



Active Aging: Benefits of an Active Lifestyle on Health and Well-being in Later Life

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Unraveling the Secret to Aging Well

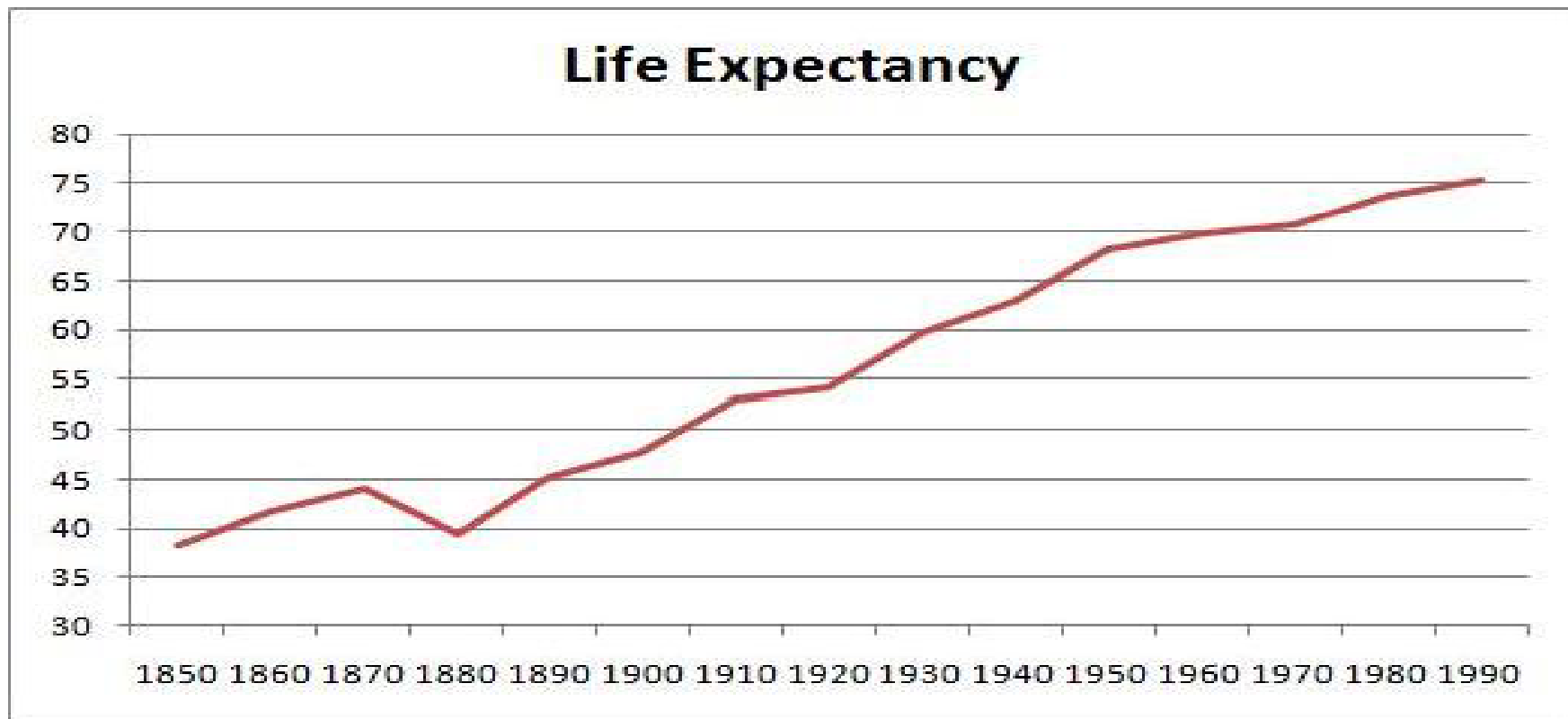




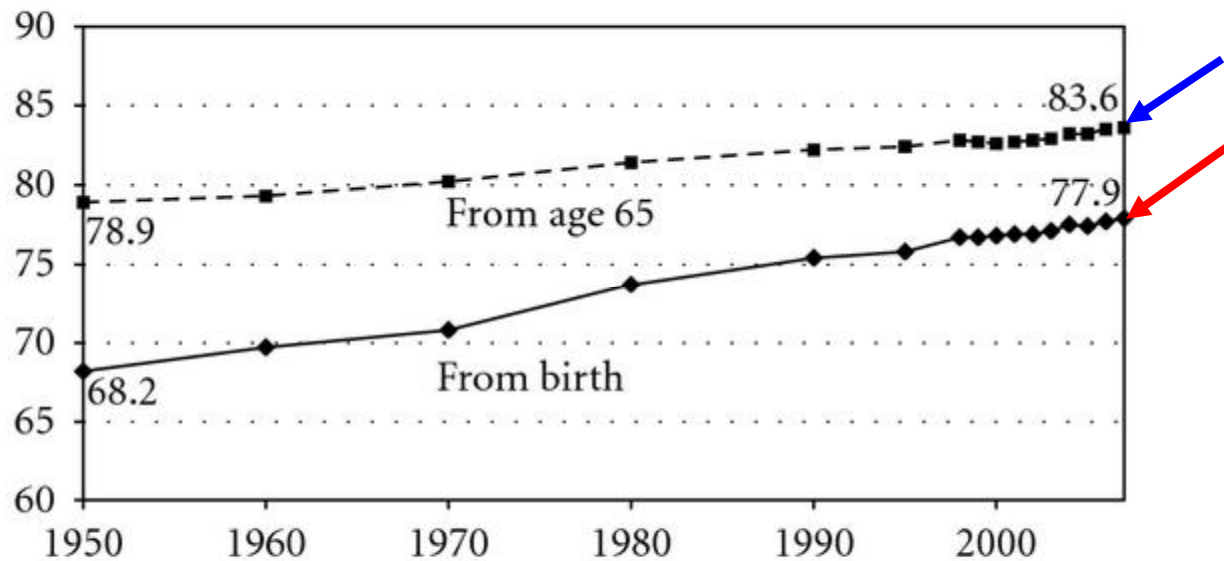
Changing Demography

- Americans' life expectancy reached an all-time high, while age-adjusted deaths hit an all-time low in 2001
- Decreased child mortality
- Decreased adult mortality
 - Influenza and infectious diseases
 - Cardiovascular disease
 - Stroke
 - Cancer

Life Expectancy at Birth 1850-1990

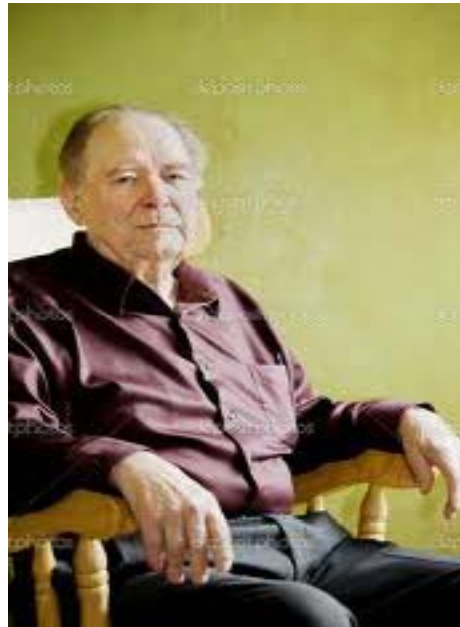


Changes in Life Expectancy 1950-2000





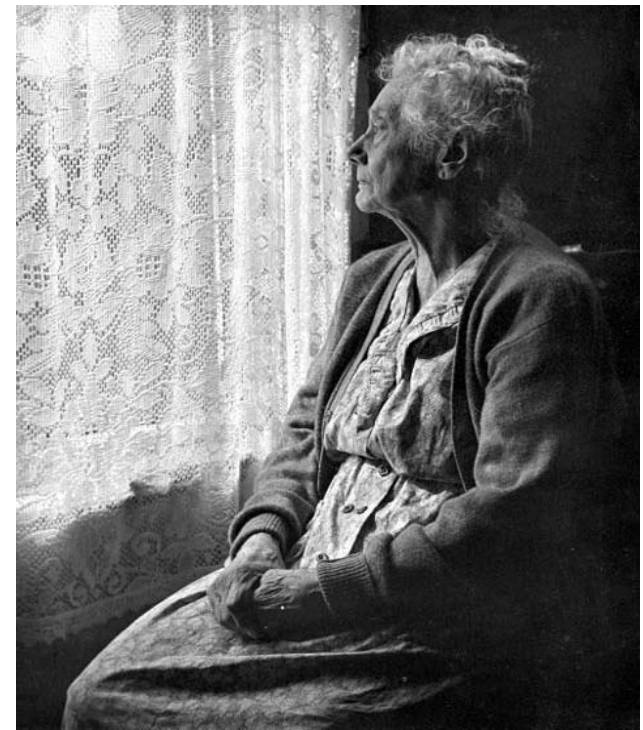
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Disengagement Theory (1961)

- Aging is an inevitable, mutual withdrawal or disengagement, resulting in decreased interaction between the aging person and others in the social system
- It is natural and acceptable for older adults to withdraw from society.
- This process is innate, universal and unidirectional





Activity Theory (1961)

- Activity Theory proposes that successful aging occurs when older adults stay active and maintain social interactions
- The theory assumes that a positive relationship between activity and life satisfaction





Life Extension vs. Life Expansion

- Increases in life expectancy must be associated with corresponding gains in physical, social and emotional well-being
 - Quality of Life
 - Productive Aging
 - Successful Aging

Quality of Life (Lawton, 1969)

- “Individual opinion about well-being is the best means of knowledge immeasurably surpassing those that can be possessed by anyone else” (John Stewart Mill)
- Three domains:
 - Physical health, Psychological well-being, Social relationships and networks



Productive Aging (1993)

- Concept developed to counter negative images of aging
- Defined as any activity by an older adult that contributes to producing goods or services
- Current definitions include volunteerism and civic engagement



Successful Aging (Rowe and Kahn, 1987)

- “ Research on aging has emphasized age-related losses and neglected the substantial heterogeneity of older persons”
- “The effects of the aging process have been exaggerated and the modifying effects of diet, exercise, personal habits, and psychosocial factors underestimated”



Successful Aging

- Three components
 - Low probability of disease and disability
 - High cognitive and physical function capacity
 - Active engagement with life
- More recent addition
 - Positive spirituality



Self-Rated Successful Aging

(Montross et al, 2006)

- Not related to age, gender, ethnicity, education, or income
- Associated with;
 - Living independently
 - Sense of mastery/growth
 - Active engagement with life
 - High life satisfaction despite common age-related disabilities and chronic conditions



Physical Activity and Health



Physical Activity

- Any bodily movement produced by skeletal muscles that requires energy expenditure
- Physical activity includes, but is not limited to exercise
- Includes activities involving bodily movement that are done as part of playing, working, active transportation, house chores and recreational activities



Benefits of Physical Activity

- Older adults, both male and female, can benefit from regular physical activity.
- Physical activity need not be strenuous to achieve health benefits.
- Older adults can obtain significant health benefits with a moderate amount of physical activity, preferably daily.
- A moderate amount of activity can be obtained in longer sessions of moderately intense activities (such as walking) or in shorter sessions of more vigorous activities (such as fast walking or stair walking).



Start Slow and Build Over Time

- Physical activity need not be strenuous to achieve health benefits.
- Significant health benefits can be obtained with a moderate amount of physical activity, preferably daily.
- Previously sedentary older adults who begin physical activity programs should start with short intervals of moderate physical activity (5-10 minutes) and gradually build up to the desired amount.
- Additional health benefits can be gained through greater amounts of physical activity, either by increasing the duration, intensity, or frequency. Because risk of injury increases at high levels of physical activity, care should be taken not to engage in excessive amounts of activity.



Health Benefits of Physical Activity

- Prevents premature death
- Helps maintain the ability to live independently and reduces the risk of falling and fracturing bones.
- Reduces the risk of dying from coronary heart disease and of developing high blood pressure, colon cancer, and diabetes.
- Can help reduce blood pressure in some people with hypertension.
- Reduces the risk of stroke
- Helps people with chronic, disabling conditions improve their stamina and muscle strength.
- Reduces symptoms of anxiety and depression and fosters improvements in mood and feelings of well-being.
- Helps maintain healthy bones, muscles, and joints.
- Helps control joint swelling and pain associated with arthritis.



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Active Aging vs. Sedentary Lifestyle

- Sedentary Lifestyle
 - Defined as no or irregular physical activity
 - Fourth leading risk factor for preventable global mortality (6 % globally)
 - Cardiovascular disease (30 %)
 - Diabetes (27 %)
 - Hypertension
 - Cancer (25 % breast and colon cancers)
 - Osteoporosis

Effects of a Sedentary Lifestyle

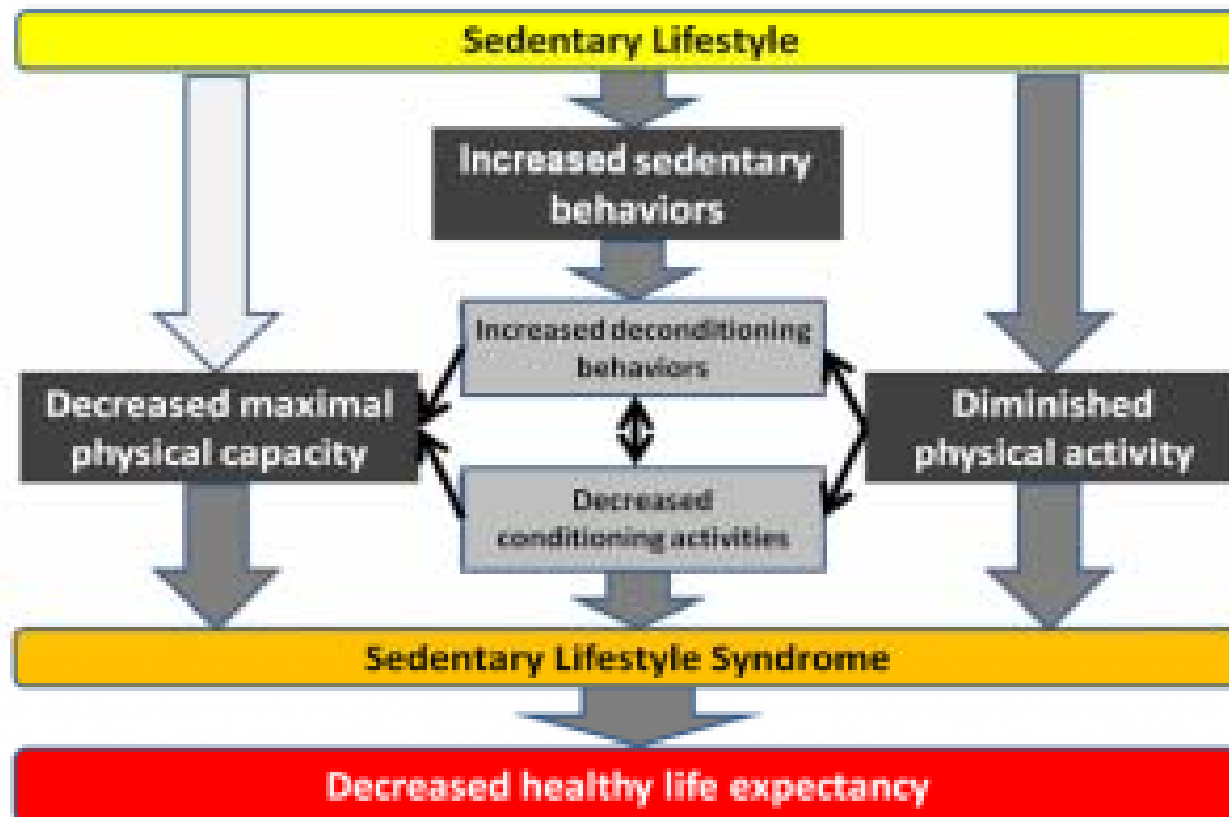
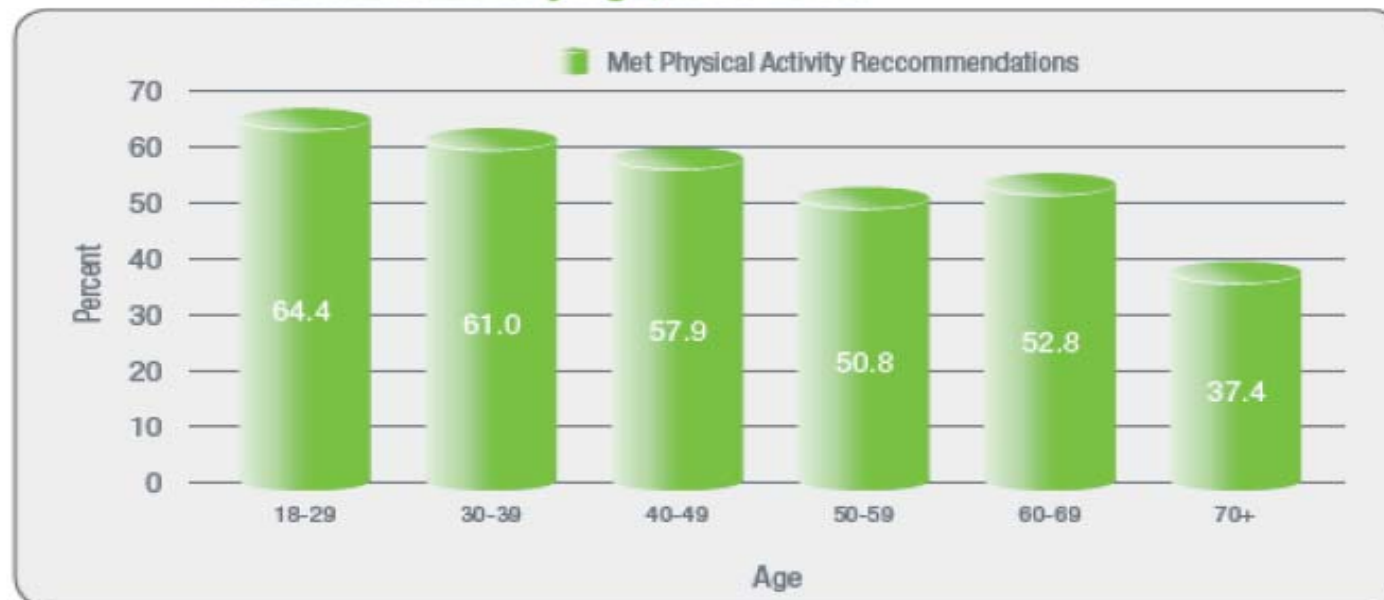


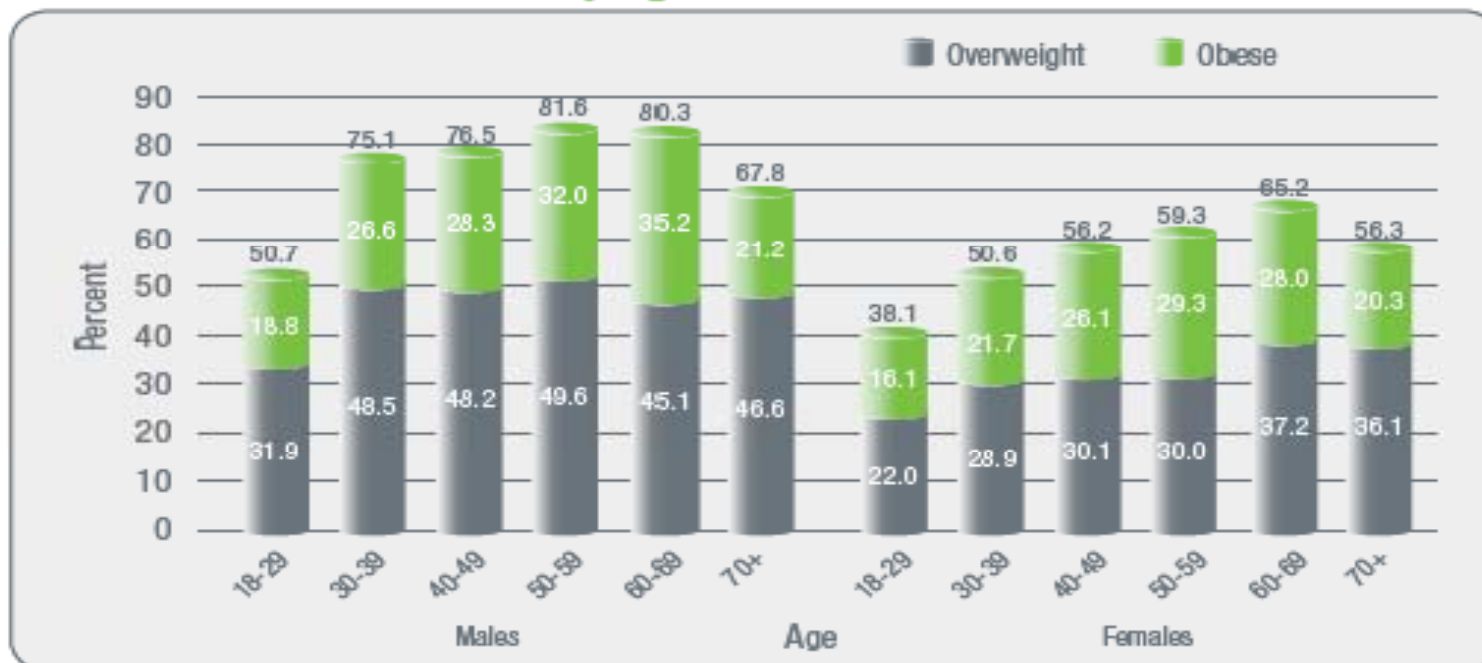
Figure 46. Prevalence of Meeting Physical Activity Recommendations for Wisconsin Adults by Age, 2003-2005.



Data source: 2003-2005 Behavioral Risk Factor Surveillance System, Bureau of Health Information and Policy, Division of Public Health, Wisconsin Department of Health Services.



Figure 10. Prevalence of Overweight, Obesity, and Total Overweight for Wisconsin Adults by Age and Sex, 2004-2006.



Data source: 2004-2006 Behavioral Risk Factor Surveillance System, Bureau of Health Information and Policy, Division of Public Health, Wisconsin Department of Health Services.



CDC: Aerobic Activity Recommendations

- For greater health benefits, older adults should work up to
 - 5 hours (300 minutes) each week of relatively moderate-intensity aerobic activity,
OR
 - 2 hours and 30 minutes (150 minutes) a week of relatively vigorous-intensity aerobic activity,
OR
- A mix of moderate- and vigorous-intensity aerobic activity



CDC Guidelines: Substantial Benefit

- For **substantial health benefits**, adults need to do at least
 - **2 hours and 30 minutes** (150 minutes) each week of relatively **moderate-intensity*** aerobic activity

OR

 - **1 hour and 15 minutes** (75 minutes) each week of relatively **vigorous-intensity*** aerobic activity,

OR

 - **A mix of moderate- and vigorous-intensity** aerobic activity.
- Aerobic activity should be performed for at least 10 minutes at a time, preferably, spread throughout the week

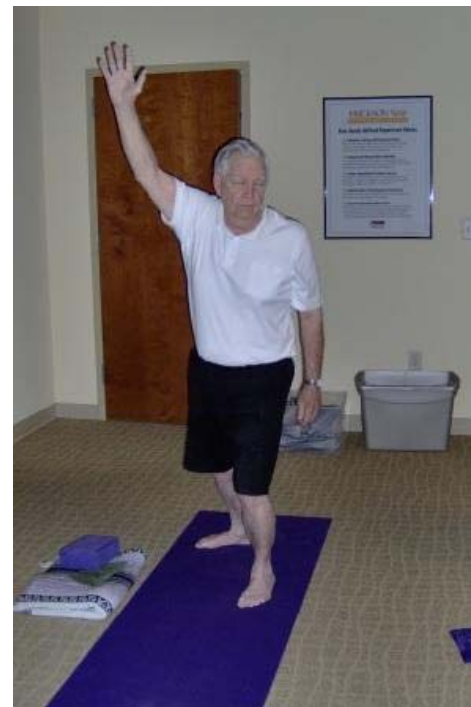
Strength Training Recommendations

- Do activities that strengthen your muscles at least 2 days a week
- Exercises using exercise bands, weight machines, hand-held weights
- Callisthenic exercises (body weight provides resistance to movement)
- Digging, lifting, and carrying as part of gardening
- Some yoga exercises and some tai chi exercises



Balance Exercises

- Older adults at risk of falling should do exercises that maintain or improve their balance.
- For best results, they should do these exercises **at least 3 days a week**
- Using exercises from a program shown to reduce falls.





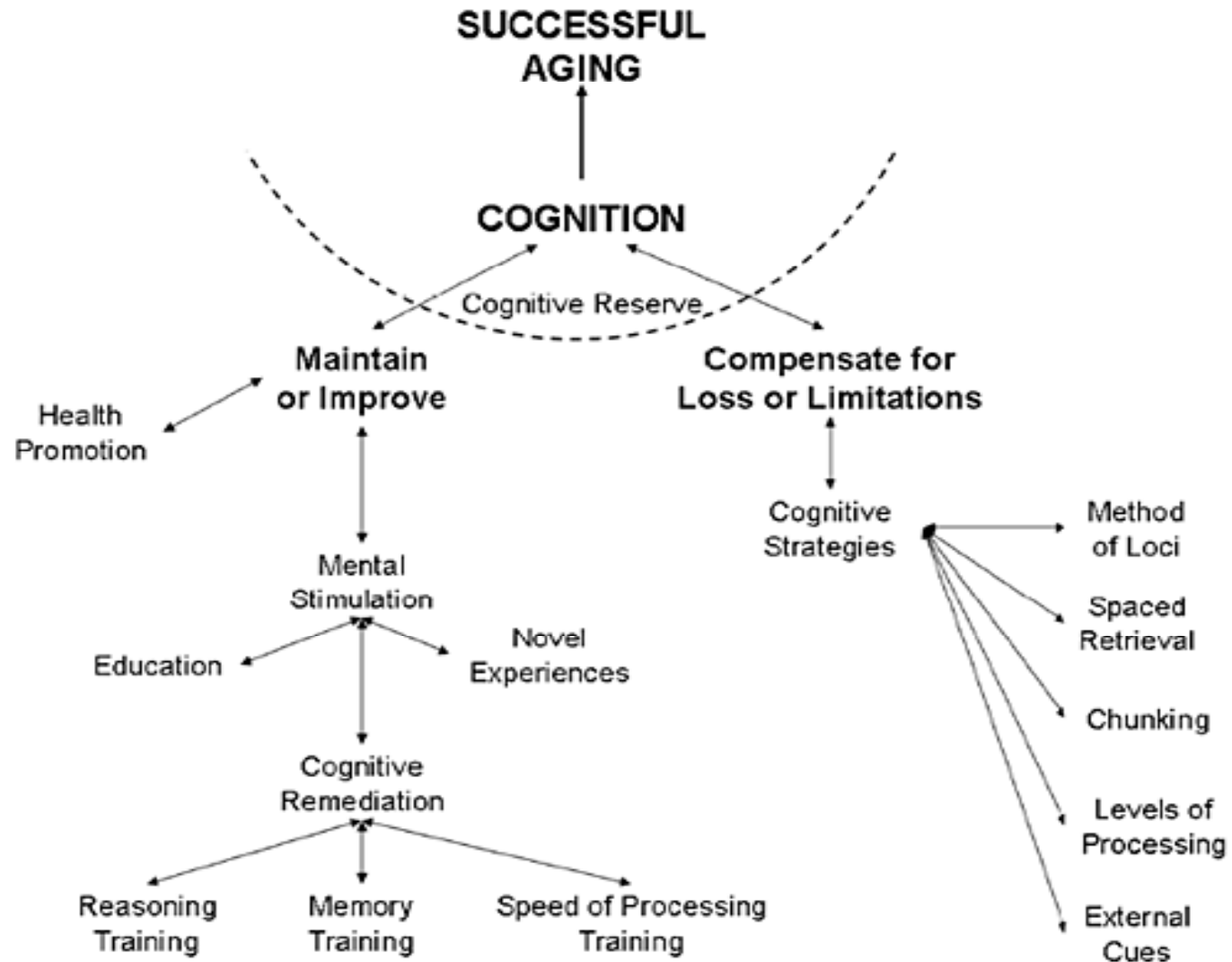
Impact of Physical Activity on Memory and Thinking

- Small but significant associations between physical activity and cognitive functioning in middle age.
- Longitudinal studies show that low levels of physical activity at baseline were significantly associated with lower scores on cognitive tests 5-11 years later
- Studies of physical activity in persons with Mild Cognitive Impairment (MCI) have shown modest but sustained memory improvement over an 18 month follow-up period





Cognitive Activity and Health





Importance of Cognitive Stimulation

- An environment that is cognitively and socially challenging facilitates enhances cognitive performance
- An environment that provides little stimulation results in boredom and cognitive decline
- Social interactions and social networks challenge the individuals to communicate and to utilizing their cognitive abilities to apprehend both verbal and nonverbal communication, and help to maintain cognitive abilities in old age

Computer Use and Cognitive Skill

- Computer based games have been shown to enhance: perceptual-motor skills, eye-hand coordination, and fine motor abilities
- Improvement of performance speed was also observed
- These game-based skills also transferred other aspects of everyday activities such as driving





Social and Leisure Activity and Health

Leisure Activities

- Active engagement in cognitively stimulating leisure activities is associated with enhanced memory function, decreased depression and increased life satisfaction
- Participation in leisure activities is associated with a reduced risk of dementia





Social Engagement and Successful aging

- Successful aging theory identifies sustained engagement in social and productive activities as central to healthy aging
- In the Manitoba Aging Study, social and productive activities were positively related to happiness, function, and mortality, whereas more solitary activities (e.g., handwork hobbies) were related only to happiness



Types of Social and Leisure Activities (Manitoba Aging Study)

Activity	%
Social	
Visiting Family	83
Visiting Friends	84
Talking on the Phone	93
Church Activities	47
Organized Multi-Aged Social Groups	18
Older Adult Social Groups	24
Service Organizations	12
Mass Activities	16
Travel	37
Sports	34
Solitary	
Collecting hobbies	31
Handwork hobbies	46
Music, art, theater	34
Reading or writing	90
Productive	
Work	8
Volunteer	23
Light housework/gardening	93
Heavy housework/yard work	63

Beneficial Effects of Physical, Leisure and Social Activities Observed in Frail Elders

- Nursing home-based strength and conditioning exercise increased muscle mass, bone density and improved balance
- Social and cognitive stimulation decreases stress, depression and disruptive behaviors in long-term care settings
- Lack of activity has negative effects





Adapting to Age-Related Change

(Baltes & Baltes 1990)

- Model of successful aging developed from a theory of adaptive development and effective life management through selective optimization with compensation
- The theory describes the life course as having changes in both resources and goals
- We begin with a focus on personal gain and growth early in adulthood, and, as we age, the focus shifts toward minimizing declines
- The three components of SOC are selection, optimization, and compensation



Selection

- Voluntary and loss-based
- It involves selecting or narrowing the range of domains (e.g., relationships, health, or personal identity) and specific goals (e.g., spending time with family, exercising regularly, or participating in cultural activities) to what is within reach while sacrificing goals beyond reach
- Example: In later in life when attention and memory may not be as keen as in young adulthood, the selection of cognitive tasks may be limited to daily living tasks such as self-care and managing a home instead of more esoteric goals such as pursuing a degree or learning a foreign language



Optimization

- Resources that can be used to achieve goals to attain a higher level of functioning.
- For example, an older adult may use mnemonic strategies to learn and retain information so he or she can pursue meaningful activities that require memory demands, such as volunteer activities
- In this sense, the older adult is optimizing his or her existing memory ability to retain its best-possible functioning

Compensation

- Establishing or attaining new resources to counteract declines that threaten current levels of functioning.
- Older adults must optimize their independence or abilities by compensating in areas in which ability is lacking.
- Such compensation strategies emphasize the role of adaptation in the process of successful aging, especially successful cognitive aging.



Conclusions

- Activity supports successful aging
 - Reducing risk of chronic and disabling disease
 - Sustains cognitive, physical and social function
 - Enhances feelings of mastery, self confidence and independence
- The meaning of your activities is more important than the number of activities
 - Activity Portfolio



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Active Engagement in Life

