

Life-Span Development Thirteenth Edition

Chapter 18: Cognitive Development in Late Adulthood

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Cognitive Functioning in Older Adults

- Multidimensionality and Multidirectionality
 - Cognitive mechanics and Cognitive Pragmatics: the “hardware” of the mind and the neurophysiological architecture of the brain
 - Tends to decline with age
 - Cognitive pragmatics: culture-based “software” programs of the mind
 - Reading, writing, and educational qualifications
 - Professional skills and language comprehension
 - Knowledge of self and life skills
 - May improve with age

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Cognitive Functioning in Older Adults

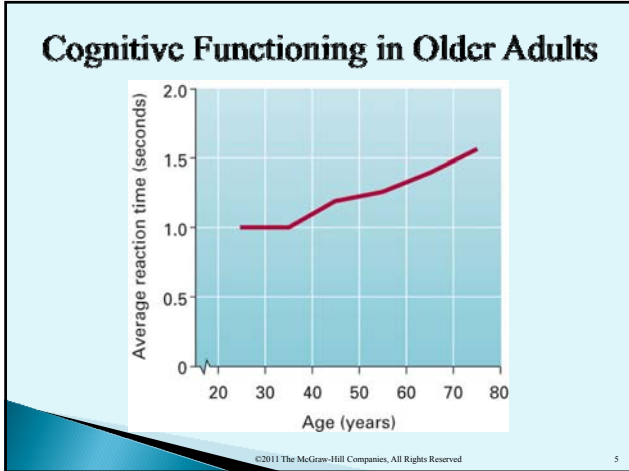
The graph plots Performance Level on the y-axis against Life course (years of age) on the x-axis, with markers at 25, 75, and 100. Two lines are shown: a green line for Cognitive Pragmatics and a purple line for Cognitive Mechanics. Both lines rise sharply from age 25 to 75, peaking at age 75. After age 75, the purple line (Cognitive Mechanics) declines steadily towards age 100. The green line (Cognitive Pragmatics) remains relatively flat and high, with a slight upward trend indicated by dashed arrows at the end of the line.

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Cognitive Functioning in Older Adults

- Multidimensionality and Multidirectionality
 - Speed of Processing:
 - Often due to a decline in brain and CNS functioning
 - Attention:
 - Selective attention
 - Older adults are generally less adept at this
 - Divided Attention
 - Sustained Attention

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- ### Cognitive Functioning in Older Adults
- Multidimensionality and Multidirectionality
 - Memory:
 - Memory changes during aging, but not all memory changes in the same way
 - Episodic memory: younger adults have better episodic memory
 - Semantic memory: does not decline as drastically as episodic memory
 - Exception: tip-of-the-tongue phenomenon
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- ### Cognitive Functioning in Older Adults
- Multidimensionality and Multidirectionality
 - Memory (continued):
 - Working memory and perceptual speed: decline during the late adulthood years
 - Explicit memory: memory of facts and experiences that individuals consciously know and can state
 - Implicit memory: memory without conscious recollection; skills and routines that are automatically performed
 - Implicit memory shows less aging declines than explicit memory
 - Source memory: the ability to remember where one learned something
 - Decreases with age during late adulthood
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- ### Cognitive Functioning in Older Adults
- Multidimensionality and Multidirectionality
 - Memory (continued):
 - Prospective memory: remembering to do something in the future
 - Age decline depends on the nature of the task and what is being assessed
 - Older adults' beliefs and expectancies about memory play a role in their actual memory
 - Memory ability is influenced by health, education, and socioeconomic status
 - Research has relied primarily on laboratory tests of memory, not real-world tasks
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Cognitive Functioning in Older Adults

- Multidimensionality and Multidirectionality
 - Decision Making: preserved rather well in older adults
 - Wisdom: expert knowledge about the practical aspects of life that permits excellent judgment about important matters
 - High levels of wisdom are rare
 - Late adolescence to early adulthood is the main age window for wisdom to emerge
 - Factors other than age are critical for wisdom to develop to a high level
 - Personality-related factors are better predictors of wisdom than cognitive factors

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Cognitive Functioning in Older Adults

- Education, Work, and Health
 - Education:
 - Successive generations in America's 20th century were better educated
 - Work:
 - Successive generations have placed a stronger emphasis on cognitively oriented labor
 - Health:
 - Successive generations have been healthier in late adulthood
 - Terminal decline: changes in cognitive functioning may be linked more to distance from death than distance from birth

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Cognitive Functioning in Older Adults

- Use It or Lose It
 - Certain mental activities can benefit the maintenance of cognitive skills
 - Reading books, doing crossword puzzles, going to lectures and concerts
 - Research suggests that mental exercise may reduce cognitive decline and lower the likelihood of developing Alzheimer's disease

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Cognitive Functioning in Older Adults

- Training Cognitive Skills
 - Training can improve the cognitive skills of many older adults
 - There is some loss in plasticity in late adulthood, especially in the oldest-old
 - Cognitive vitality of older adults can be improved through cognitive and physical fitness training

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Cognitive Functioning in Older Adults

- Cognitive Neuroscience and Aging
 - Cognitive neuroscience: discipline that studies links between the brain and cognitive functioning
 - Changes in the brain can influence cognitive functioning, and changes in cognitive functioning can influence the brain
- The cognitive neuroscience of aging is beginning to uncover important links between aging, the brain, and cognitive functioning

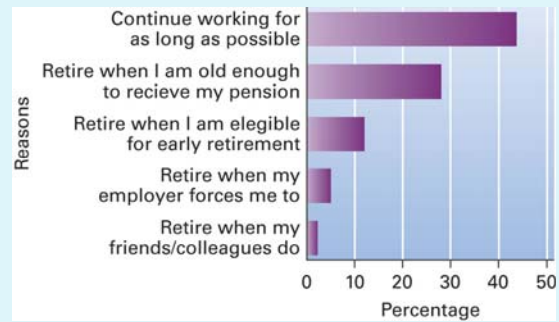
Language Development

- Some decrements in language may appear in late adulthood
 - Tip-of-the-tongue phenomenon
 - Difficulty understanding speech
- Speech of older adults is lower in volume, slower, less precisely articulated, and less fluent
- Slower information processing speed and decline in working memory may be responsible for some of the decline in language skills

Work and Retirement

- Work
 - Good health, a strong psychological commitment to work, and a distaste for retirement are important factors related to continued employment into old age
 - Cognitive ability is the best predictor of job performance in older adults

Work and Retirement



Work and Retirement

- Retirement in the U.S. and in Other Countries
 - Retirement in the U.S.
 - On average, workers will spend 10%–15% of their lives in retirement
 - Life paths for individuals in their 60s are less clear today
 - 7 million retired Americans return to work after they retire

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Work and Retirement

- Retirement in the U.S. and in Other Countries
 - Work and Retirement in Other Countries
 - 33% of those in their 60s and 11% in their 70s are still working
 - An increasing number of adults are beginning to reject the early retirement option

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Work and Retirement

- Adjustment to Retirement
 - Older adults who adjust best to retirement are:
 - Healthy
 - Active and have an adequate income
 - Are better educated
 - Have extended social networks and family
 - Were satisfied with their lives before retiring
 - Flexibility and planning are key factors in whether individuals adjust well to retirement

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Mental Health

- Depression
 - Major depression: mood disorder in which the individual is deeply unhappy, demoralized, self-derogatory, and bored
 - Less common among older adults than younger adults
 - Common predictors:
 - Earlier depressive symptoms
 - Poor health or disability
 - Loss events
 - Low social support
 - 25% of individuals who commit suicide in the U.S. are 65 years of age or older

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Mental Health

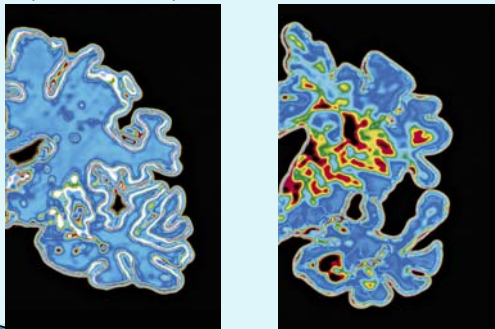
- Dementia, Alzheimer Disease, and Other Afflictions
 - Dementia: any neurological disorder in which the primary symptoms involve a deterioration of mental functioning
 - 20% of individuals over the age of 80 have dementia
 - Alzheimer Disease: a common form of dementia that is characterized by a gradual deterioration of memory, reasoning, language, and eventually, physical function
 - Divided into early-onset (younger than 65) or late-onset (later than 65)

Mental Health

- Dementia, Alzheimer Disease, and Other Afflictions
 - Alzheimer Disease (continued):
 - Alzheimer involves a deficiency in the brain messenger chemical acetylcholine
 - Deterioration of the brain
 - Formation of amyloid plaques and neurofibrillary tangles
 - Apolipoprotein E could play a role in as many as 1/3 of the cases of Alzheimer Disease

Mental Health

Dementia, Alzheimer Disease, and Other Afflictions



Mental Health

- Dementia, Alzheimer Disease, and Other Afflictions
 - Early Detection and Alzheimer Disease
 - Mild Cognitive Impairment (MCI) represents a transitional state between the cognitive changes of normal aging and very early disease
 - fMRI shows smaller brain regions involved in memory for individuals with MCI

Mental Health

- Dementia, Alzheimer Disease, and Other Afflictions
 - Drug Treatment of Alzheimer Disease
 - Cholinerase inhibitors and other drugs slow the downward progression of Alzheimer Disease
 - Caring for Individuals with Alzheimer Disease
 - Support is often emotionally and physically draining for the family; 50% of family caregivers report depression
 - Female caregivers report more caregiving hours
 - Respite care services

Mental Health

- Dementia, Alzheimer Disease, and Other Afflictions
 - Multi-Infarct Dementia: a sporadic and progressive loss of intellectual functioning caused by repeated temporary obstruction of blood flow in cerebral arteries
 - Common in men with a history of high blood pressure; many recover
 - Parkinson Disease: a chronic, progressive disease characterized by muscle tremors, slowing of movement, and facial paralysis
 - Triggered by the degeneration of dopamine-producing neurons in the brain
 - Several treatments are available

Mental Health

- Fear of Victimization, Crime, and Elder Mistreatment
 - There is a sense of fear and vulnerability in older adults because of their physical decline and limitations
 - Crimes committed against older adults are likely to be serious offenses
 - Elder maltreatment is primarily committed by family members
 - Can include neglect and psychological or physical abuse
 - Also can experience institutional abuse: mistreatment of older adults living in care facilities

Mental Health

- Fear of Victimization, Crime, and Elder Mistreatment
 - Older adults receive disproportionately fewer mental health services
 - Psychologists prefer to work with young, attractive, verbal, intelligent and successful clients (YAVISes) rather than quiet, ugly, old, institutionalized, and different clients (QUOIDS)
 - Mental health care needs to be more available and affordable for older adults

Religion

- Older adults are spiritual leaders in many societies around the world
- Older adults who derived a sense of meaning in life from religion had higher levels of life satisfaction, self-esteem, and optimism
- Religion can provide some important psychological needs in older adults