



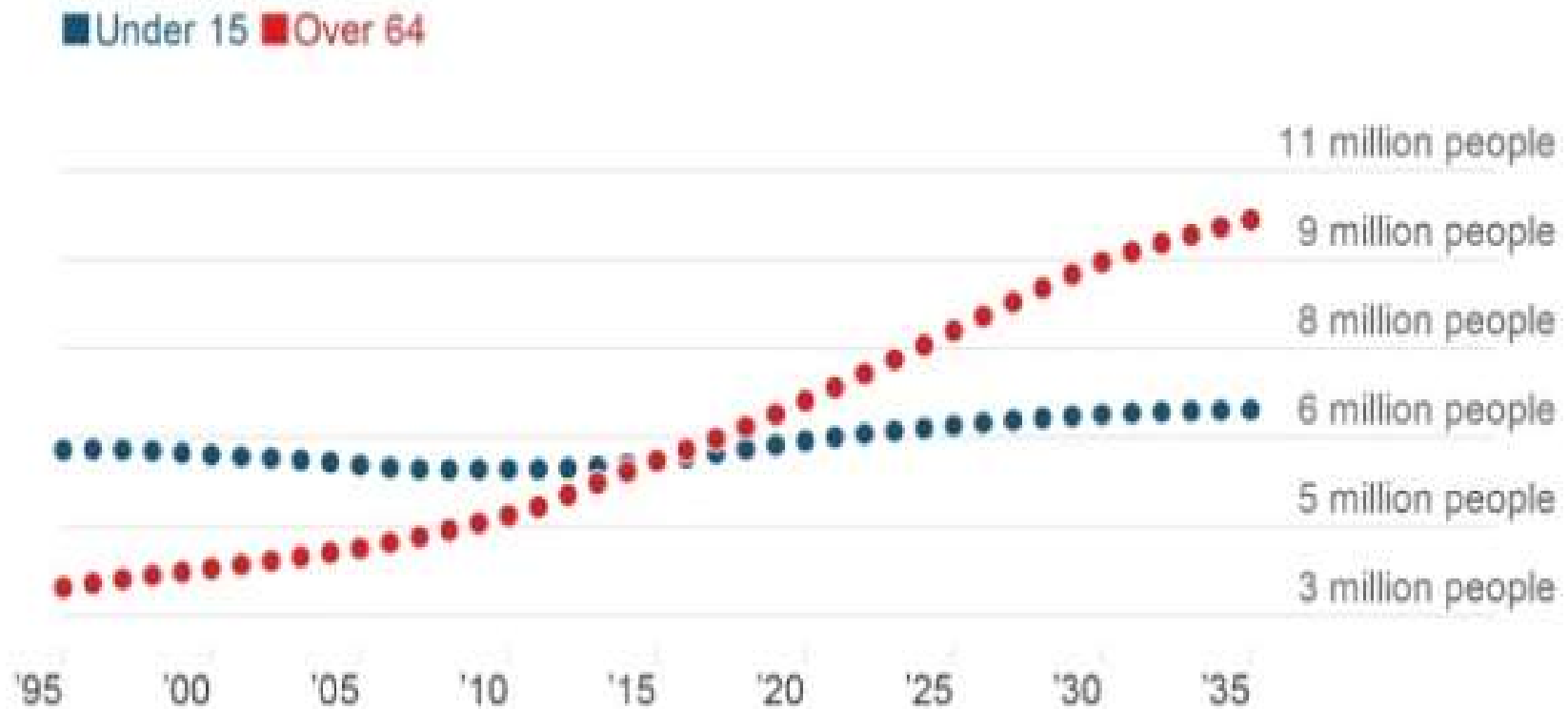
Factors that Influence Quality of Life of Older People



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Statistics on aging – Canada

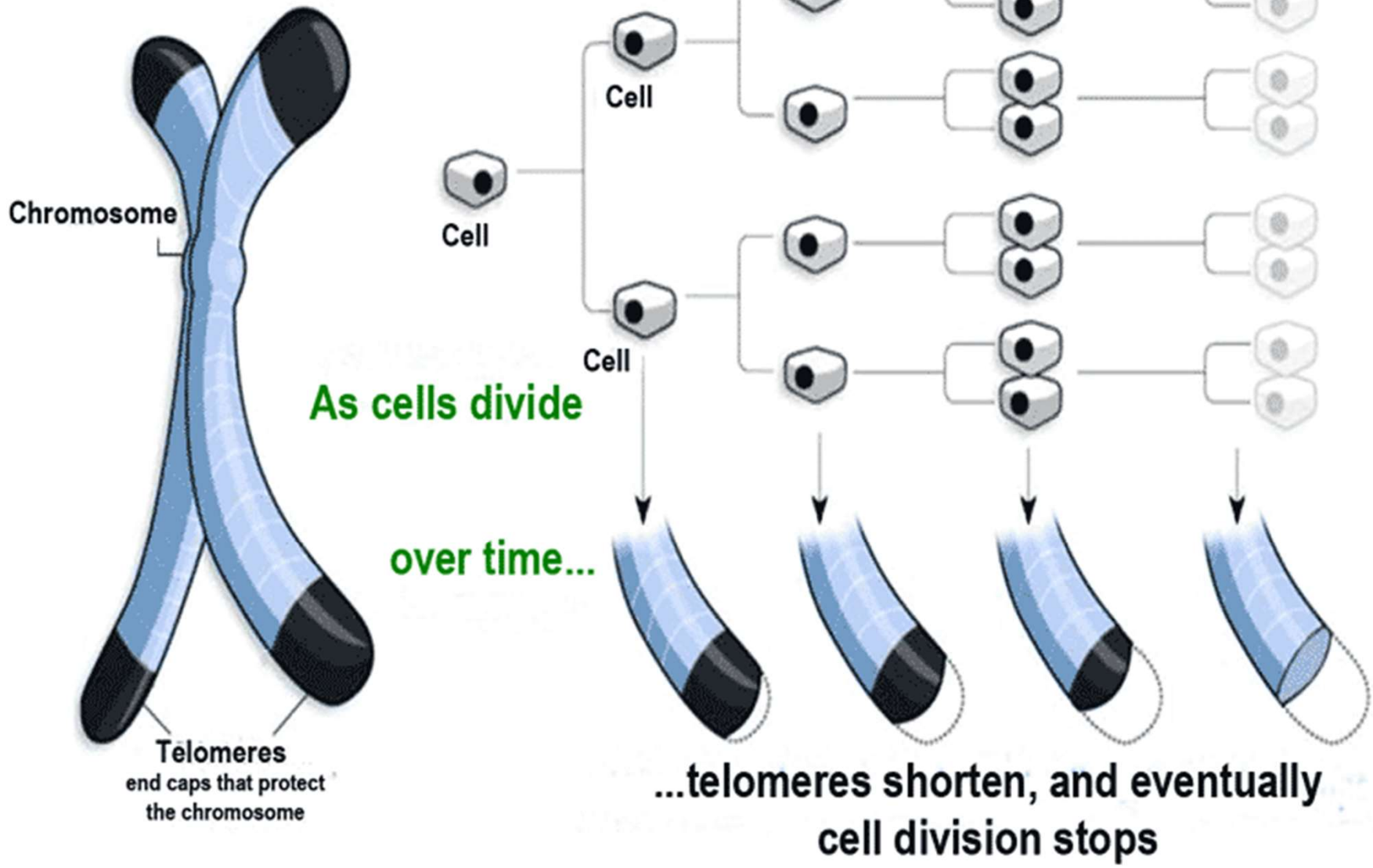
Canada now has more seniors than kids under 15



Source: Statistics Canada

Made with Chartbuilder

What We Lose With Age



Consequences?

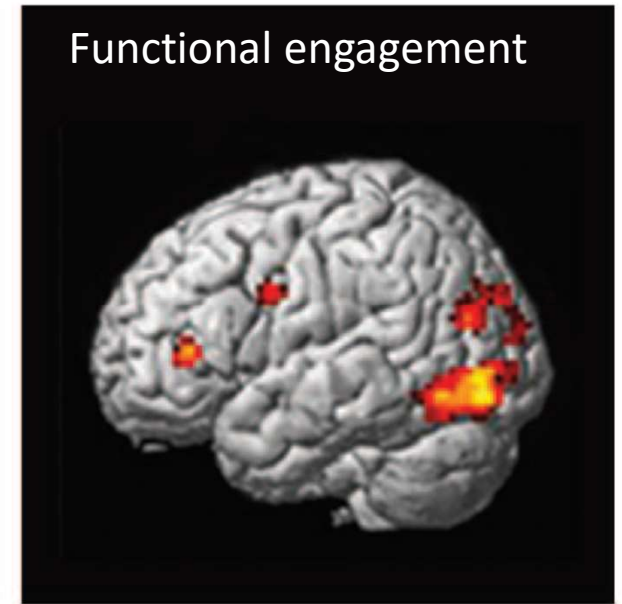
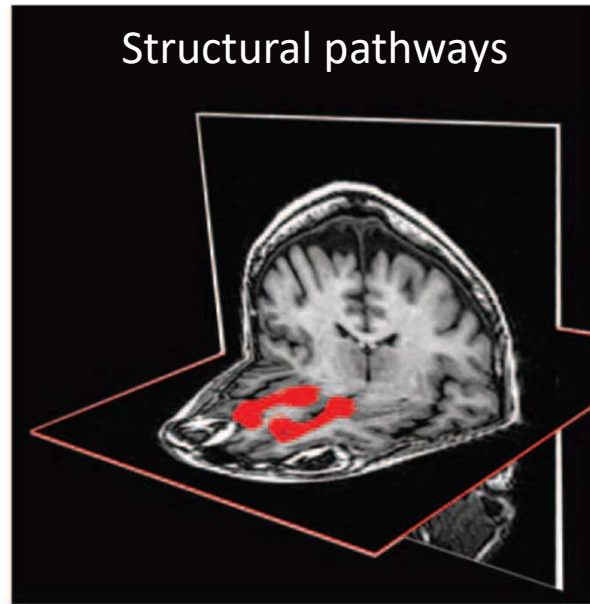
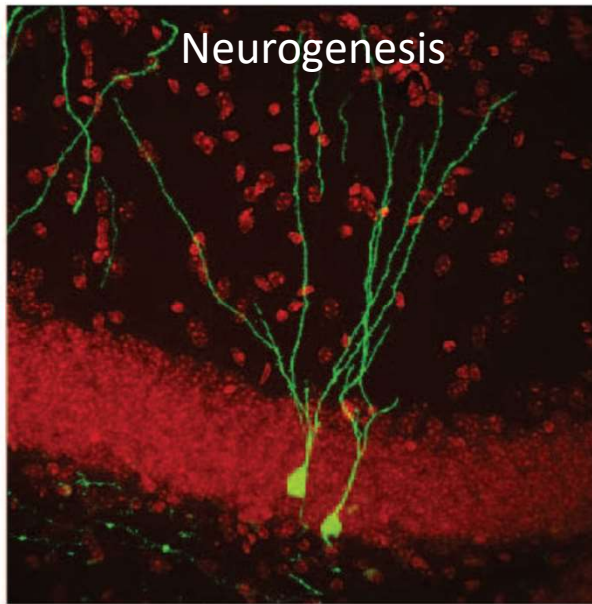
Brain shrinks with age

- Hippocampus (controls memory) is significantly smaller in older people
- **Chronic stress** shrinks the hippocampus

Dementia

- 2010 (worldwide): 36 million with dementia
- Every 20 years: double cases of dementia.
- 1 new case is diagnosed every 4 seconds = 8 million per year.
- Heavy economical, psychological, physical effect on society (~US \$604 billion/year).

Brain plasticity



Increases in **volume** & **re-organization** of existing pathways

Schlaug, G. (2015). Musicians and music making as a model for the study of brain plasticity. *Progress in Brain Research* (chapter 3, vol. 217, ISSN 0079-6123). <http://dx.doi.org/10.1016/bs.pbr.2014.11.020>

Gutchess, A. (2014). Plasticity of the aging brain: New directions in cognitive neuroscience. *Science (special edition: the aging brain)*, 346(6209), 579-582.

Mechanisms of neuroplasticity

1. Personality & genes
2. Exercise
3. Sleep
4. Stress
5. Lifestyle
6. Cognitive training
7. Neuro-stimulation: task-based neural activities

Gutchess, A. (2014). Plasticity of the aging brain: New directions in cognitive neuroscience. *Science (special edition: the aging brain)*, 346(6209), 579-582.

Is there any hope?...

Brain shrinks with age

- Hippocampus (controls memory) is significantly smaller in older people
- **Chronic stress** shrinks the hippocampus

**Good news:
Hippocampus can be reversible!**

Fotuhi, M., Lubinski, B., Hausterman, N., Riloff, T., Hadadi, M., & Raji, C. A. (2016). A personalized 12-week “Brain Fitness Program” for improving cognitive function and increasing the volume of hippocampus in elderly with mild cognitive impairment. *The Journal of Prevention of Alzheimer’s Disease - JPAD*, 2, 1-5.

Nutrition

- Nutrition: modifiable factor, important in cognitive performance; e.g.,
 - meat consumption influences emotions, feelings, behaviour, character.
- Malnutrition: ↑ hospitalization, infections, mortality; ↓ social engagement.
- Dehydration: ↑ fatigue, confusion, anger; influences cognition, memory, mood.
- Nutrients: have an impact on cognition

- Mediterranean diet: fruits, dark and green leafy vegetables (antioxidants as vitamin E, vitamin B₁₂, folate, carotenes, flavonoids), fish, olive oil (high ratio of monounsaturated to saturated fatty acids), legumes, grains and nuts, alcohol (moderate consumption), dairy products, red meat, organ meat, butter.

Nutrient/Food	Impact on Cognition
Carotenoids (e.g., carrots)	↓ risk of dementia
Cholesterol (lipids) and sodium	Association with cognitive impairment, risk of dementia
Curcumins (e.g., curry, turmeric): anti-inflammatory & anti-oxidant	Prevention of dementia, associated with better cognitive performance
Folate	↓ risk of dementia, improves cognition & memory
Fruit and vegetables	Prevention of dementia
Mediterranean diet	↓ risk of cognitive decline and Alzheimer's
Mono-unsaturated fatty acids (e.g., olive oil)	↓ cognitive decline in visual & memory domains
Omega-3 poly-unsaturated fatty acid (PUFA) (e.g., tuna)	Prevention of dementia
Polyphenols (e.g., blueberries, green tea)	Prevention of & positive effect on dementia

Nutrient/Food	Impact on Cognition
Vitamin B ₃ (Niacin)	Protective against Alzheimer's disease
Vitamin B ₁₂	Reverse dementia, lower risk of Alzheimer's
Vitamin C	Lower risk of Alzheimer's disease
Vitamin D	Association with cognitive impairment
Vitamin E	Lower risk of Alzheimer's disease
Water (adequate)	Prevention of dementia and cognitive decline
Yeast (<i>Saccharomyces cerevisiae</i>): source of vitamin B ₁₂ , minerals zinc	Prevention of dementia, anti-inflammatory and antitumor factor, beneficial effect on longevity



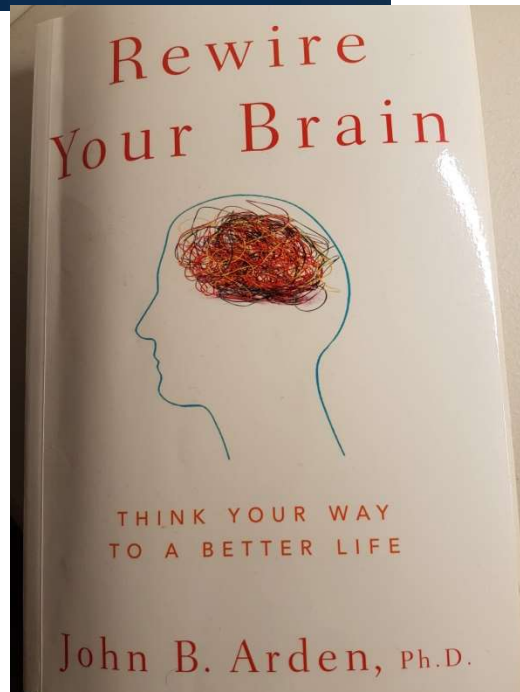
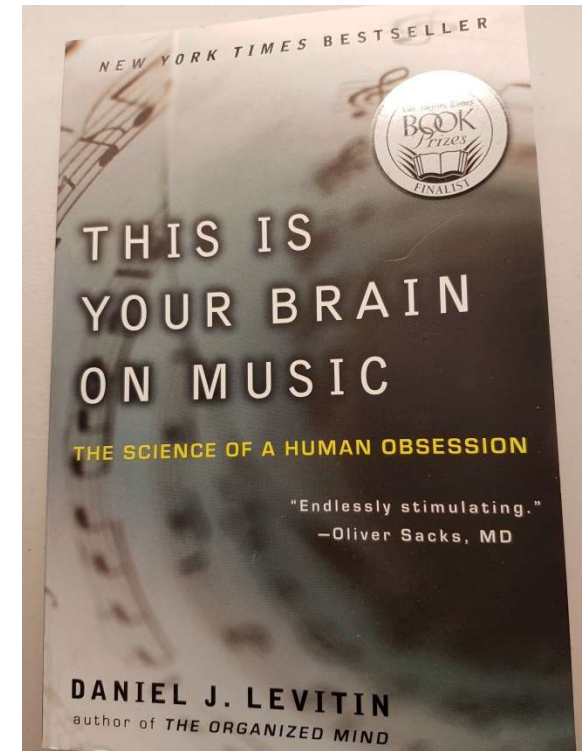
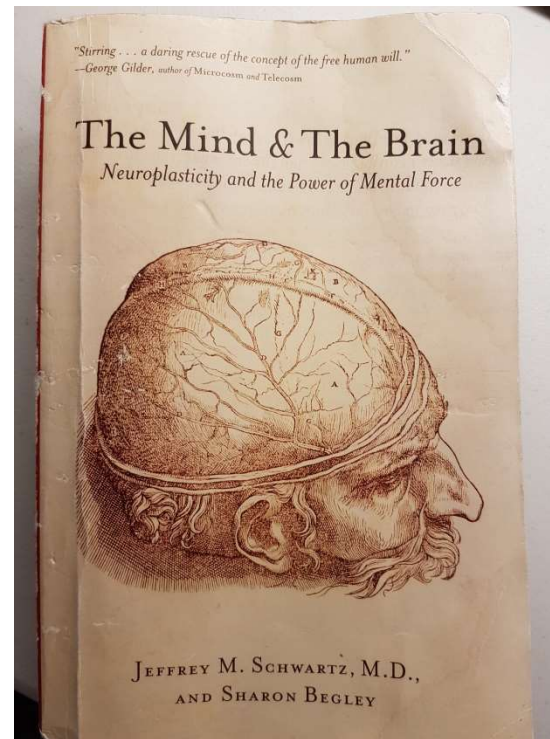
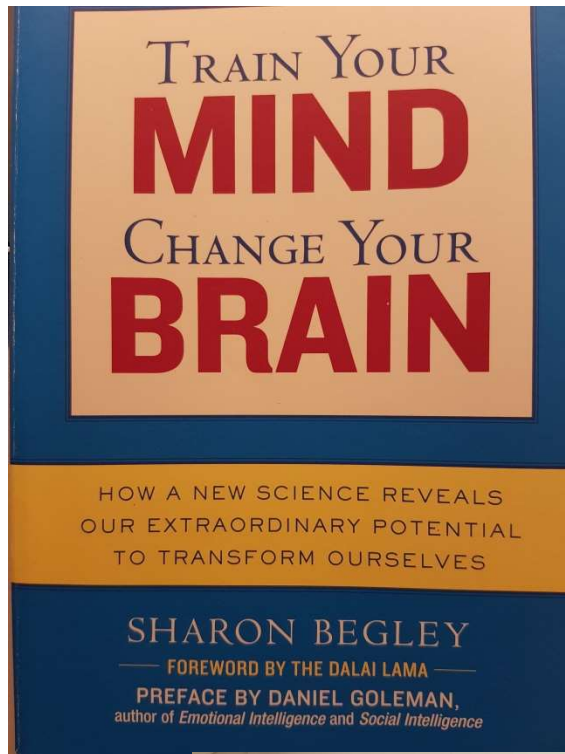
Mallidou, A., & Cartie, M. (2015). Nutritional habits and cognitive performance of older adults. *Nursing Management*, 22(3), 27-34. doi:10.7748/nm.22.3.27.e1331

Transforming the brain through the mind

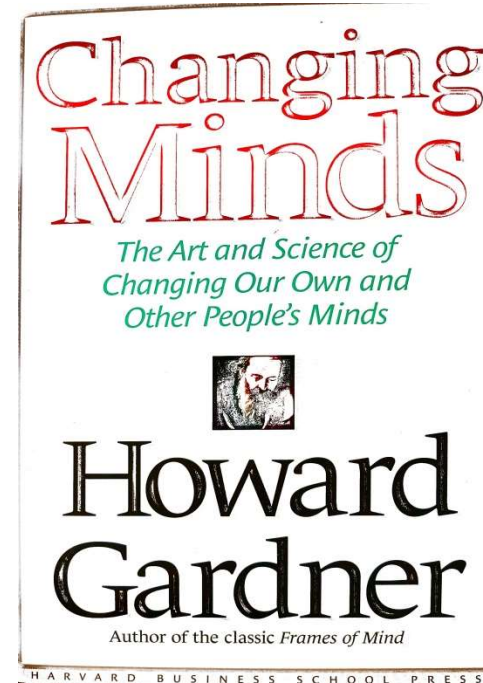
- Mothers' expressions of **love** & physical contact can trigger different responses
- **Therapeutic touch** is healing
- **Way of thinking** can change the brain – mental training (e.g., worrying)
- **2-way causality**: the brain creates & shapes the mind & vice versa!

The Brain & the Mind

- Humans really have **inner powers**
- Meditation
- Mind training to improve emotional, physical, spiritual well-being
- Interested in understanding human potential? → Highly recommended:
www.MindandLife.org



Anastasia Mallidou, RN, PhD



Sensory stimulation

- Music therapy
- Art therapy (e.g., dance, painting)
- Live psychosocial stimuli (e.g., 1-on-1 socializing)

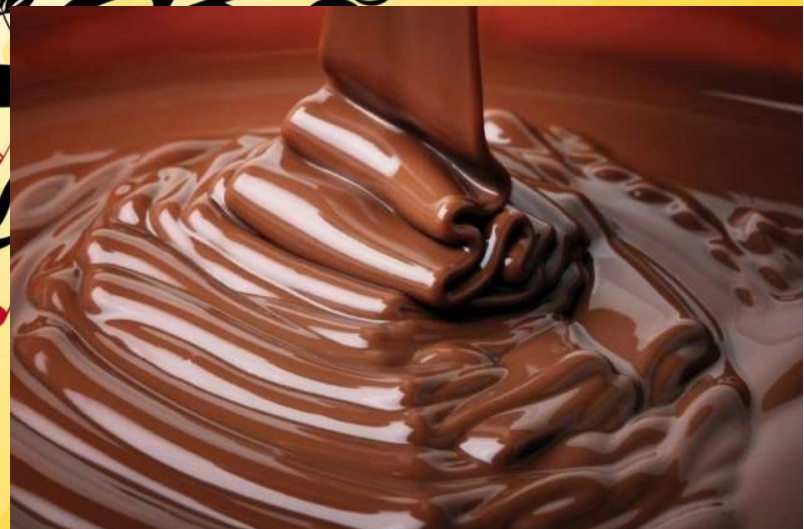
...result in positive outcomes in the majority of older adults with dementia ([Cohen-Mansfield et al., 2010](#)).

Music is an
outburst
of the soul

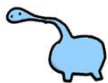


Agitated Behavior of Elderly and Alternative Simple Treatments: Individualized music (the ABrEAST-iM study)

Mallidou, A.A., Boström, A-M., Brett, J., Fowler, S.J., Kaitelidou, D., Leckovic, M., MacLeod, S., Nuttall, R., Porter, M., Saleh, N., Slade, A., Slade, M., Sudbury, F., & Thompson, V.



SEROTONIN & DOPAMINE



Technically, the only two things
you enjoy

R
e
s
u
l
t
s

FACT:
ONE OF THE ONLY ACTIVITIES
THAT ACTIVATES, STIMULATES,
A glowing, semi-transparent 3D brain is centered in the image. To its left is a large treble clef symbol, and to its right is a musical staff with several notes. The brain and musical elements are rendered in a light, glowing color against a dark background.
AND USES THE ENTIRE BRAIN
IS MUSIC

R
e
s
u
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s

The Power of Music

- Older man in nursing home reacts to music from his era (6 min):

<https://www.youtube.com/watch?v=zUnUPraRik4>

The joy & healing effect of Music

https://www.youtube.com/watch?time_continue=5&v=TZylmOZo4WI

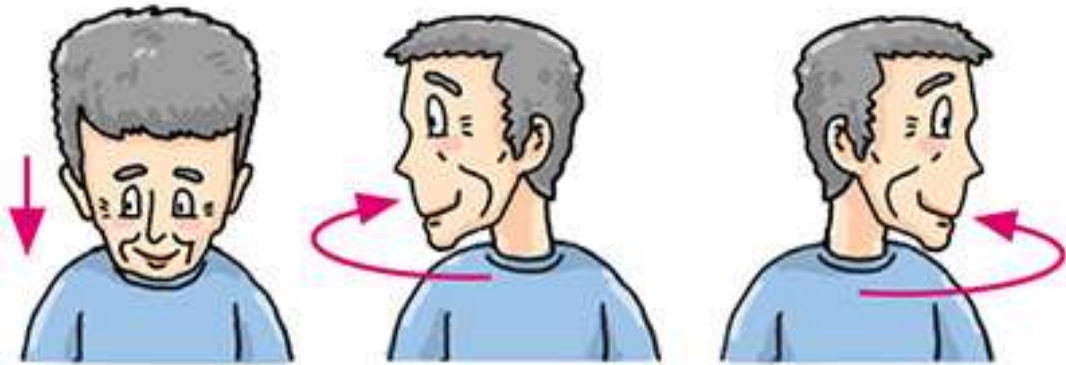


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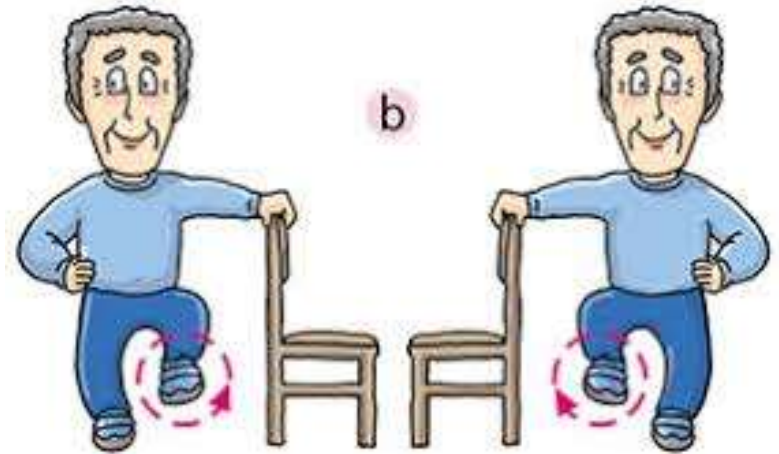


Exercise





Exercise





“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”



The DANCING study



Dance & Aging – Simona Scotto



Anastasia Mallidou, RN, PhD

**“It’s not just learning to dance, it’s a way
of **changing your whole life** for the
better!”**

-Simona Scotto-

<https://www.simonascotto.com/>

Practice, practice, practice...



Anastasia Mallidou, RN, PhD

Dance without limits...

Human tree



Overall, age is just a number...

- Couple dancing (2 min):

<https://www.youtube.com/watch?v=tZ9PwdKlgGw>

- A 90-year old grandpa (1 min):

https://www.youtube.com/watch?v=W6zUhyZn_PI

Aerobic dance

Sedentary elderly women (57-77 years of age); 12 weeks of low-impact aerobic dance (50 min/ week):

- **Intervention** group: **improved significantly** on all functional fitness components:
 - cardiorespiratory endurance
 - strength/endurance
 - body agility
 - flexibility
 - body fat
 - balance
- **Control** group (12 weeks of inactivity): **deteriorated** on the half-mile walk time and body agility; **declined** in functional fitness.

Hopkins, D.R., Murrah, B., Hoeger, W.W.K., & Rhodes, R.C. (1990). Effect of low-impact aerobic dance on the functional fitness of elderly women. *The Gerontologist*, 30(2), 189-192.

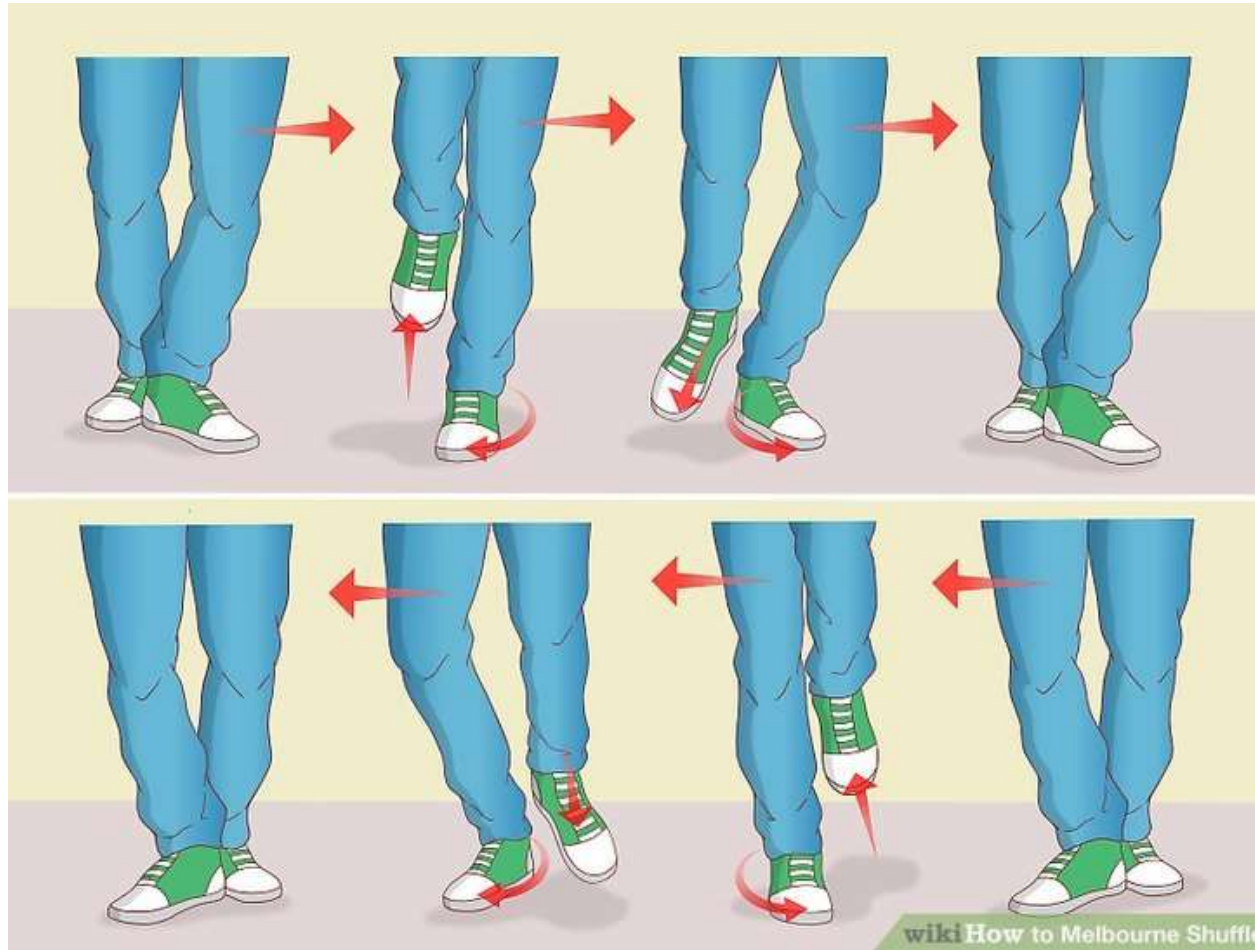
Aerobic dance (2 min)

<https://www.youtube.com/watch?v=ENObkDfDMwg>



Shuffle dancing

- Shuffle dancing: a **collective** creation
- Born in clubs & festivals devoted to electronic dance music (EDM).
- Originated in Australia (1980s): simpler, faster and more aggressive form.
- Shuffling & swing dancing = Learning to hear music with the body



- Old man is shuffling: <https://www.youtube.com/watch?v=KymFaQlc2hQ>
- Throws canes to dance:
https://www.youtube.com/watch?v=Gjw6c67_4Nw&index=6&list=RDKymFaQlc2hQ
- 90 year old woman:
<https://www.youtube.com/watch?v=FffaCtMwIBI&list=RDKymFaQlc2hQ&index=11>

Dancing....

80-year old dancer in Britain's had talent (7 min):

<https://www.youtube.com/watch?v=hjHnWz3EyHs>



Dancing, Cancer, QoL

Effects of dance on **psychological** and **physical** outcomes in patients with cancer.

- Had a large beneficial effect on participants' **quality of life**.

Bradt, J. (2015). Dance/movement therapy for improving psychological and physical outcomes in cancer patients. Cochrane Library.

- Dance combines **physical** and **psychosocial** aspects; promotes self-expression, self-esteem, & self-confidence; it relieves **women** of stress & helps in a variety of aspects (e.g., group interaction, motivation, positive emotions).

Hernandes, J.C., Cruvinel Di Castro, V., Mendonça, M.E., & Porto, C.C. (2018). Quality of life of women who practice dance: A systematic review protocol. *Systematic Reviews*, 7(92).

<https://doi.org/10.1186/s13643-018-0750-5>

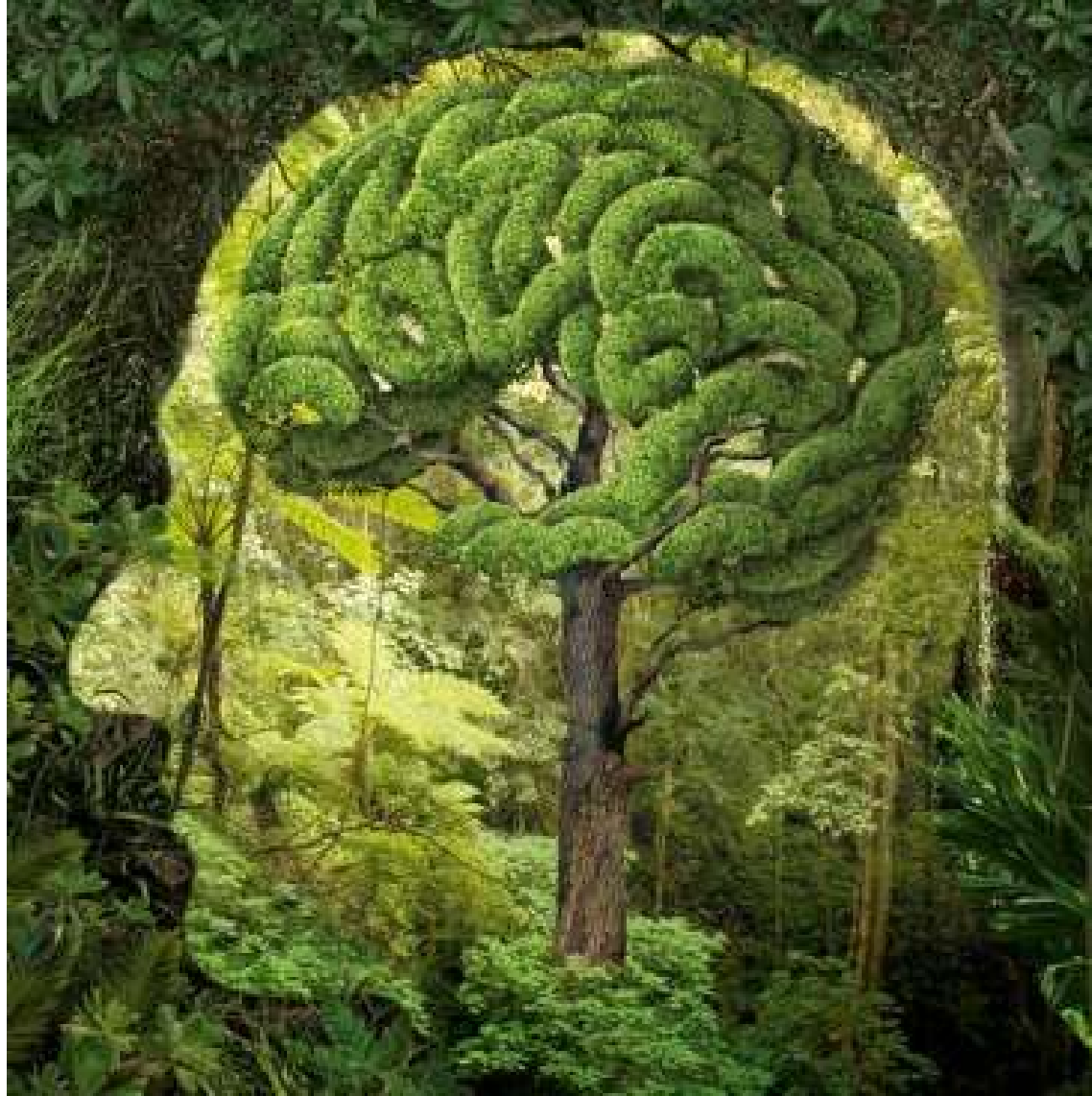
World's oldest dancer & choreographer

https://www.youtube.com/watch?v=0UTjhx2_Clk

- 103-year-old Eileen Kramer: from Australia
- Absolutely no plans to stop dancing
- Having cast herself as a **17-year-old princess** in her latest production.



The healing power of Nature



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**SOCIAL
ENGAGEMENT**



Intergenerational activities

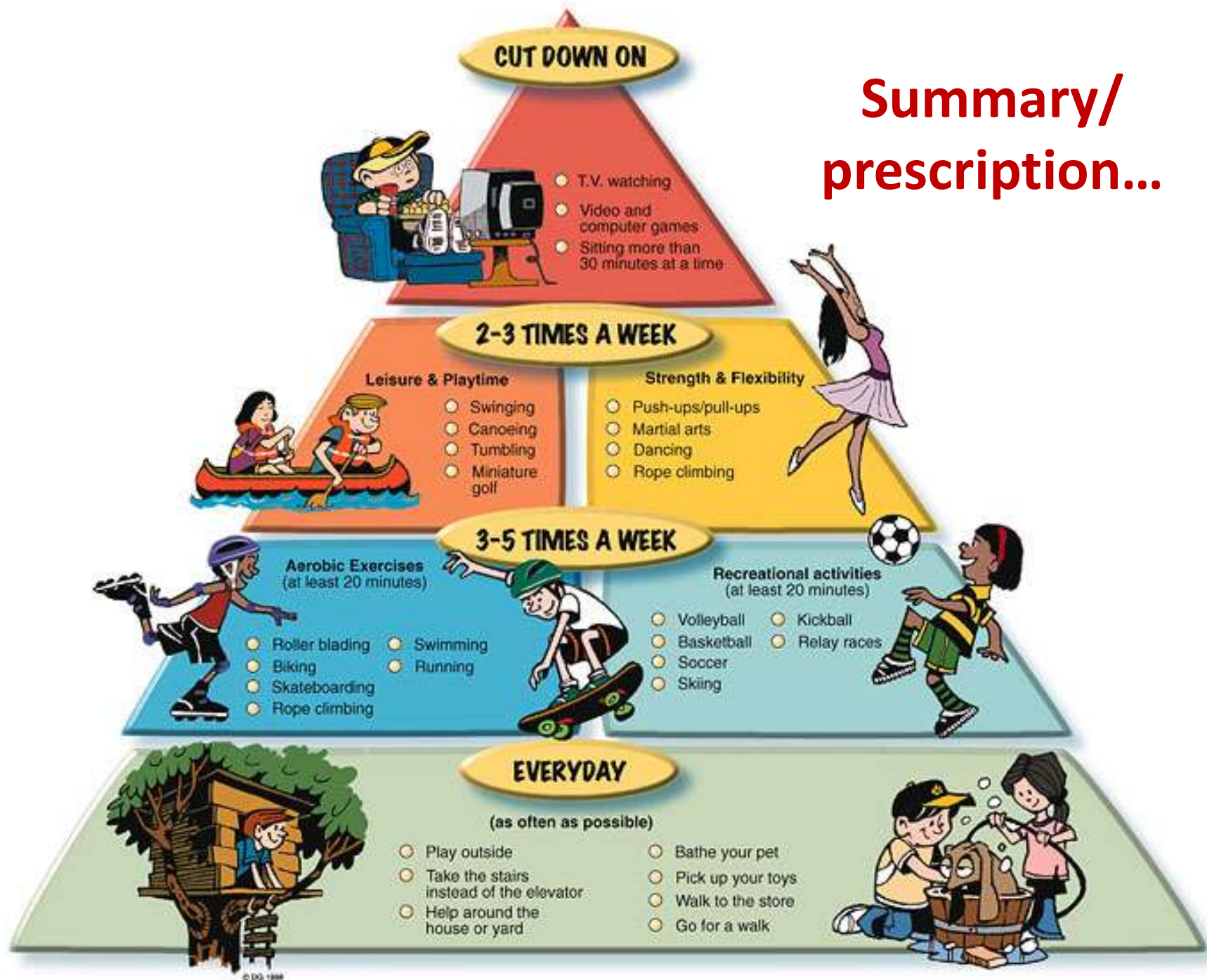


The gift of time

Overall...

- ...growing older is a spectacular **opportunity** to handle the gift of time that was denied to many!
- ...growing older is a privilege...!

Summary/ prescription..





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