

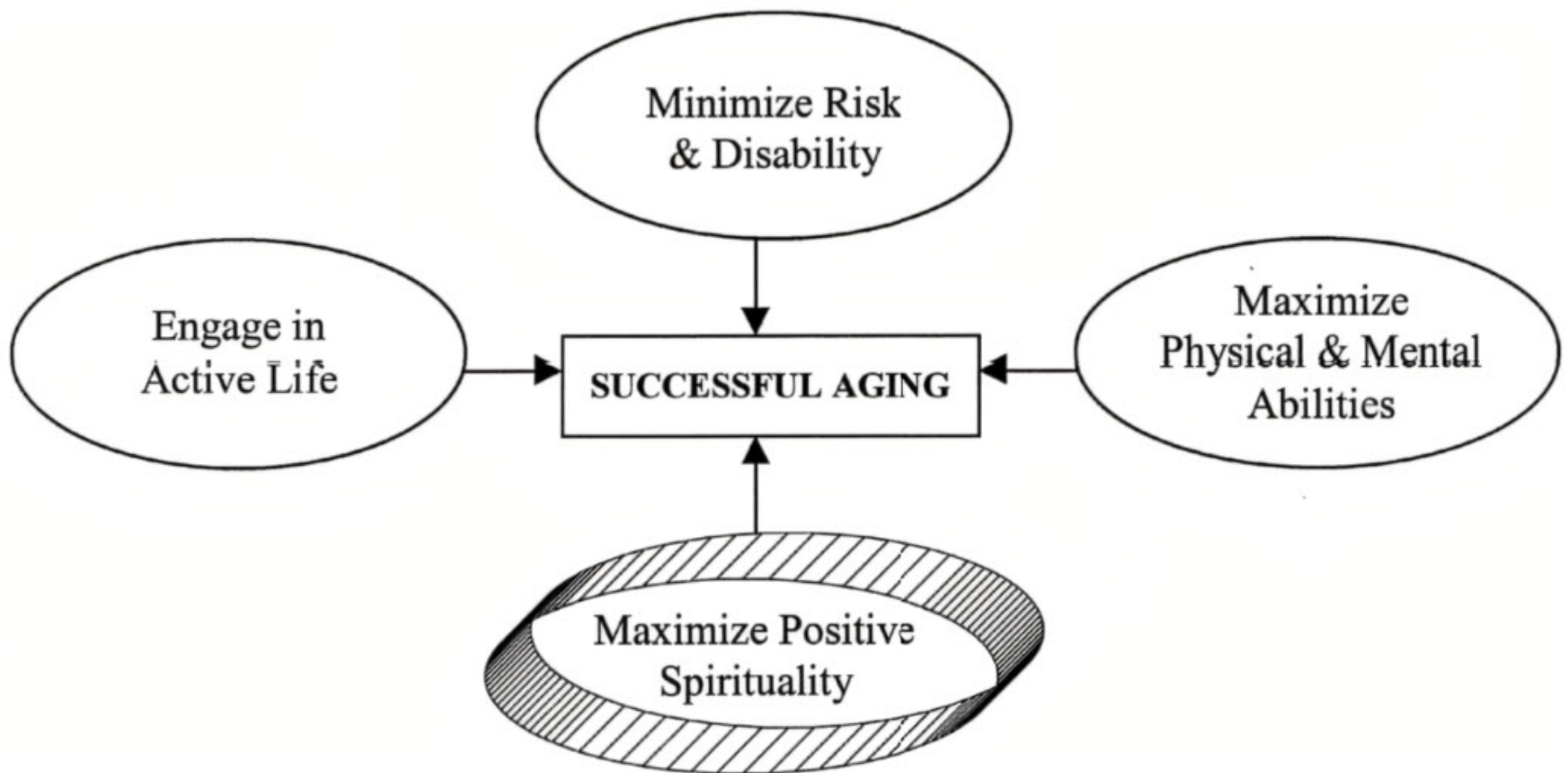
Maintaining and Improving Your Mental Skills as You Age: Keeping Your Mind Sharp

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Why is keeping your mind sharp important?

- Being mentally active is a key dimension of **successful aging** (in addition to the spiritual, physical, social)
- Believing in declines with age predisposes you to further decline/decline becomes a **self-fulfilling prophecy** (Optimistic vs. pessimistic – vs. being realistic)
- Mental skills difficulties lead to **anxiety** about their loss, leading to **avoiding opportunities** for growth, further contributing to more anxiety, avoidance, and **possible further decline**



What Changes with Age?

- Declines in short term memory and ability to process information
- Long term memory change depends on how meaningful and datedness of material
- Declines in fluid ability (solving new problems), spatial ability, speed of response, attentional processes
- Increases or stability in crystallized ability (the use of experience to solve familiar problems)
- Wisdom, experience, judgement, creativity
- Postformal reasoning- “it depends” thinking
- Our skills are complex-one picture does not fit all!
- Influence of cohort/generation effects

WAIS-R SUBTESTS

Scale	Sample Items
Verbal tests	
General information	<ol style="list-style-type: none">1. How many wings does a bird have?2. How many nickels make a dime?3. What is steam made of?4. Who wrote "Tom Sawyer"?
General comprehension	<ol style="list-style-type: none">1. What should you do if you see someone forget his book when he leaves a restaurant?2. Why is copper often used in electrical wires?
Arithmetic	<ol style="list-style-type: none">1. Sam had three pieces of candy and Joe gave him four more. How many pieces of candy did Sam have altogether?2. Three women divide eighteen golf balls equally among themselves. How many golf balls did each person receive?
Similarities	<ol style="list-style-type: none">1. In what way are a lion and a tiger alike?2. In what way are a circle and a triangle alike?
Vocabulary	This test consists simply of asking, "What is a _____?" or "What does _____ mean?" The words cover a wide range of difficulty.

Performance tests

In addition to verbal tasks of the kinds illustrated above, there are a number of performance tasks involving the use of blocks, cut-out figures, paper and pencil puzzles, etc.

Source: Adapted from Wechsler Adult Intelligence Scale—Revised. Copyright 1981, 1955 by The Psychological Corporation. Reproduced by permission. All rights reserved.

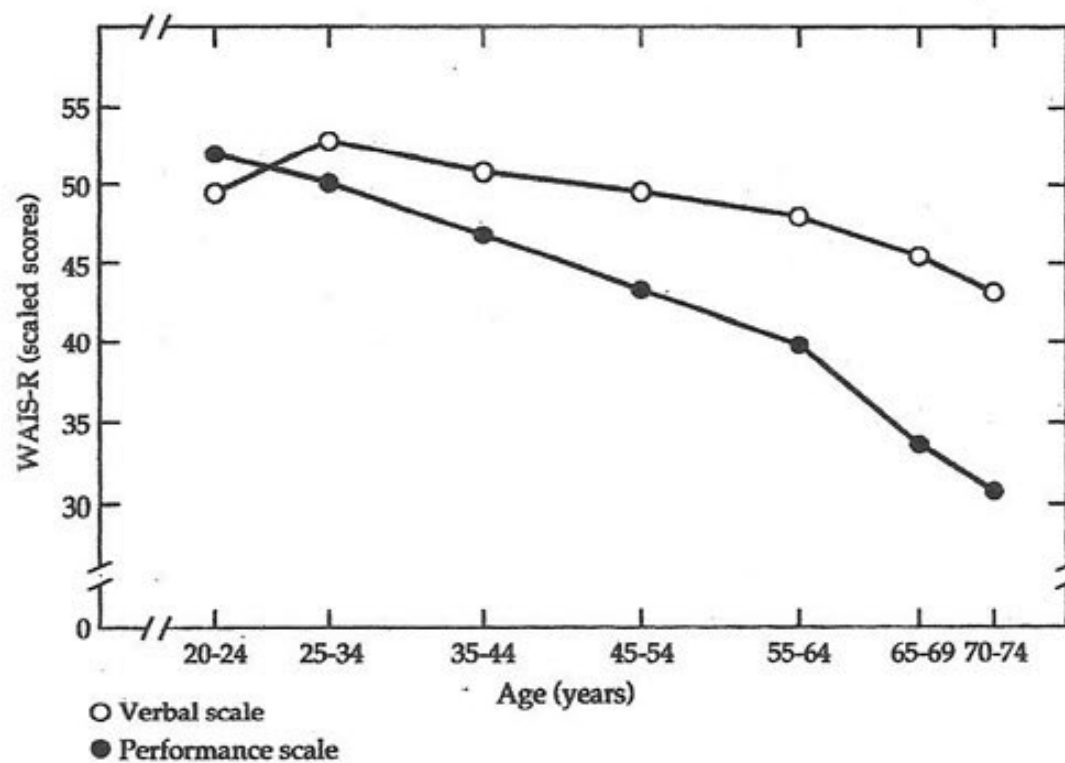


Figure 6.5 WAIS-R Verbal and Performance scores as a function of age. Data were obtained from Table 20 of the WAIS-R Manual (Wechsler, 1981, pp. 97-109) by culling sum of scaled scores of IQs of 100. (The Verbal scaled scores were multiplied by 5/6 to develop a common base with the Performance scaled scores.)

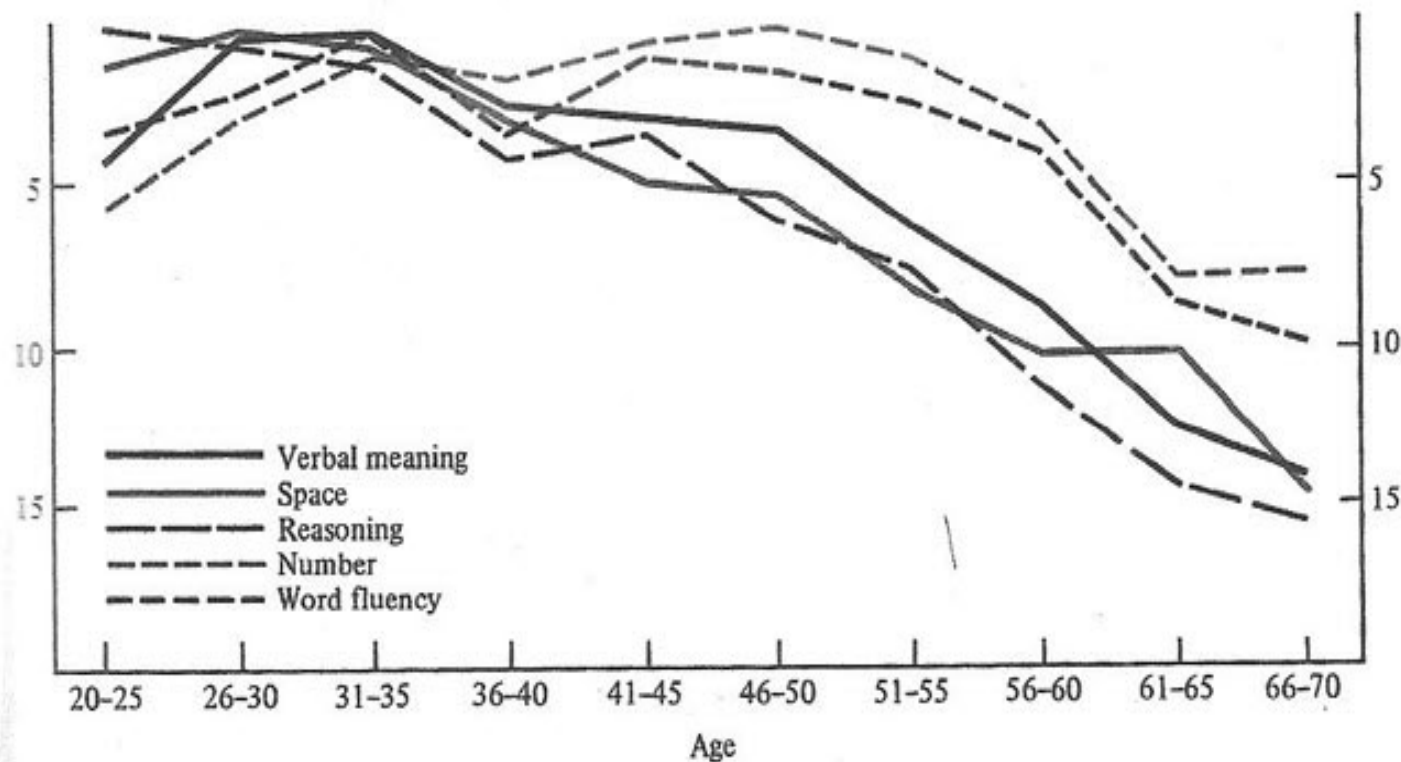


Figure 6.6 PMA curves across age: mean decrement in the primary mental abilities from mean peak levels in standard scores. *Source:* Adapted from K.W. Schaie. (1958). Ridity-flexibility and intelligence: A cross-sectional study of the adult life span from 20-70. *Psychological Monographs*, 72, No. 9 (Whole No. 462), 15.

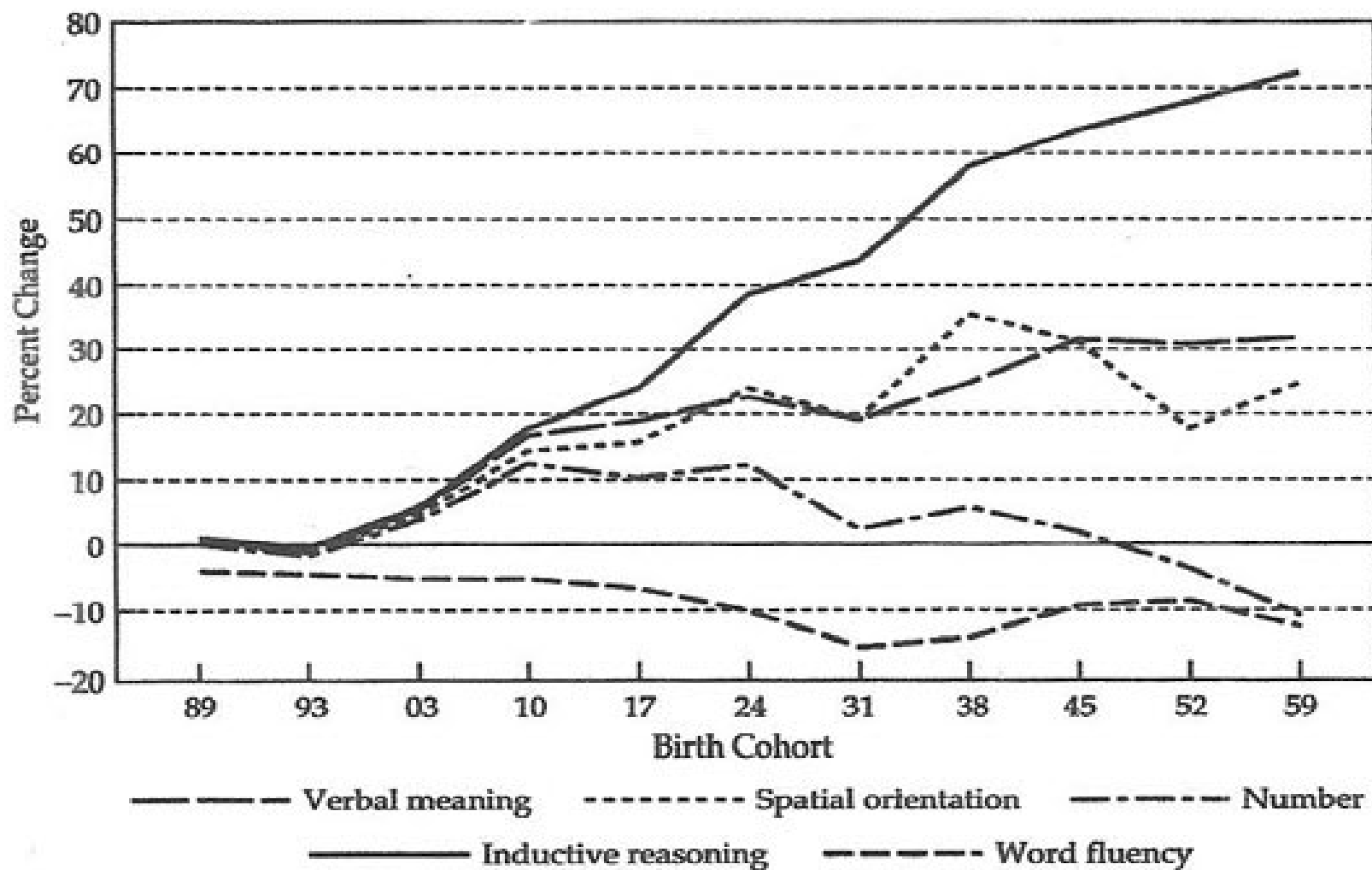


Figure 6.7 Cumulative cohort differences from 1889 base cohort for the mental abilities. Source: Schaie (1990). Cohort differences in mental abilities. *Late life potential* (p. 48). Gerontological Society of America.

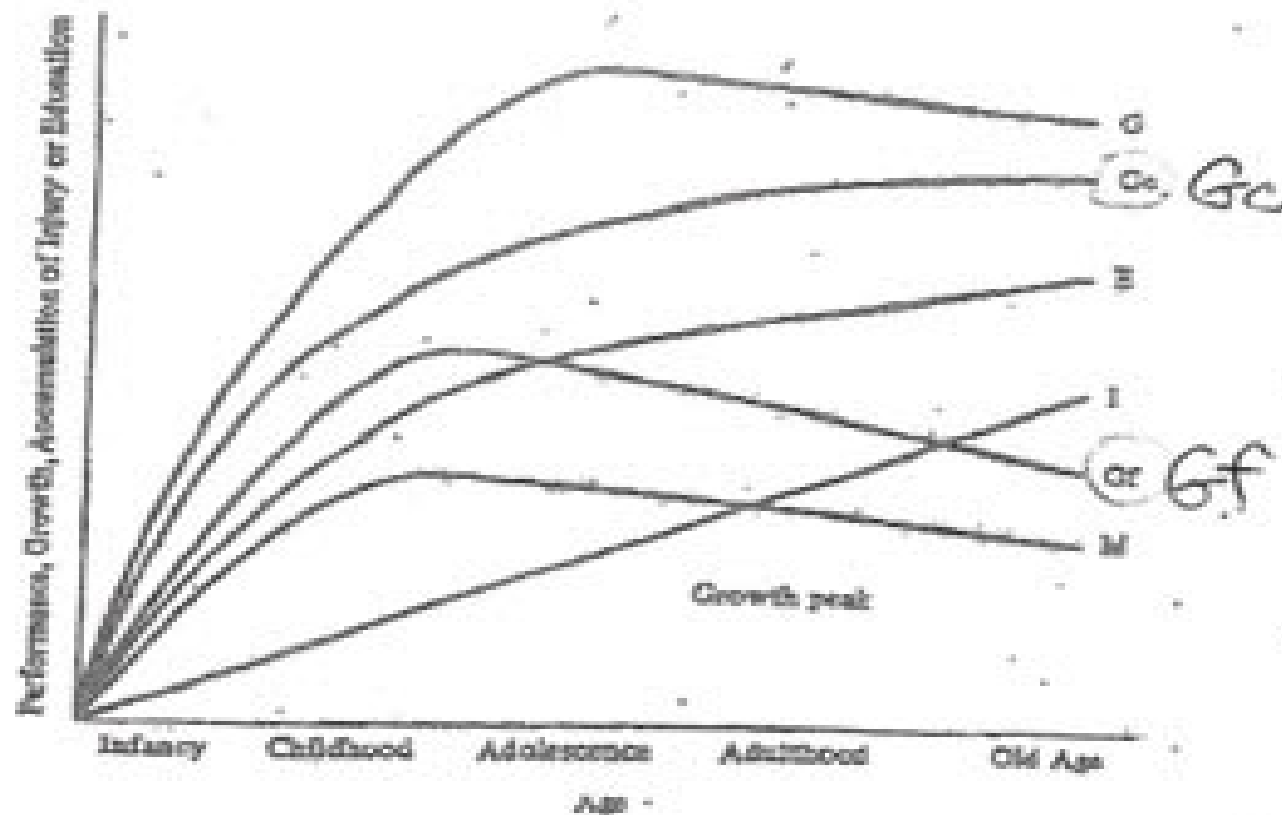


Figure 6.3 Gf-Gc curves across age. Development of fluid intelligence (Gf) and crystallized intelligence (Gc) in relation to maturational growth and decline of neural structures (M), accumulation of injury to neural structures (I), accumulation of educational exposures (E), and overall ability (G). Source: Adapted from J. Horn. (1970). Organization of data on life-span development of human abilities. In L. Goulet & P.B. Baltes (Eds.), *Lifespan developmental psychology: Research and theory* (p. 665). New York: Academic Press. Reprinted by permission of the author.

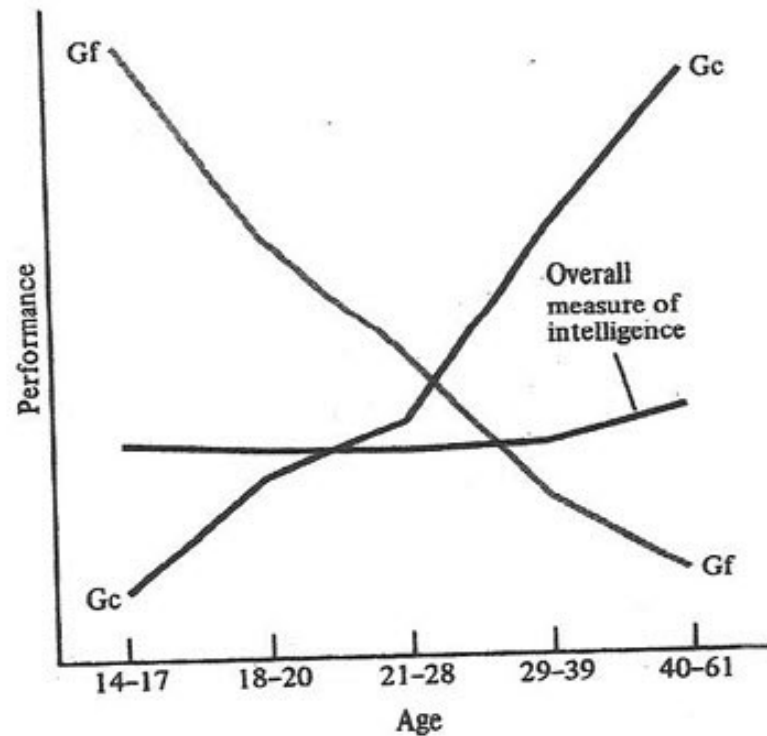
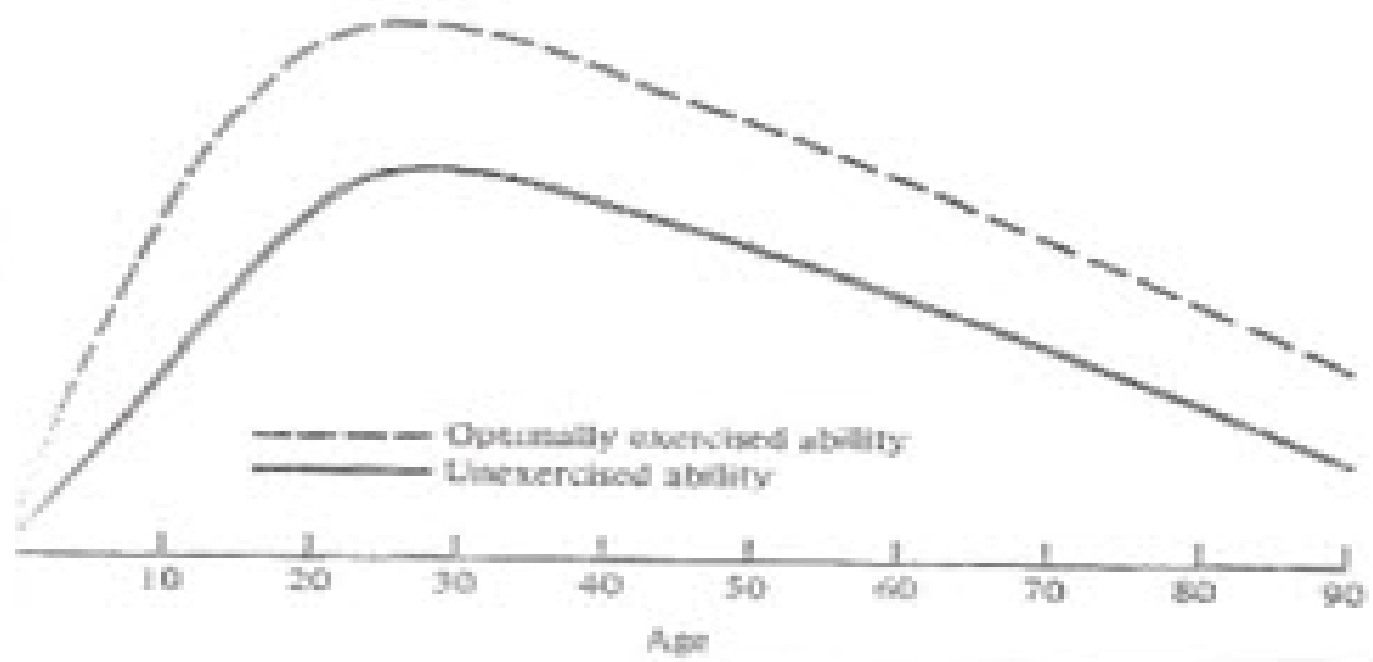


Figure 6.4 Age curves for Gc and Gf versus overall intelligence. Source: J. Horn. (1970). Organization of data on life-span development of human abilities. In L. Goulet and P. Baltes (Eds.), *Life-span developmental psychology: Research and theory* (p. 463). New York: Academic Press. Reprinted by permission of the author.

Whether your skills decline is the question

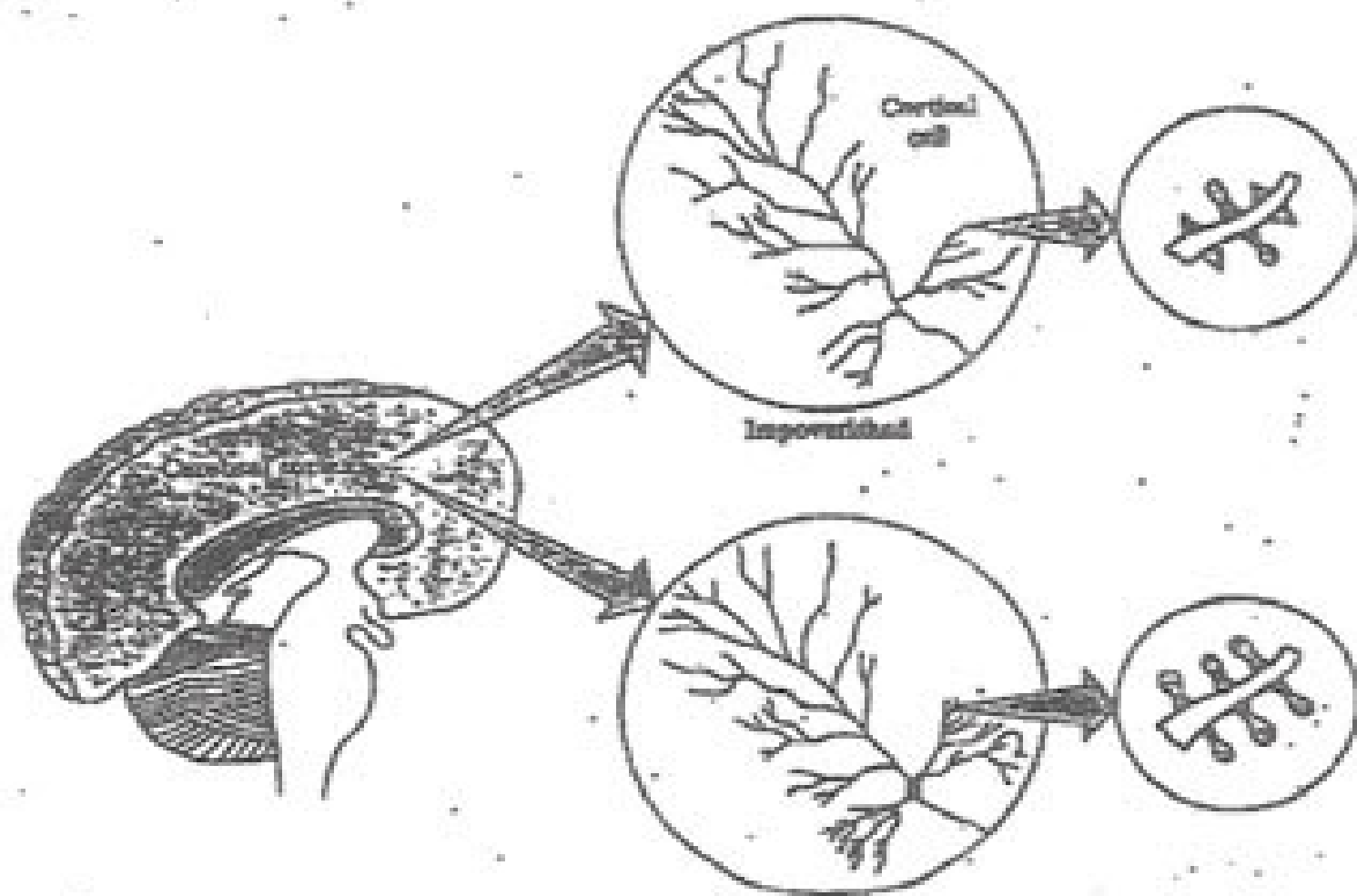
- Dementia vs. normal aging-they are distinct
- Dementia is not inevitable even if you live a long life
- Whether *you* believe they will decline is important-most older adults overestimate decline and underestimate potential for growth –resilience in the face of change is key, depression/anxiety result from **stereotype threat**
- Your personal qualities: openness to experience, self-confidence, depression, cardiovascular health, lifestyle
- Could you improve your skills if you wanted to?
- Learn new skills? Try AARP Staying Sharp program
- Change your everyday environment (lead an **engaged lifestyle**)? Avoid routines, boredom, stress variety



What you can do to keep your mind sharp

- Learn about what is and is not true about normal aging vs. dementia- Nuns in convent study (Snowden, Univ. of Kentucky)
- Do not buy into stereotypes of aging that emphasize declines with aging-you CAN improve-track your progress-go against “stereotype threat”
- Your brain is **flexible/plasticity**-you build new connections between brain cells every time you learn something new
- Set **everyday goals** to learn something new
- Focus on learning **new things and changing your environment** (what you read-magazines, newspapers, books, what you listen to - TV shows, radio, who you interact with)
- Seek out new experiences and new people (Dr. Gupta)

Neuronal
growth
&
stimulation



What you can do to keep your mind sharp

- Develop your **curiosity quotient** - your CQ – be **proactive**
- Do something **creative**-paint, garden, write a poem (**divergent thinking**-thinking outside the box)
- Do something with your opposite hand-write, brush your teeth, hold a knife/fork, comb/brush your hair
- Do something you are not good at/unfamiliar with (taxes, car repairs, household repairs, knit, crochet, cook)
- Eat a Mediterranean diet (fruits, vegetables, low fat, high protein)
- Antioxidants inhibit oxidation (free radicals-abberant proteins-damage neurons)- dark chocolate, blueberries, pecans, green beans, apples, spinach

What you can do to keep your mind sharp

- Plan a trip and take that trip by yourself
- Develop your memory skills-**encoding** is important
- Do crossword/jigsaw puzzles, Sudoku, anagrams, learn to play an instrument, listen to new music, watch Jeopardy/Wheel of Fortune/listen to talk radio (e.g. NPR)
- Tend to your feelings about life (depression, anxiety, isolation, loneliness, denial of sensory loss-especially hearing, boredom, routines)
- Continue to work, take up a new interest or profession, do volunteer work (Global Council on Brain Health)
- Do not over-rely on technology (e.g., GPS, cellphone) or drugs (e.g. Prevacid, Ginkgo-Biloba)

What Can You Do?

- Engage in **collaborative cognition**- solve problems (e.g. trivial pursuit) with others
- Go to a baseball game and actually do the scorekeeping
- Keep your own golf score
- Clean your own house, mow your own lawn, spread your own fertilizer, do your own cooking, work on your car, keep active with your crafts, read a new book
- Dance, play and/or listen to music

What Can You Do?

- **Listen** to NPR, talk radio, live music- **attentional processing is key**
- **Watch** the News, the History or Discovery channel, National Geographic- take notes, discuss what you've learned with a friend- be enthusiastic!
- Balance your checkbook, actually compute the tip at a restaurant, double check the bill, use the dictionary or thesaurus, write- no word processing/spellcheck/calculator!
- **Do not rely on others to explain things** (e.g. contracts, legal documents) to you/do things for you that you could do yourself
- Engage in abstract thought and thought that is effortful. **Think planfully and critically- why? Is a good question.**

What you can do to keep your mind sharp-other ideas

- **Monitor your health**-diabetes, blood pressure, medications, exercise, diet
- Engage in **mental aerobics**- exercise your brain- compare and contrast, draw conclusions, try different ways to solve an everyday problem, think both logically and outside the box - USE your skills –use it or lose it
- Maintain a **positive attitude** toward life and the future
- Be an **optimist**-have a sense of purpose in life
- Be open to **new experiences and people**
- **Never give up** on learning new things- You are NEVER too old to learn!

Growing your skills

- Engagement and variety create a ***cognitive reserve***- your mental “bank account”-the more you deposit, the less you lose when you lose/withdraw
- Jeon, Lee, & Charles (2022). J of Gerontology- greater overall variety of activity is associated with higher cognitive functioning over time (10 years)-especially so for physical and social activity-less variety is linked to lower levels of cognition and greater cognitive decline
- Perry et al. (2022)-J of Gerontology-among older persons at risk for AD, greater social network participation/those w/multiple social roles perform better cognitively and have better brain function in processing social-emotional relations-greater cognitive reserve helps lower one’s risk for AD-related decline

Strive to have a healthy vibrant mind

- Approach new problems and experiences with enthusiasm-**I CAN DO THIS mindset-attitude is key**
- Be realistic about what you can and cannot do-**use your wisdom and experience, but do not ignore novelty**
- Your **mind's health** is as important as your body's
- Develop an **engaged lifestyle**-attitude and behavior
- Be an **enthusiastic, self-confident, and spontaneous thinker- take intellectual risks**
- Get **regular exercise**/monitor your blood pressure
- **Be social-talk/interact**, be around others whose opinions are different from yours
- Learn about you -we all age differently-**age well** for you!

Strive for Intellectual Health and Vitality

- Being able to maintain your intellect in the face of obstacles.
- Being open to new ideas and ways of thinking.
- Feeling that you can use your mind in an active way.
- Having self-confidence and enthusiasm about your skills.
- Being able to use your mind to cope with everyday life, solve problems, and foster productive relationships with others.
- Being creative and spontaneous in your thinking.
- Using your wisdom and life experience.
- Being optimistic about your mind's future.
- Feeling intellectually alive and healthy-setting daily goals is important.