

Cognitive aspects of ageing:

Key issues -

Expertise 
Wisdom 

Speed of processing 
Complexity of cognition
Quality of cognition
Compensation/selective optimization

Memory
-Little short term decline
-Difficulty with retrieval
-Primacy for older memories –age effect
-Alzheimer's Disease
& other causes of dementia

Note: Cohort effects continue to make this area uncertain;
longitudinal studies of intellectual ability are flawed as well.
Cross-cultural differences are apparent, and the impact of earlier
lifestyle factors becomes more prominent as we age, so...

Feldman: pp. 614 – 617; 603 --604

Alzheimer's:

The #1 cause of dementia
15% of those over 75: **dementia**
50+ percent of those
over 70: **disease**

RESERVE (vs. VITAL) CAPACITY
--brain volume 

Specific causes:

Genes - known genetic causes
account for only 2 – 10% of cases
21st chromosome
Beta amyloid build-up in placques
Neurofibrillary tangles
Acetylcholine 



Sensory decline:

- Taste, smell ↓
- Balance & Kinesthesia along with ↑ in RT, and ↓ in flexibility, strength, & agility *Note: Osteoporosis*
- Hearing ↓
-Presbycusis
- Vision ↓
 - Nearsightedness
 - Farsightedness
 - Cataracts
 - Macular degeneration
 - & diabetes

Severe decline (usually in late life) in these areas is often matched by declines in social ability as well, since we become less able to manage social cueing.

Isolation, loneliness, depression, even paranoia can result.

Note: The “frail elderly”

Levinson's Winter:

Becoming an "old person" vs. being an Elder

Loss of power, respect, authority

Gaining power, respect, authority through stepping up to *veneration*.

R. Peck's Redefinitions:

Self-redefinition

Body transcendence

Ego preoccupation

vs. preoccupation with work role

vs. body preoccupation

vs. ego transcendence



Havighurst's late life tasks:

Adjusting to:

Decreasing physical strength and health

Retirement and reductions in income/living on a fixed income

Death of a spouse

Establishing affiliation with one's age group

--identity shift to elder self concept

Meeting social and civic obligations

(Re)establishing satisfying living arrangements

- **Bernice Neugarten:**
- "A set of stereotypes has grown up that older persons are sick, poor, enfeebled, isolated and desolated," (1975)
- **Type theory**, but built on Erikson's *integrity versus despair* stage –
Elder Types:
- Denied/defended
- Passive/dependent
- Disintegrated & Disorganized
- (=Depressed/despairing?)
- Integrated (=the *majority* of elders)
- However, Neugarten is suggesting that which type we become is largely a function of how we *engage* in life and enjoy active ageing.
- *Engagement is a product of agency.*

Theories of Ageing:

Metabolic Theory –

Anabolism - the cellular (and sub-cellular) processes that *build up tissues* by the synthesis of more complex substances (e.g., fats, proteins, living tissue) from simpler ones, *storing their energy* for later use.

Catabolism - the cellular and sub-cellular processes that *break down tissues* and molecules. Molecules may be broken down to *release their energy* or to prepare them for disposal from the body as waste.

Anabolic processes support the continued (life-oriented) functioning and well being of the organism.

Catabolic processes deplete the internal resources of the organism *by using them up* in the ongoing functioning of the organism.

A
C

Prenatal Infancy Childhood Adolescence Adulthood Midlife Late Life ->

DEATH

Theories of Ageing:

Genetic (two versions) -

1.

Longevity is an inherited characteristic (polygenetic).

A tendency toward longevity runs in families.

The genes are mostly unknown but are bound to be among the thousands that control the functioning of our numerous organs, organ systems (and thus, the *vital life forces* of the human organism).

2.

The telomeres located at the ends of chromosomes act as a **DNA clock for ageing** by limiting the number of times cells may replicate.

Longer telomeres = longer life since tissues continue to be renewed as long as we develop new cells.

Thus, if we could lengthen our telomeres we could live longer (?)

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“This product contains RevGenetics natural small molecule Telomerase activator and is a perfect complement to Resveratrol regimen.

Supports Cardiovascular Health, DNA Repair, Telomere repair, lengthening, Cell Division and Chromosome H

As a natural health supplement:
*these statements have not been
evaluated by the U.S. Food and Drug
Administration.  is not
intended to diagnose, treat, cure or
prevent any disease.

Theories of Ageing:

Stochastic –

Accumulated inefficiencies in cellular processes increase over time, rendering cells, tissues and organs less able to carry out their functions.

These are either caused or compounded by the oxidation of tissues resulting in part from the *buildup of free radicals* within cells.

Wear & Tear -

Accumulated microscopic (and macroscopic) injuries, strains, stresses, and scarring of tissues reduce the ability of these tissues to respond, to function and to resist the effects of forces that tax the body's resources. Tissues wear out until they can no longer function.

Illness kills us.

Death is not *natural*.

