

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

Bert Hayslip Jr., Ph.D.

Regents Professor of Psychology Emeritus  
University of North Texas

# 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! PMA
- Influence of cohort/generation effects PMA

## WAIS-R SUBTESTS

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

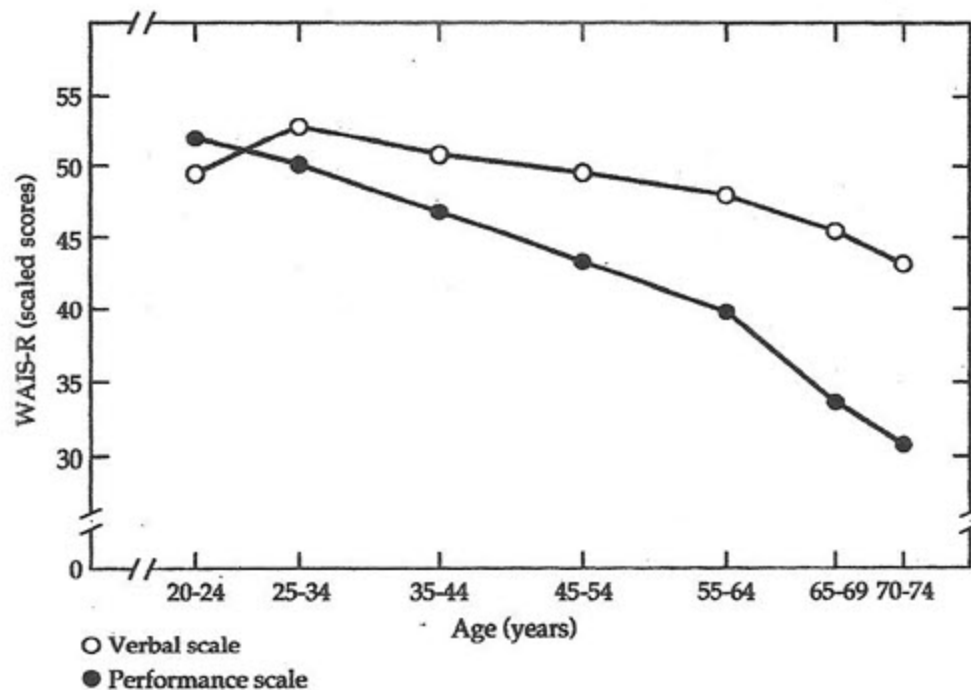


Figure 6.5 WAIS-R Verbal and Performance scores as a function of age. Data were obtained from Table 20 of the WAIS-R Manual (Wechsler, 1981, pp. 97-109) by culling sum of scaled scores of IQs of 100. (The Verbal scaled scores were multiplied by 5/6 to develop a common base with the Performance scaled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

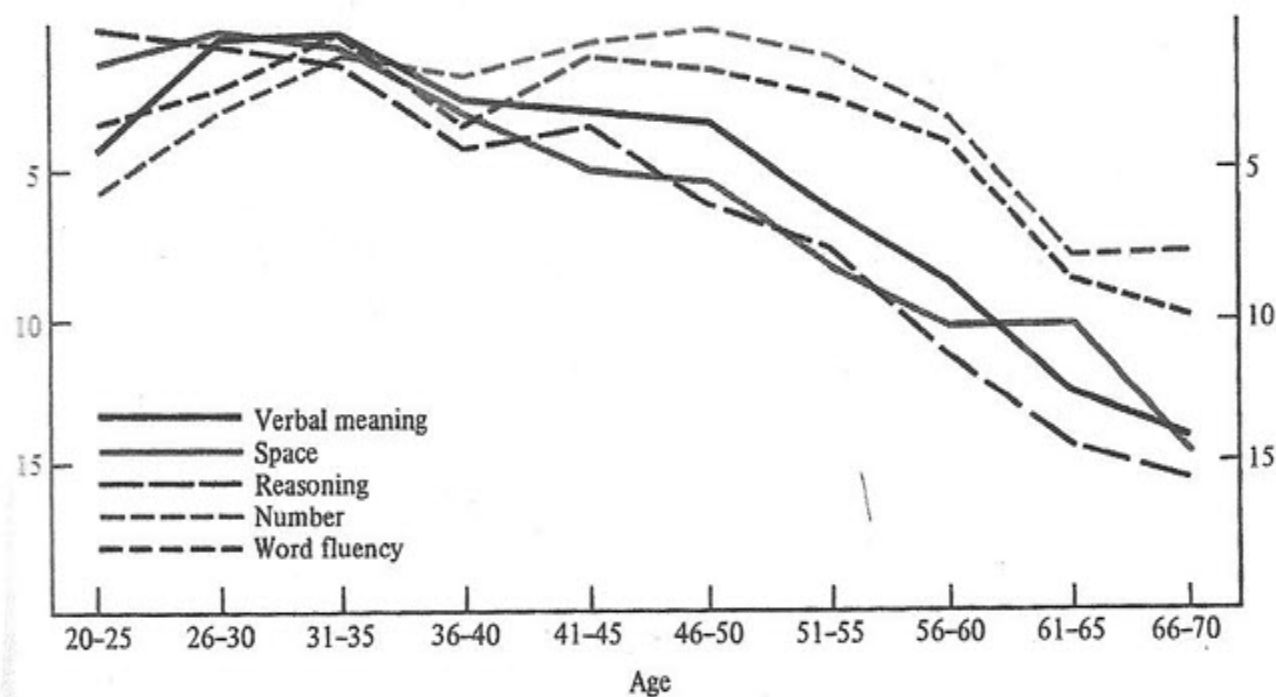


Figure 6.6 PMA curves across age: mean decrement in the primary mental abilities from mean peak levels in standard scores. *Source:* Adapted from K.W. Schaie. (1958). *Rigidity-flexibility and intelligence: A cross-sectional study of the adult life span from 20-70. Psychological Monographs, 72, No. 9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

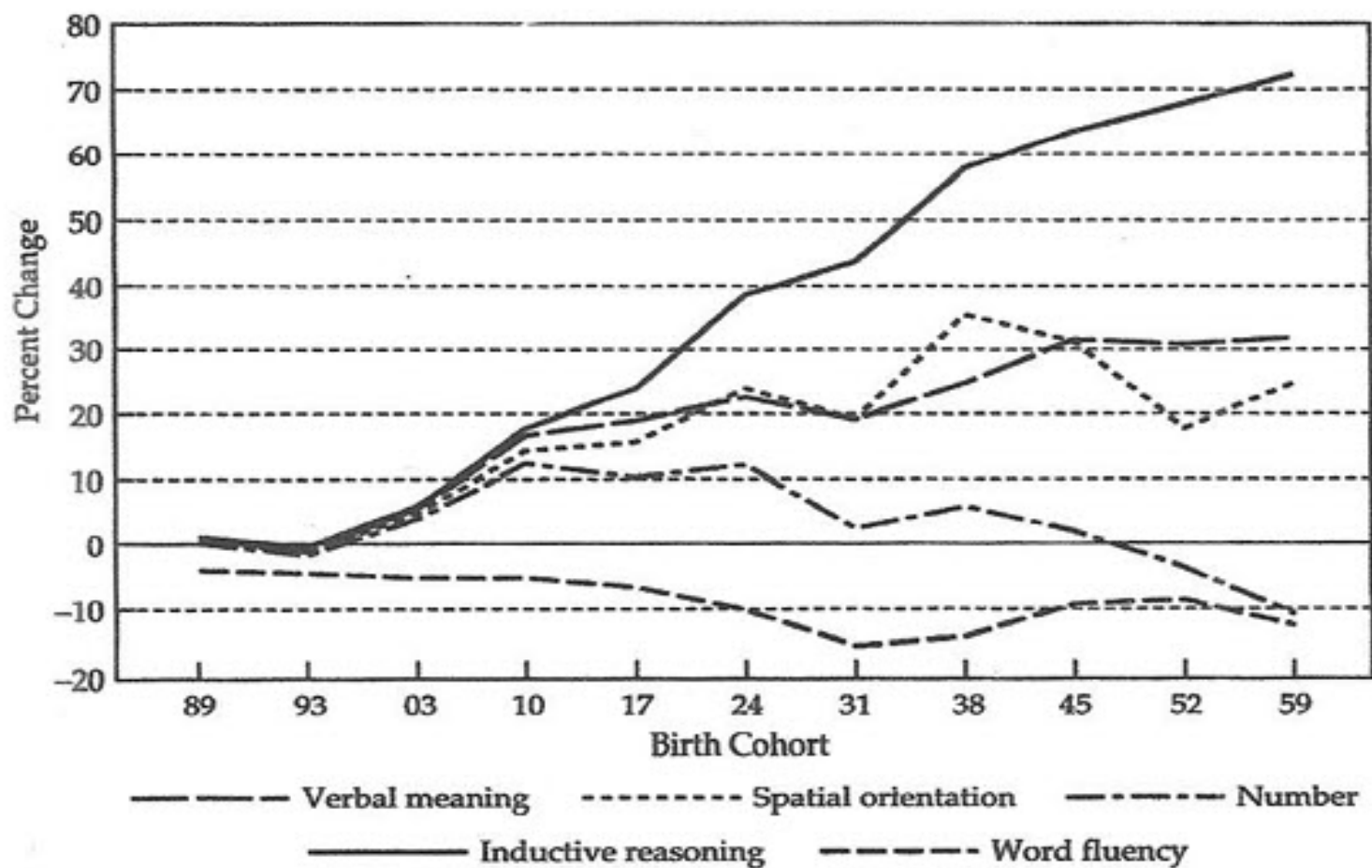


Figure 6.7 Cumulative cohort differences from 1889 base cohort for the mental abilities. Source: Schaie (1990). Cohort differences in mental abilities. *Late life potential* (p. 48). Gerontological Society of America.



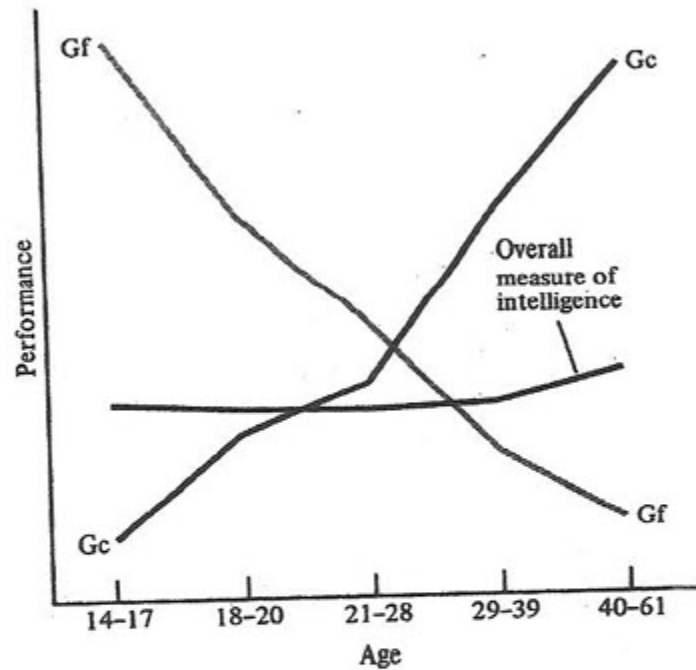
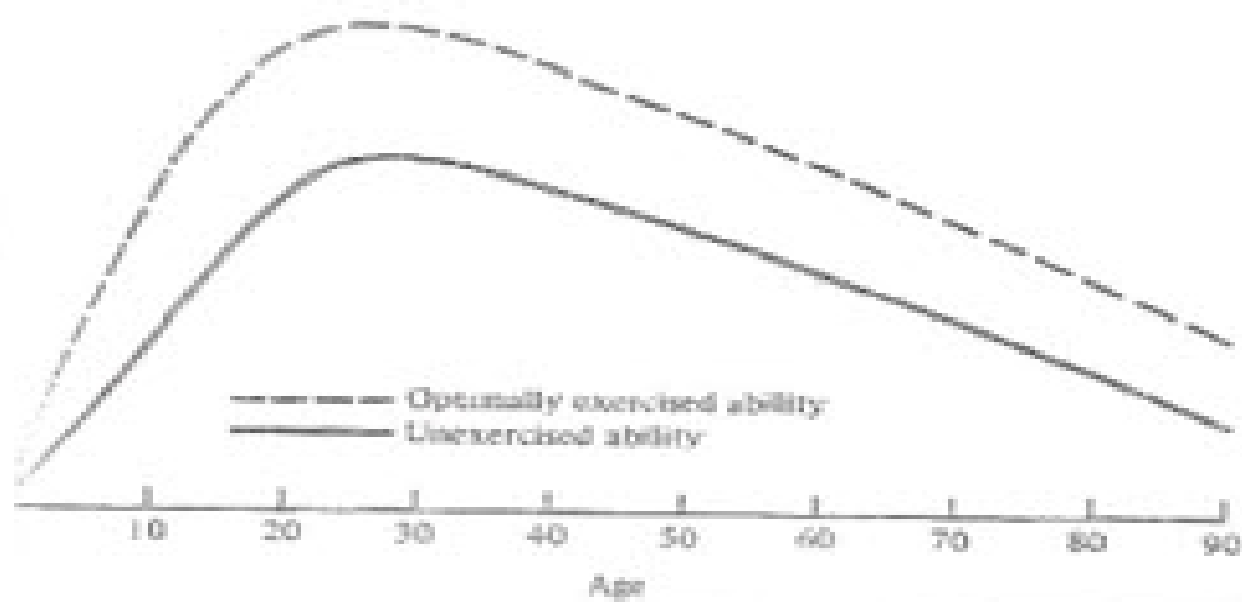


Figure 6.4 Age curves for Gc and Gf versus overall intelligence. Source: J. Horn. (1970). Organization of data on life-span development of human abilities. In L. Goulet and P. Baltes (Eds.), *Life-span developmental psychology: Research and theory* (p. 463). New York: Academic Press. Reprinted by permission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

# *Whether* your skills decline is the question

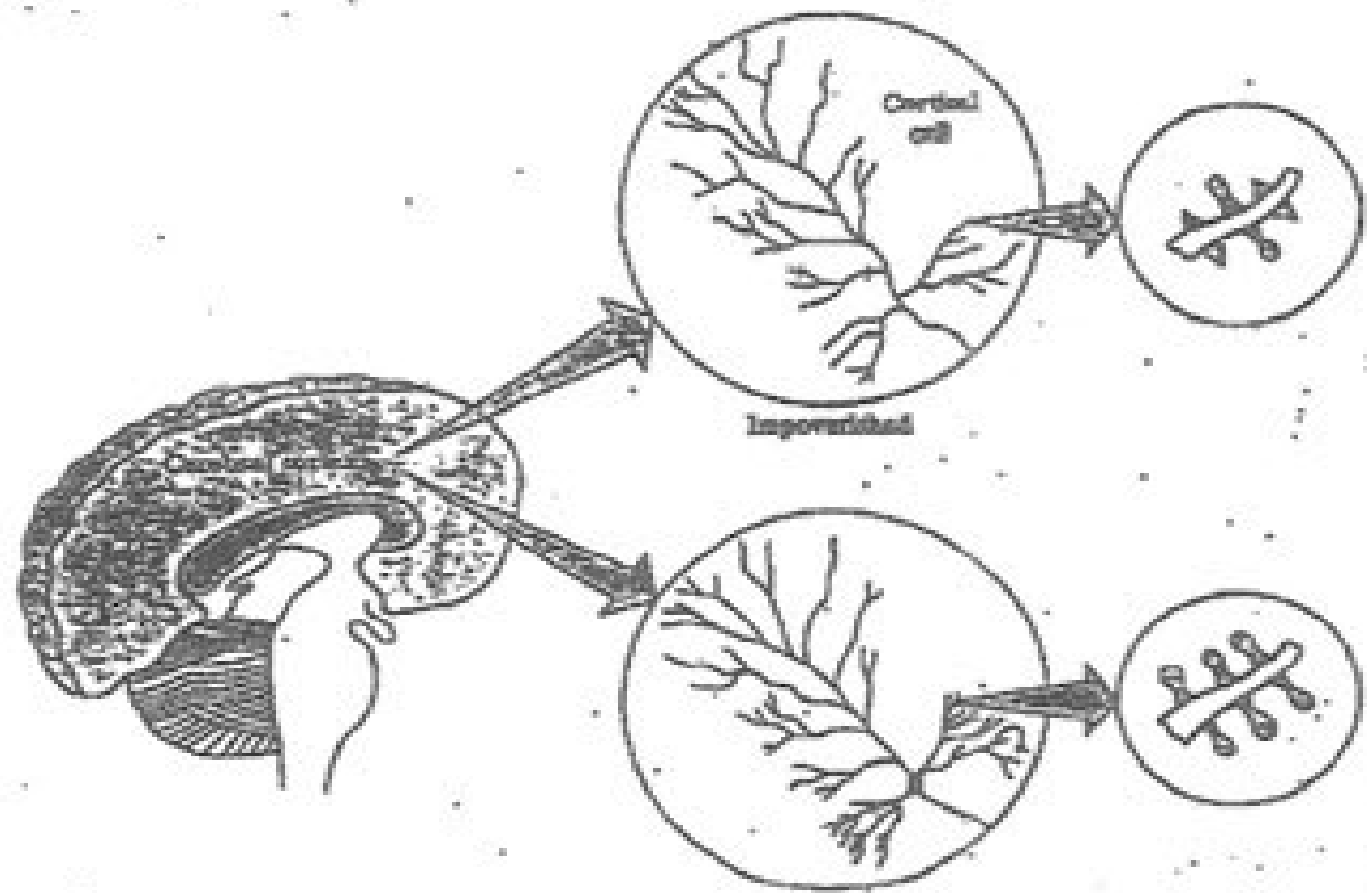
- Dementia vs. normal aging-they are distinct
- Dementia is not inevitable even if you live a long life
- Whether *you* believe they will decline is important-most older adults overestimate decline and underestimate potential for growth –resilience in the face of change is key, depression/anxiety result 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 – overcome barriers
- 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 own 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! – these require active processing/collaborative effort
- 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 to ask**

# 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/experience (Gc), do not ignore novelty (Gf)**
- 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, even if you fail**
- 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.