

Improving Your Memory

How to remember not to forget!

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"I have a good memory for most things - it's only facts
that throw me."

Bert Hayslip Jr., Ph.D.

Regents Professor Emeritus

University of North Texas

Berthayslip@my.unt.edu

Why Memory?

- “Memories, pressed between the pages of my mind
Memories, sweetened through the ages just like wine” (Elvis!)
- Memory makes possible **learning from our experience** to help us function in everyday life and avoid mistakes in judgement and decision-making based upon faulty recall
- Memory is **emotionally and socially important** – it allows us to connect with our past, recall important people, situations, ideas, and feelings.
- An awareness of our memory’s adequacy is essential to the **quality of our everyday decision-making and cognitive performance** as well as to potentially significant declines in our memory that may require professional evaluation and intervention

Memory and Aging- What is Normal?

- **Alzheimer's vs. stroke vs. depression vs. normal aging – acute vs. gradual loss**
 - “senior moments” vs. do they become more frequent or persist? Memory loss does not define AD, failures in judgment do so
 - *Persistent* forgetting who/where you are, *repetitive* questioning
 - *Persistent* inability to ID common objects
 - AD preceded by *mild cognitive impairment*- memory loss that does not impair daily functioning
 - A lack of physical exercise, brain injury, low B12, low thyroid function, lack of mental exercise/social engagement, anesthesia, sleep apnea, concussions, cardiovascular disease, diabetes, family history all heighten *chances* of AD
 - Dysfunctional fear of AD is counterproductive

What memory is

- **Memory structures**
 - **Sensory memory** –rapid decay (1/2 sec.)- preattentive, little decline w/ age
 - **Primary memory**- limited to what can consciously be retained at present (3-7 bits of information)
 - **Active** (digits in reverse order) and **passive** aspects (digits in same order)- greater declines for active aspects
 - **Secondary memory**- picks up when limits of primary memory have been exceeded- age deficits are common; these reflect how information is processed
 - **Tertiary memory**- unlimited capacity, age declines reflect datedness and personal meaningfulness of material

What memory is

- **Memory processes**

Registration –does the info exceed your sensory threshold?

Encoding- the meaning you assign to info (visual, acoustic, semantic)

Storage- how such info is organized (the more info, the more important)

Retrieval- getting the info out of storage (recall vs. recognition)

These are **cumulative** and affect one another

Memory and aging

- **Biology of memory**-hippocampus/temporal lobe, prefrontal lobe/frontal lobe-damage affects memory function e.g. left hippocampal damage-verbal recall, right hippocampal damage-spatial memory
- **Practice/rehearsal** - activates neurons' connections with other neurons-impacts strength of associations/neural circuitry
- **Two keys to memory improvement**
 - **Your memory skills per se and Your attitude**
- **Practical memory- everyday coping**
 - **Metamemory**- under and over-estimates
 - **Memory self efficacy**- confidence
 - **Memory management**- strategies maintaining skills
 - **Memory remediation**-improvement
 - **Age associated memory impairment** (see handout)
 - **How much of this decline could be eliminated?**

Memory and Emotion

- **Memory improvement and memory loss are cyclical**
- **Regarding memory difficulties:**
 - Experience with failure leads to negative self statements
 - Self statements lead to emotional reactions
 - Emotional reactions lead to lack of self confidence
 - Loss of self confidence leads to further disuse of available skills
 - Biological parallel for emotion's influence-amygdala (in temporal lobe, in front of hippocampus (bilateral))
 - Attitude is everything!

Points to keep in mind about memory

- Everyone experiences memory difficulties from time to time
- With age, memory does NOT necessarily decline – *you have control* over whether your memory fails or not
- Memory difficulties are episodic- they vary by persons, times, and materials (e.g., declarative vs. procedural memory)
- What is normal or abnormal about memory aging is very important

Assessing Your Memory Skills

- The impact of stress
- The impact of depression and anxiety
- The impact of medications (Prevagen?)
- The impact of illness/fatigue/poor nutrition
- The impact of sensory loss-denial is key
- Rely on multiple senses if at all possible
- Conduct a self- assessment (Be honest!)
- Decide what is important enough to remember
- Do not multitask

Things you can do to improve your memory

- Get organized!
- Accept that you will have difficulty from time to time in recalling things that you have done or will need to do
- Improve your attitude about life and about the use of your skills- be proactive
- Keep calm, relax, go slowly
- Concentrate on 1 thing at a time- be attentive and present
- Take notes, use reminders, calendars
- Take care of your health/be active/get adequate sleep
- Sugar, caffeine, alcohol are bad influences on memory
- Evoking positive views about your own aging is helpful

Improving your memory

- Be sure you understand what you need to remember
- Learning is key-it broadens your associative base (neural connections)
- Listen carefully, pay attention, ask others to say things again, more loudly, slower, or in a different way
- First processing slowly/completely what you have to remember and associated strategies each lessens interference
 - Proactive (old impacts new)
 - Retroactive-(new impacts old)
- Rely upon multiple sources of info if possible
- Material that is new, difficult, complex, or more rapidly presented is going to be more difficult to learn and recall
- Be realistic- you are going to fail from time to time; improvement takes time!

Improving your memory

- Using memory “tricks” if you can
 - Acronyms (KISS)
 - Visual or auditory images (a picture of a cat and a dog-cat/dog food)
 - Method of loci- a journey you take daily
 - Pairing rehearsal and visual/aural stimulation (waiters do this)
 - Overlearning- repeating memories
 - Pay attention to that which you want to remember-selectively listen
 - Focus on the meaning, not the sound of words in recalling them- search for associations-memory is associative
 - **Rehearse/associate with something you already know**
 - Meaningful associations “Bert and Ernie, Hayslip rhymes w/payslip
 - Righty-tighty, lefty-loosey
 - Days in months-knuckles-31 days, valleys, not so
 - **Move away from explicit to implicit associations-create an associative network-deeper processing**

More Tips!

- **First letter cues** –e.g. DATE- Doctor Appt Tomorrow Early/CAT-Catsup, Apples, Tomatoes
- **Peg words** e.g. One Son, Two Sue, Three Sea, Four Door, Five Hive
- **Chunking-** e.g. a social security number, 763-49-3398 (7 +/- 2 items- STM capacity)
- **Categorizing-** e.g. fruits, vegetables, dairy products, cleaning supplies
- **Create a story** e.g. begin with.. “old MacDonald had a farm...”
- **Active observation-** pay attention to details
- **Create a word** – “I heard a quacker on the way to the store” (duck image)- crackers
- **Rhyming-** My car will shine at nine---I’ll write with my pen at ten
- **Meaningful and unique associations** (1092601, Super Dave)
- **Visual Images-** e.g. cousin fred- freduccini, Mrs. Hammerville, dog and cat food
- **Spaced retrieval learning-** learn something, create a time space, recall it, increase the time
- **Mnemonics-** “ i before e except after c” “30 days hath Sept- April, June, and Nov- all the rest have 31 except Feb)
- **Mnemonics-** “My very educated mother just served us nachos”- the planets (minus pluto!)
- **Mnemonics-** “She Makes Harry Eat Onions”- Great Lakes (Superior, Michigan, Huron, Erie, Ontario)
- **Create an acronym** to remember grocery items (better if it is a real word)- MINT (meat, ink, navel oranges, tea)
- **Memory is associative-** strengthen those associations! Start w/ something that is meaningful “Good Night Irene” (Ilene)
- **Be economical-** use memory aids whenever possible, **realize rote memory is OK too, but less durable**
- **Challenge yourself daily-** introduce variety into everyday routines, look for opportunities to develop/use your skills
- **Stay positive!** Focus on what you can do, not on what you cannot do
- **Take care of yourself** physically, emotionally, and spiritually
- **Stimulate yourself mentally daily** (e.g. watch Wheel of Fortune, Jeopardy, listen to NPR)
- **Intense physical activity** may create new cells in the hippocampus, brain exercises create new interconnections

Strategies to Avoid Forgetting

Budson & Kensinger “Why we forget and how to remember better”

- Acronym - **FOUR**
- **Focus** your attention on what you want to remember-do not multi-task, avoid distraction
- **Organize** the information-use what makes sense to you
- **Understand** the information-ask questions
- **Relate** the information to something you already know-**associate!**
- **Forgetting is normal and can be helpful**-we avoid trying to remember what is unimportant or aversive or painful