

Caring Minds: Nurturing Cognitive Health Through Aging and Caregiving

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Disclosures and Affiliations

- No financial disclosures to report
- Some of my salary comes from the Duke-UNC ADRC, the NC Registry for Brain Health, and the Clinical Trial: Preventing Alzheimer's with Cognitive Training (PACT)
- I am a volunteer community educator for the Alzheimer's Association, Eastern North Carolina Chapter. ALZ ENC Board of Directors 2017-2023
- Gerontologist focused on exposome and cognitive science, not caregiving.



My Caregiving Journey



- Inherited caregiving
- Dementia in family
 - Paternal side: Vascular dementia (n=2)
 - Maternal side:
 - Grandfather and identical twin had Alzheimer's disease (AD).
 - ~10/14 maternal second cousins with AD.
 - WHY? What can we do to prevent this?

Outline

1. Brief review of definitions
 - Healthy living
 - Brain health
 - Cognitive aging
2. Pillars of brain health
 - Identify how certain behaviors affect our brains and bodies
 - Strategies for healthy decision-making
3. Cognitive Health and Caregiving
 - How does caregiving impact cognition?
4. Questions and Discussion

Learning Objectives

Identify how certain behaviors may affect our brains and bodies



List strategies for healthy decision-making in the following areas:

Sleep

Mental
health

Social
engagement

Balanced
nutrition

Cognitive
engagement

Smoking
and drinking

Physical
activity

Definitions



Healthy Living

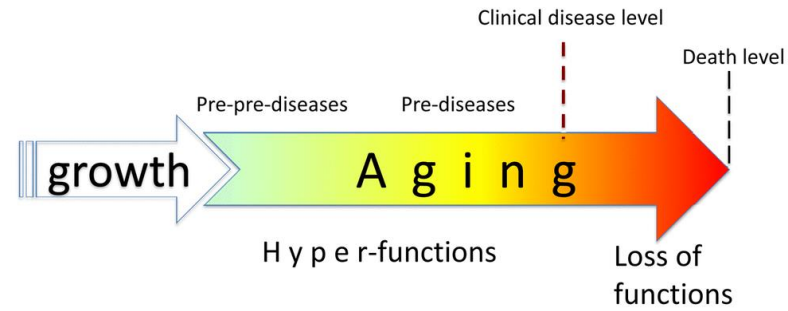
The World Health Organization (WHO) defines it as: A way of living that *lowers the risk* of being seriously ill or dying early

Health is not just avoiding disease, it is the physical, social and mental wellbeing.

Brain Health

The WHO defines it as “the state of brain functioning across cognitive, sensory, social-emotional, behavioural and motor domains, allowing a person to *realize their full potential* over the life course, irrespective of the presence or absence of disorders.”

What is aging?



<https://www.aging-us.com/article/101647/text>

- Aging represents the accumulation of changes we experience over time
 - Physical
 - Psychological
 - Social change
- Chronological age
- Biological age
 - can change as a result of lifestyle, genetics, environment, etc.

Cognitive Aging

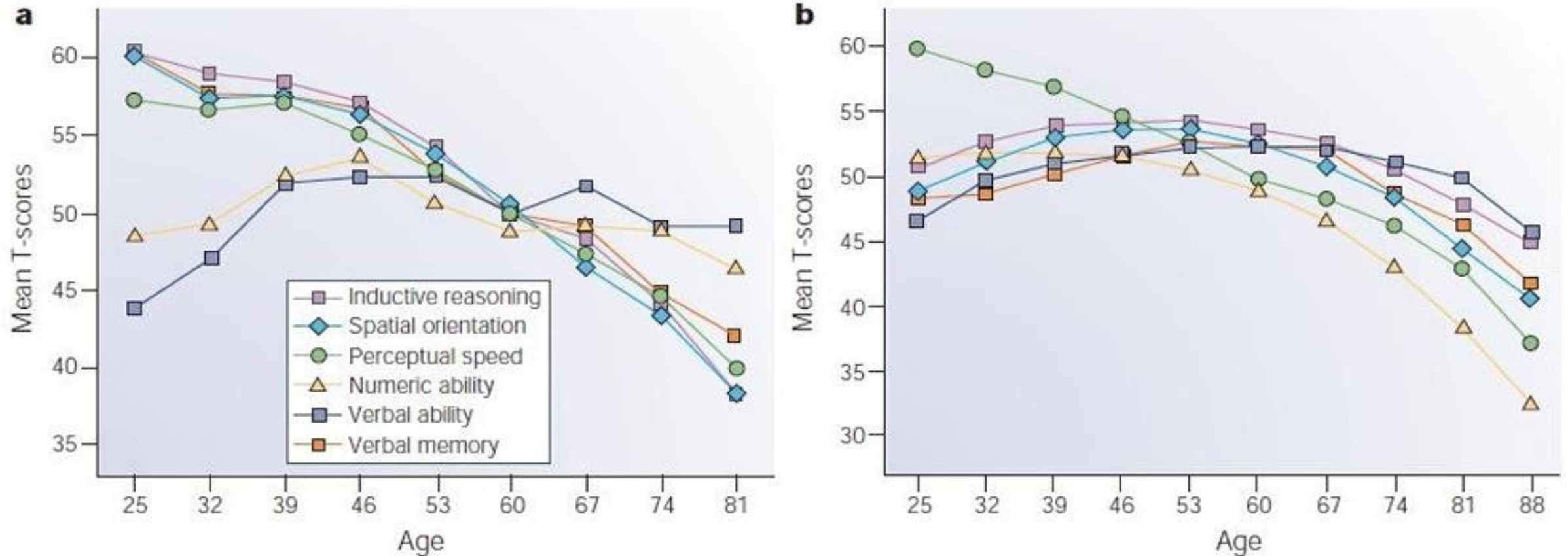

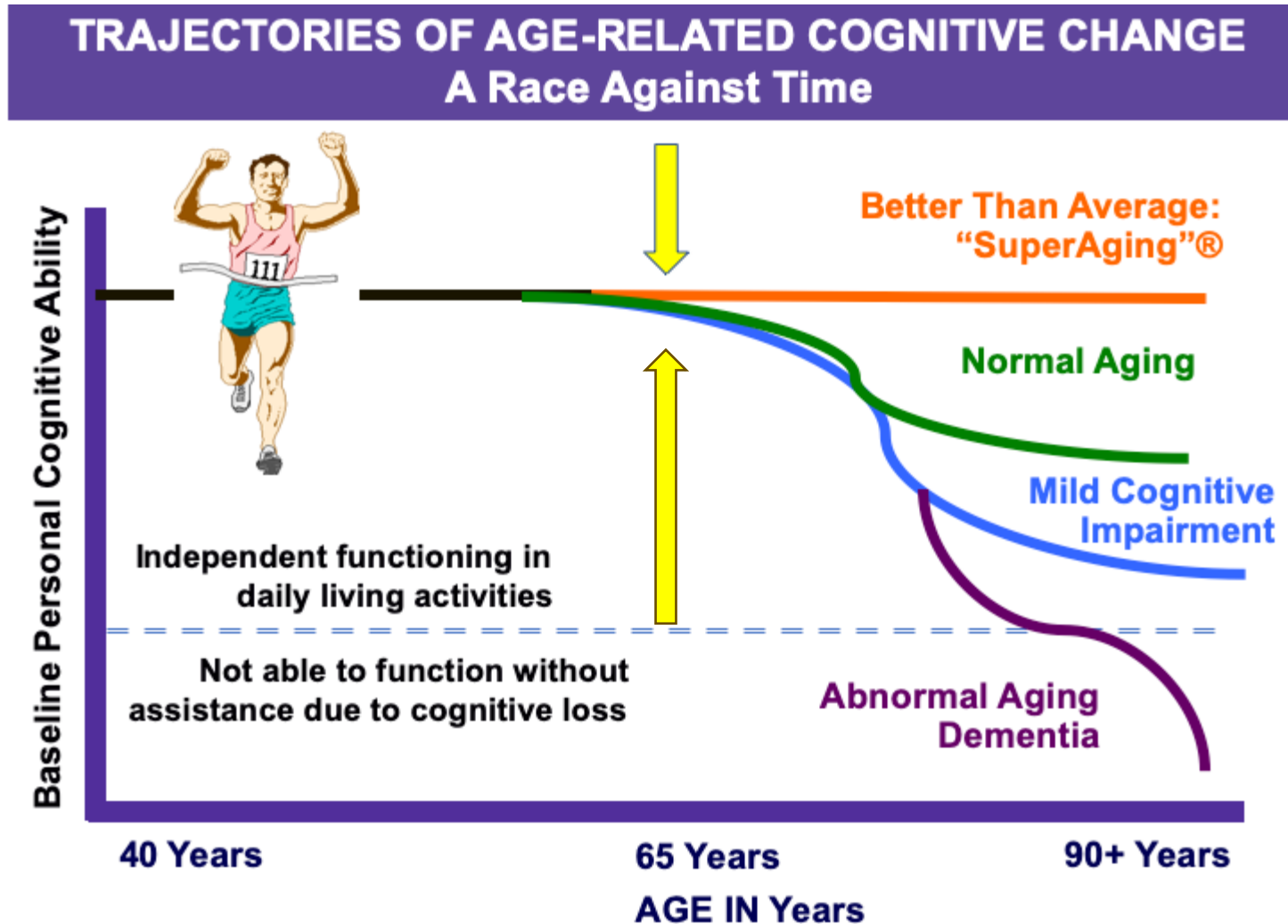


Figure 1
Cross-sectional and longitudinal estimates of age-related change in cognition. a) Cross-sectional data from the Seattle Longitudinal Study. B) Seven year longitudinal data from the same study [9].

What this mean real life...

Verbal Memory	Perceptual Speed	Spatial Orientation	Inductive Reasoning
Recall – memory of words			
Story Recall			
			

Cognitive Aging and Cognitive Decline



Your *brain* health depends...



Genes and family
history



Environment



Lifestyle

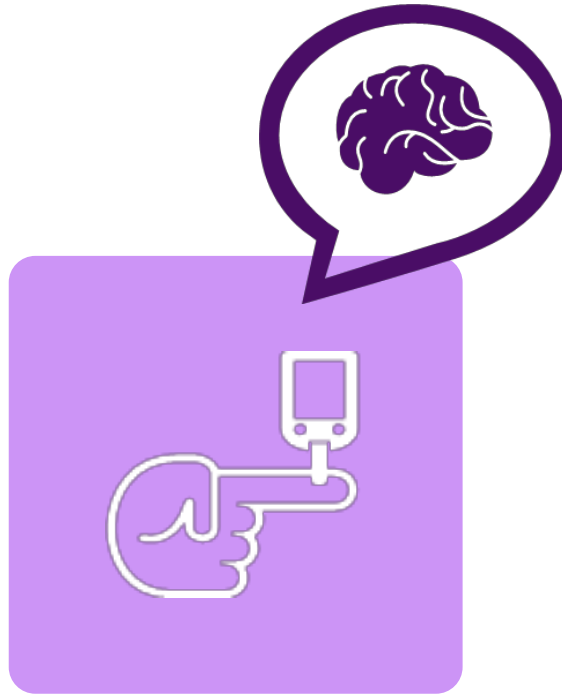


Genes and family
history

Modifiable family health factors



Blood pressure



Blood sugar



Weight/BMI



Cholesterol

Cardiometabolic conditions

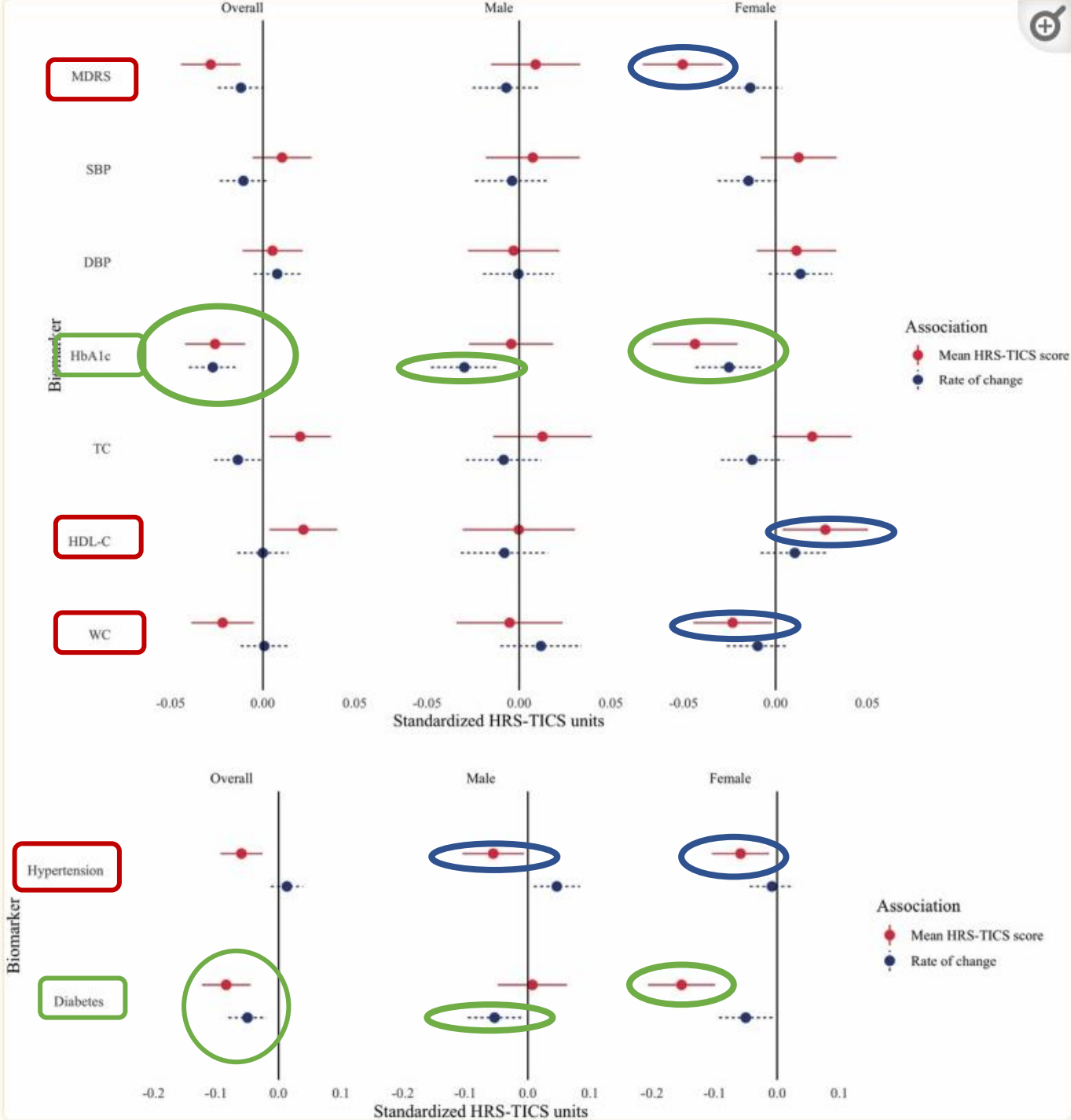


J Gerontol A Biol Sci Med Sci. 2022 Sep; 77(9): 1827–1835. PMID: PMC9757032
Published online 2021 Oct 4. doi: [10.1093/gerona/glab285](https://doi.org/10.1093/gerona/glab285) PMID: [34606593](https://pubmed.ncbi.nlm.nih.gov/34606593/)

Sex Differences in the Association Between Metabolic Dysregulation and Cognitive Aging: The Health and Retirement Study

Marianne Chanti-Ketterl, PhD,[✉] Rebecca C Stebbins, PhD, Hardeep K Obhi, PhD, Daniel W Belsky, PhD, Brenda L Plassman, PhD, and Yang Claire Yang, PhD

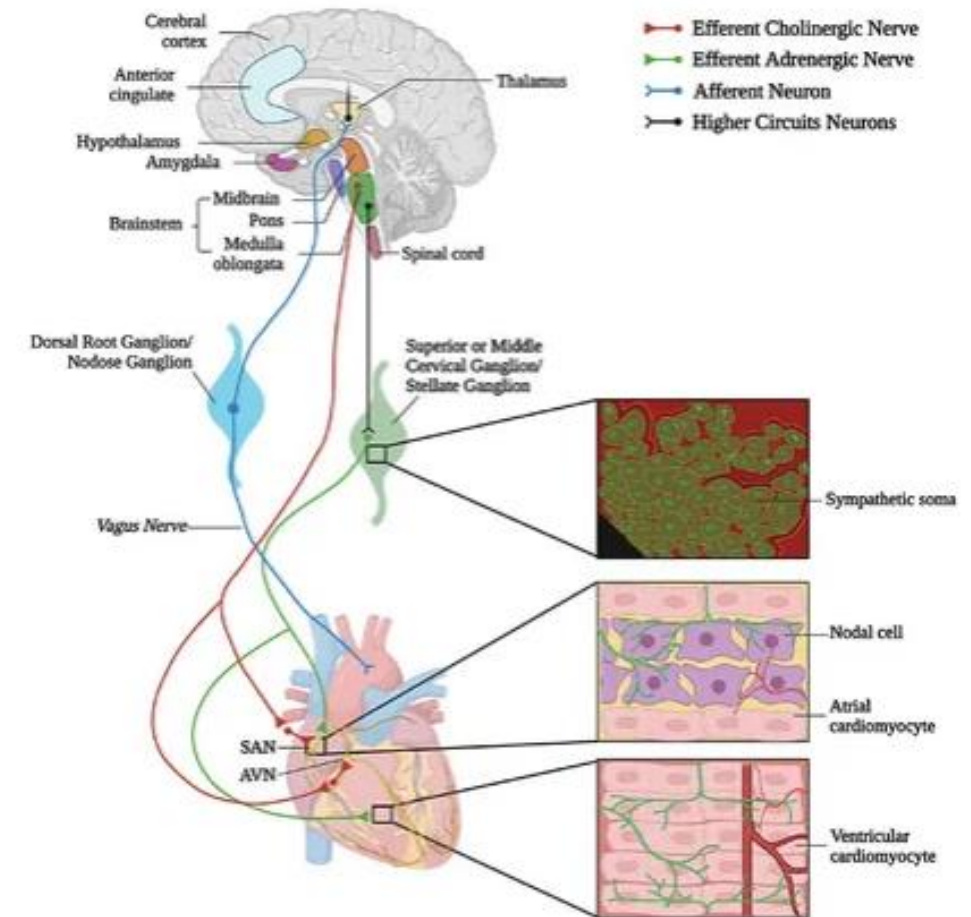
Lewis A Lipsitz, MD, FGSA, Decision Editor



Heart and Brain



Figure 1



Connie W. Tsao. Circulation. Heart Disease and Stroke Statistics—2022 Update: A Report From the American Heart Association, Volume: 145, Issue: 8, Pages: e153-e639, DOI: (10.1161/CIR.0000000000001052)

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Dementia prevention, intervention, and care: 2020 report of the Lancet Commission

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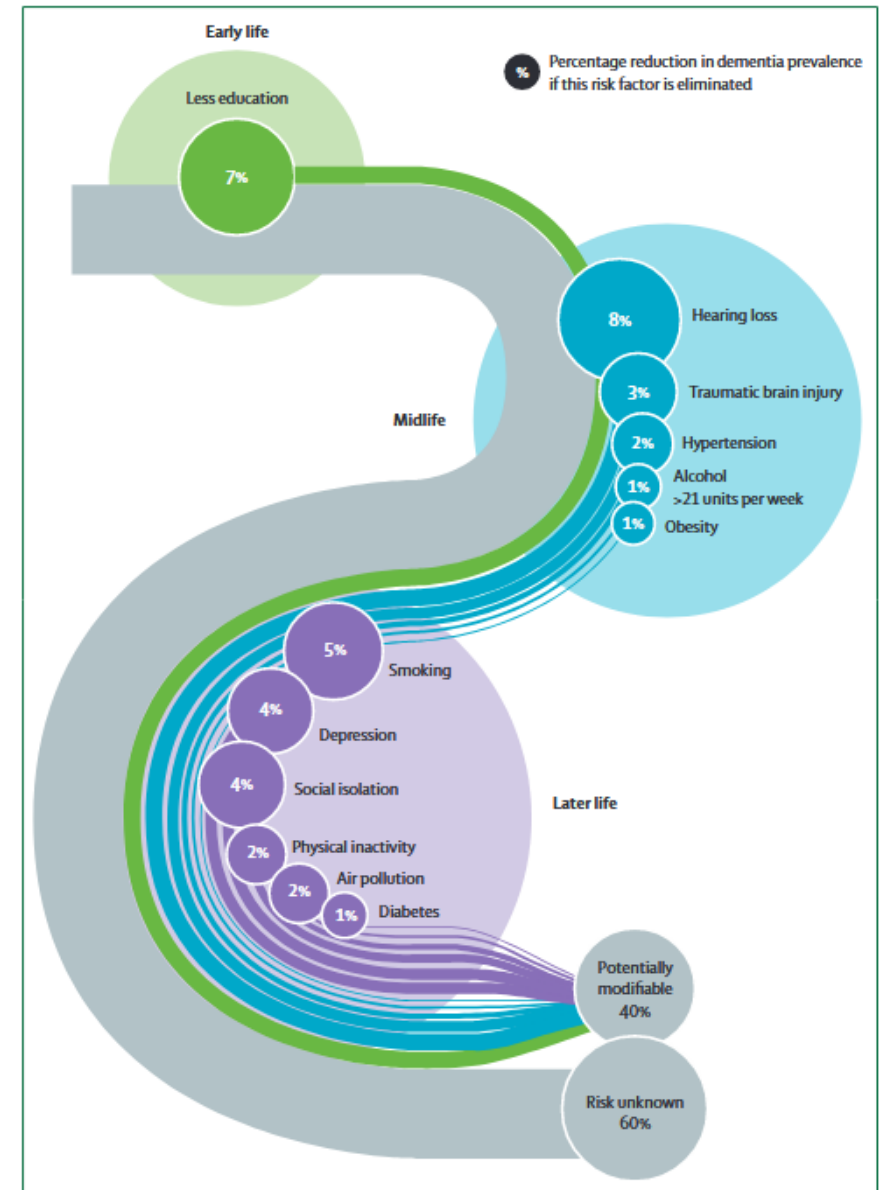
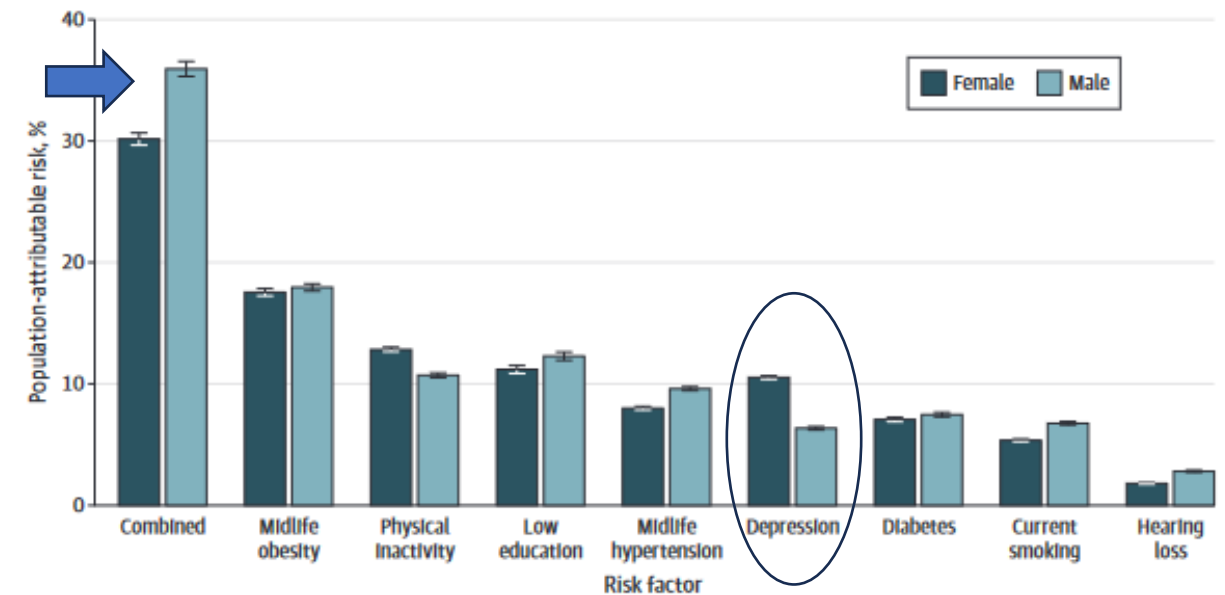


Figure 7: Population attributable fraction of potentially modifiable risk factors for dementia

Risk factors may vary by sex

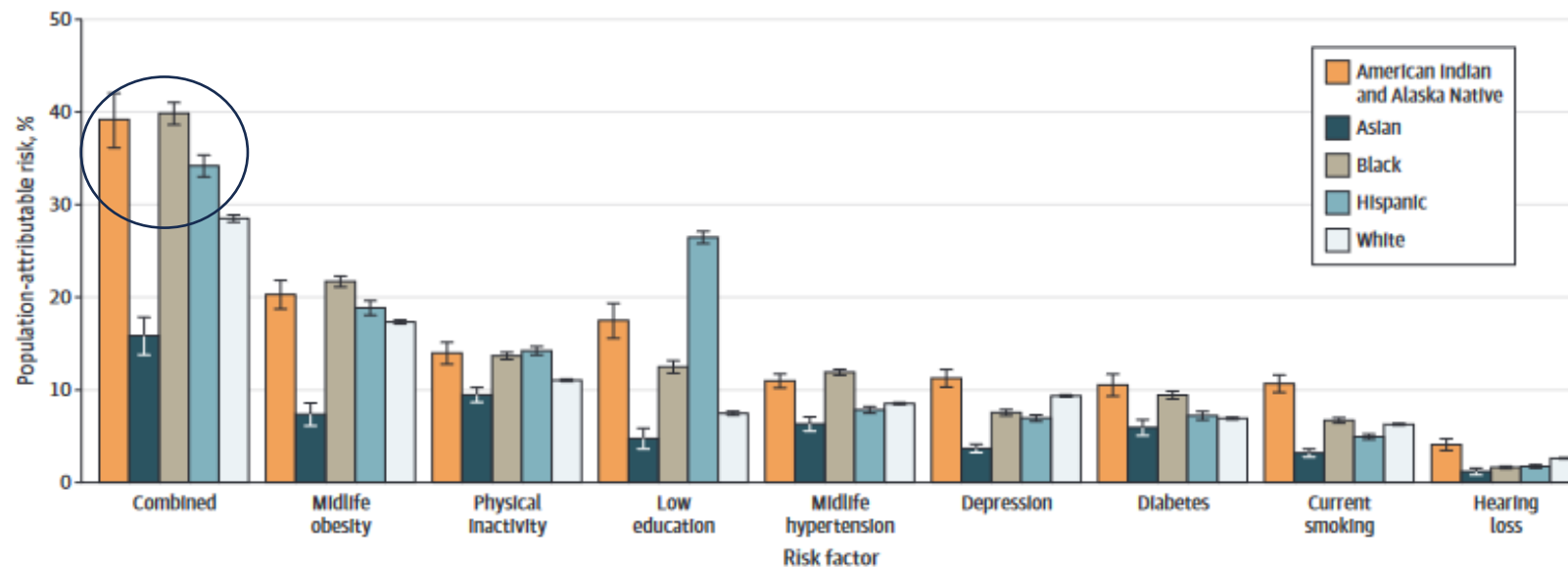
- Nianogo RA, Rosenwohl-Mack A, Yaffe K, Carrasco A, Hoffmann CM, Barnes DE. Risk Factors Associated With Alzheimer Disease and Related Dementias by Sex and Race and Ethnicity in the US. JAMA Neurol. 2022;79(6):584–591. doi:10.1001/jamaneurol.2022.0976

Figure 1. Unadjusted and Combined Population-Attributable Risk for 8 Modifiable Dementia Risk Factors by Sex in the US, 2018



Risk Factors vary by Race/ethnicity

Figure 2. Unadjusted and Combined Population-Attributable Risk for 8 Modifiable Dementia Risk Factors by Race and Ethnicity in the US, 2018



Nianogo RA, Rosenwohl-Mack A, Yaffe K, Carrasco A, Hoffmann CM, Barnes DE. Risk Factors Associated With Alzheimer Disease and Related Dementias by Sex and Race and Ethnicity in the US. JAMA Neurol. 2022;79(6):584–591. doi:10.1001/jamaneurol.2022.0976

What are the Pillars of brain health?



1. Eat Healthy

- Reduces risk of many diseases
- What's good for heart = good for brain
- DASH (Dietary Approaches to Stop Hypertension) and the Mediterranean Diet
 - Fruits and vegetables
 - Nuts, beans, whole grains
 - Lean meats, fish and poultry
 - Healthier fats
 - Limited sugar and salt



Image Credit: Elena Eryomenko / Shutterstock



Photo from: <https://www.charlotteobserver.com/charlottefive/c5-food-drink/article283742638.html>



Tips to eat healthy

- Use olive oil (or another healthy oil) instead of butter or lard
- Limit salt
- Use sodium free spices or flavoring
- Focus on what you can add – glass half full approach!
 - Use lots of herbs
 - More veggies
 - More fruits
- Build your meal around the vegetable and not the meat
- Choose leaner meat cuts

•**Cut down on [saturated and trans fats](#) by choosing [nontropical vegetable oils](#), such as corn, canola or olive.** These oils contain the healthy fats — monounsaturated and polyunsaturated fats. Check the [Nutrition Facts label](#) and avoid foods with hydrogenated oils.

•**Choose no salt added, lower sodium and no added sugar canned products.** When buying canned items, such as tomato products, beans or vegetables, look for products labeled “low sodium” or “no salt added.” Rinse and drain the food to remove any additional sodium. When shopping for canned fruits, choose those packed in their own juice without any added sugars.

•**Use nonstick cooking spray.** Cooking spray is a healthy alternative to using butter or shortening to prep skillet before cooking or and before baking.

•**Make your own salad dressings.** Combine a healthy unsaturated nontropical oil, such as olive oil, with vinegar, such as balsamic, and some chopped herbs for a quick and easy vinaigrette. (The standard vinaigrette ratio is 3 parts oil to 1 part vinegar). To make a healthier version of a creamy dressing, stir together fat-free or low-fat sour cream or cottage cheese, low-fat buttermilk and add in fresh herbs such as dill, tarragon or chives.

•**Buy whole grains.** When shopping for breads, pastas, rice, crackers and other grain products, opt for the whole-grain versions. Be sure “whole” is listed as part of the first ingredient in the ingredient list.

•**Choose poultry, lean meats and fish.** Choose lean cuts of meat and poultry. Discard any visible fat before cooking and remove any poultry skin before eating.

<https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics/healthy-swaps-for-common-foods>

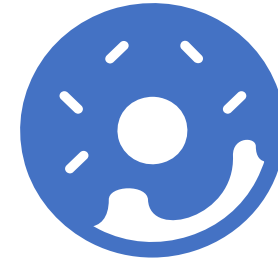


Vitamins and Supplements

- FDA regulations
- The WHO concluded in 2019 that vitamins and supplements should not be recommended to reduce the risk of cognitive decline and dementia.
- TV and potential false claims
- Be aware of side effects and interactions!
- Speak with health care professional.

Get Quality Sleep

- Sleep is essential for overall health and well-being.



Modifiable

Environment

- Light
- Temperature
- Noise

Behaviors

- Phone and Screens
- Meals

2. Care for your physical and mental health

Smoking



Drinking



Mental Health

Take care of anxiety and depression

Healthy Habits:

Prioritize Yourself

Find time for self-care

Naps

Walk (or go shopping)

Garden (or water plants)

Brainless TV/video

Easy Read

Bake, cook something YOU like

Music

Dance, Sing

3. Move and Stay Connected

- **Physical Activity**
 - Things that are part of your daily life:
 - Take stairs
 - Take breaks to get up
 - Walk around neighborhood or shopping
 - Start small but try to be consistent
 - **FUN**
 - Ask friends, family or neighbors, join a group



3. Move and Stay Connected

- **Social Connections**
- Health benefits
 - Brain and mental health
- Social engagements
 - Longer life with less disabilities
 - Volunteering
 - Community events
- Healthier choices
- Phone/video calls – Keep in touch



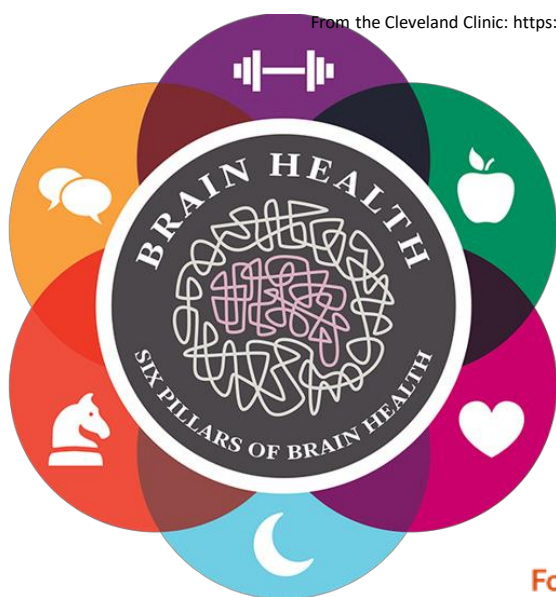
Weekly sit-down meals with family, friends or neighbors can reduce stress, boost self-esteem and make everyone feel more connected.



4. Challenge Yourself = Cognitive Engagement

- Keep your mind active and challenged
 - Active mind active = new brain connections
- Learn NEW skills
 - Cognitive engagement = better brain blood flow
- Work on challenging tasks
 - May possibly maintain or even improve cognition.
- Ongoing learning
 - May keep your brain healthy





Focus on Wellness
Build good habits to reduce dementia risk and improve overall health and wellness.

Change What Can be Changed
Manage medical conditions that increase the risk of Alzheimer's disease and other dementias.

Get a Move On
Exercising your body can benefit your brain, too!

Nourish Your Body and Brain
A healthy diet may offer protection from conditions associated with the risk of stroke and Alzheimer's disease.

Find New Challenges
Engaging in new mental or social activities will keep your brain active and may help maintain cognitive ability.

Maintain Emotional Well-Being
Addressing stress may reduce the risk of Alzheimer disease and other dementias while improving overall health.

Be Part of the Solution: Be Informed. Get Involved
Learn more about memory conditions like Alzheimer's disease, stay informed of the latest brain health news, and consider participating in research.

Cognitive Health and Caregiving

Caregiving negative on cognition

- Stress and Mental Load:
 - Emotional strain; Financial decisions/burdens; Physical exhaustion
 - Chronic stress can impair cognitive function, particularly executive functions like decision-making, problem-solving, and attention.
- Sleep disruptions
 - Poor sleep quality negatively impacts memory, concentration, and cognitive flexibility
- Social Isolation
 - Associated with cognitive decline and an increased risk of conditions like depression, which can further affect cognitive function.
- Physical Health
 - Neglect own health and doctor appointments
- Support Systems
 - Significantly influence the impact of caregiving on cognition

Cognitive Health and Caregiving

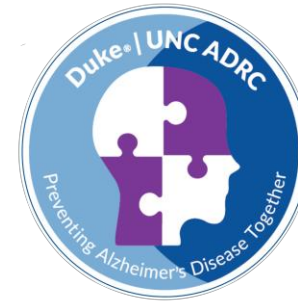
Caregiving positive impacts on cognition

- Constantly learning (medical issues, navigating healthcare system, problem solving)
 - Engaging in intellectually challenging tasks may help preserve cognitive function and delay cognitive decline.
- Purpose and Resilience
 - Sense of purpose has been linked to better cognitive outcomes and a reduced risk of cognitive decline.
- Resilient
 - Coping mechanisms may enhance cognitive resilience and protect against cognitive decline, particularly in older adults
 - Overall, provides opportunities for personal growth



Summary

- **Promote Brain Health, Eat Healthy**
- **Stay Socially Engaged**
- **Manage Stress**
- **Prioritize Self-Care**
- **Seek Support**
- **Stay Informed**
- **Make Plans for Your Future**
- **Take Breaks**
- **Monitor YOUR Cognitive Function**
- **Stay Positive**



Thank you

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