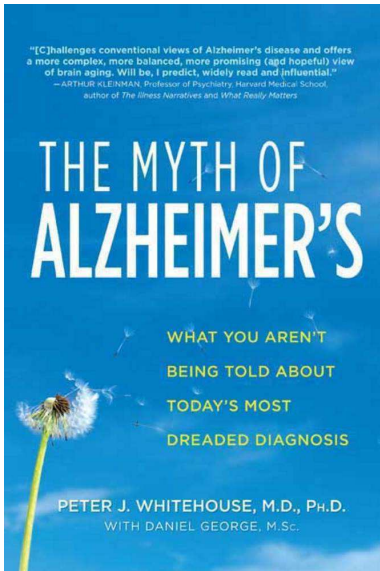


1. Expression of emotion rather than cognitive complexity:

Ability to feel strongly, coherently, and spontaneously helps to organise and protect thinking over the years

2. Distinction between reading and writing, i.e., the capacity to comprehend vs. the tendency to produce






Peter J. Whitehouse
The Myth of Alzheimer's.
What you aren't being told about today's most dreaded diagnosis.
 (New York: St Martin's Griffin, 2008)

The Myth of Alzheimer's

Key statements



'[...] a book for [...] anyone else who want to join me in bringing a new understanding o Alzheimer's disease and taking control of their own brain aging.'

'Thinking about brain aging not as a disease, but as a life-long process fraught with challenges, will challenge our whole approach to aging and add quality to our later years and to the lives of those we love.'

'plaques and tangles do not equate with clinical dementia'

Whitehouse, *The Myth of Alzheimer's* (2008), pp. xix, xvii, 245





Contents lists available at ScienceDirect

Journal of Aging Studies

journal homepage: www.elsevier.com/locate/jaging



Tracked and fit: FitBits, brain games, and the quantified aging body

Stephen Katz*, Barbara L. Marshall

Trent University, Canada




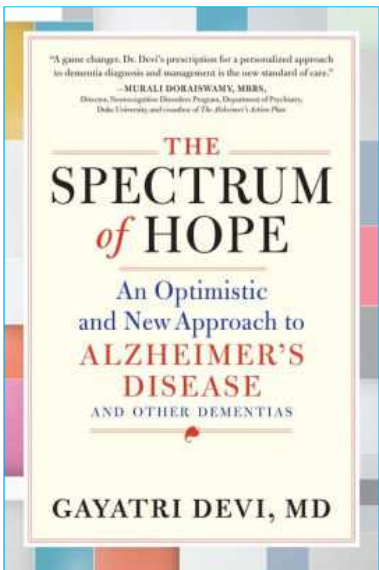
ARTICLE INFO

Keywords:
Aging body
Digital technologies
Self-tracking
Cognitive culture

ABSTRACT

This paper explores the technical turn to new ways of quantifying and standardizing measurements of age as these intersect with discourses of anti-aging and speculative futures of 'smart' quantified aging bodies. Often couched in a metaphorical language of 'smart', 'fit', 'boosting' and 'optimizing', the aging body is emerging as a node for data collection, monitoring, and surveillance. The research is located in the current literature that links aging, bodies and technologies, with specific extended examples of wearable devices such as fitness trackers and digital exercises such as brain games designed for memory performance. Conclusions suggest that new technologies around aging and quantifiable fitness create an ambiguous image of the aging body and brain as both improvable and 'plastic' but also inevitably in decline.





Gayatri Devi

The Spectrum of Hope.
An Optimistic and New Approach to Alzheimer's Disease and Other Dementias.
(New York: Workman Publishing, 2017)

The Spectrum of Hope

Key statements

'[Alzheimer's disease is] a spectrum disorder that presents with different symptoms, progresses differently, and responds differently to treatment, with different prognoses, for each person.'

'[w]e have not yet learned to associate Alzheimer's disease with functioning individuals, although this is, in fact, the majority of patients.'

Devi, The Spectrum of Hope (2017), pp. viii, ix



Who Will I Be When I Die?

Key statements and insights



Lifestyle, life history, environmental risk factors, identity

‘The fullness of who I once was will be seen in the simplicity of who I am within, surrounded by layer upon layer of memories.’

‘These memories form the kaleidoscopic perspectives of all the many expressions of my being over my lifetime: as a child, daughter, grand-daughter and sister, as a student and young adult, as a wife and mother, as a friend, as a researcher, an editor, an information officer, policy manager and senior public servant, as a member of St George’s church and a Cursillo team member, and as a writer of this book.’

Bryden, *Who Will I Be When I Die?* (2012), p. 63

Summary & Conclusion



Notions of cognitive reserve and brain reserve

place responsibility for healthy ageing on the individual, can lift stigma from the concept of AD.

Nun study related epidemiological data prepared for the development of the cognitive fitness industry.

The personal experience and subjective position of a patient in the machinery of diagnosis and labelling.

The role of amyloid and NFTs in diagnosis

what are AD markers and lesions?

What is AD?