

Successful Ageing in Australia Seminar 2007

Memory changes in normal ageing

Dr Lynn Ward
School of Psychology
University of Adelaide

The Myth

- Ageing and memory loss go hand in hand and memory loss means you are getting dementia.

The Reality

- Memory does change with age, but most people don't experience memory loss that interferes with their ability to live a normal life

Cognitive changes in adulthood

- Jeanne Calment who died aged 122 and 164 days challenges the assumption that we will all develop dementia if we live long enough

Normal memory ageing

- We distinguish between pathological and normal (maturational) memory ageing
- Brain is an organ like heart and kidneys
- Changes in blood supply to brain, speed of mental operations, richness of interconnections between nerve cells

Basic steps in memory

- Registration – paying attention
- Retention – moving new information into long-term store
- Retrieval – getting the material out again
- Forgetting can be due to a failure at any of these phases

Typical changes with age

- **Focus** – difficulty focusing on more than one thing at a time
- **Energy** – increased effort will be required to learn new things
- **Time** – take longer to recall information

Model of memory subsystems

MEMORY: Short term and long term

LONG TERM: Declarative and Procedural

DECLARATIVE: Semantic and Episodic

Short-term Memory

- Holding information in consciousness
eg telephone numbers
- Capacity is 7 plus or minus 2
- No age difference
- Working memory
- Age differences

Procedural Memory

- Memory for skills eg riding a bike
- Minimal age effect
- New learning is slower
- Unconscious

Semantic memory

- General knowledge of concepts
- Vocabulary improves with age
- Retrieving words and names gets worse with age
- Tip of tongue experience is more common

Episodic Memory

- Autobiographical and remote memories
- Prospective memory, source monitoring, false memory

Remote Memories

- Older adults give preponderance of early memories.
 - Emotionally significant, over-learned & rehearsed
- Studies using cue words - people recall events from teens and 20s
- We often can't verify facts
- Studies of memory for TV programs
 - Better recall for recent events
 - Some loss of details

Prospective memory

- Remembering what to do and when to do it
- Time-based prospective memory tends to get worse – eg take the pills at 3 o'clock
- Action-based prospective memory tends not to get worse – eg take the pills at dinner time

Episodic – source monitoring and false memories

- Source monitoring – remembering where you heard something or who said it
- Problems in source monitoring increase with age
- False memories – eg. eyewitness testimony: older adults were more likely to be misled by false post-event information

Thoughts and feelings

- Your thoughts and feelings can interfere with memory
- Negative self statements – lower expectations – less likely to try or to use strategies
- Over-generalising eg different attributions that young and older people use for memory failure

Internal Memory Aids

- Imagery –using imagination
- Association – linking to something you know
- Organisation – eg categorising
- They help you to retain the information and provide cues to help you retrieve it

External Memory Aids

- Writing notes, diaries
- Environmental restructuring – eg spot for keys
- Object cues – eg bag on fridge
- Mnemonics – eg method of loci, ABCs

Health and exercise

- Ill health and chronic conditions – eg hypertension & diabetes
- B12 and folic acid deficiency
- Poor health habits
- Smoking, alcohol abuse
- Leading a sedentary lifestyle
- Lack of mental exercise

Why don't memory changes impact on everyday functioning?

- In most everyday activities people can operate at their own speed, they can use memory aids, develop strategies and focus resources on what is most interesting or relevant.
- Most older people are only mildly inconvenienced by memory changes

What isn't part of normal ageing ?

- A memory problem that affects daily living
- Memory loss that gets much worse over time
- Forgetting how to do things you've done many times before
- Trouble learning new things
- Repeating phrases or stories in the same conversation
- Trouble making choices or handling money
- Not being able to keep track of what happens each day

Most important advice on memories

- Continue to make them – use it or lose it
- What's good for the heart is good for the brain
- Useful sites and source for some of the information presented
- http://www.helpguide.org/improving_memory.htm
 - Note there is an underscore (_) between improving and memory
- <http://www.helpguide.org/life/pdfs/rizzomemoryhandout.pdf>