

DEMENTIA PREVENTION

Session 5 – brain stimulation

7 Aug 2023

Resources

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BOOK: *The End of Alzheimer's Programme* by Dr Dale Bredeesen

PLEASE NOTE:

These class materials are intended as background for the lifestyle support I'm giving you as your brain health coach. My element of Goldster's dementia prevention course is based on my training with Dr Dale Bredeesen's team and my experience as a health coach. I'm here to support you on the Wicking Centre/University of Tasmania Dementia Prevention MOOC (Mass Open Online Course) and I'll be doing the course along with you. Please do ask me any questions about the course and I'll do everything I can to help.

You can sign up for the Dementia Prevention MOOC here:

https://dementia.utas.edu.au/partner/partner_course/12-17-b4bbe54b15

Disclaimer

I'm not a doctor or a nurse. I can't prescribe, I can't give you advice on individual health issues. You need to talk to your GP about those. I'm here to guide you to make your own healthy choices, and to coach you to discover what's right for you.

The purpose of this course is to help you prevent dementia

There are two elements

1 = Dementia Prevention Mass Open Online Course from the Wicking Centre at UTas

2 = coaching support from me each week to complement that – I'm here to support you on the course and to add more practical lifestyle advice from my own training.

BRAIN STIMULATION AND SENSE OF PURPOSE

There are lots of ways to stimulate our brains and find our sense of purpose, but the big picture is about the importance of continuing to grow intellectually and emotionally. We need to give our brains learning to nourish them, we need to continue to upsize and grow rather than downsize and shrink - wherever we are in our lives. Central to that is the idea of having purpose.

It's Never too Late to Find Your Purpose

- Research has shown that having a “purpose” in life is a strong determinant of both overall health and mortality
- A strong sense of purpose also protects your cognition - and more so as we age
- It's all about nurturing whatever excites us

If it seems like a crazy idea, start by asking yourself why you want to prevent dementia? What and who are you keeping your brain healthy for? The answer to that question IS your sense of purpose. Purpose drives us to create a satisfying future, and helps us get the most from the things we achieve – large and small – right now.

Having a sense of purpose creates the right mindset for being healthy – our mindset affects the way we take action, or don't take action.

What is your sense of purpose? Write it down.

Brain Stimulation: The Science

- It used to be thought that once we lost brain function, it was irretrievable
- An explosion of research is proving that is not the case
- Our brains can continue to grow new neurons throughout our lives in response to social and mental stimuli as well as healing from trauma or injury at every stage of life, including old age
- The brain's ability to grow and adapt is called *neuroplasticity* – MAKING THAT PROCESS HAPPEN IS BRAIN STIMULATION

Never Stop Learning – STAY CURIOUS ABOUT THE WORLD

- Those with more education are less likely to develop dementia. This may have to do with a concept called “cognitive reserve” – essentially a back-up plan in the brain
- It seems education creates more synapses and neurons – more routes for information and memories to travel round our brains.
- Evidence suggests that **everyone** can acquire cognitive benefit from learning at all stages of life – it doesn't matter how well you did at school or if you went to college!
- Building reserve is all about staying curious, continuing to learn and ‘upsizing’ our brains
- Find a subject that excites you, that helps drive your purpose
- Online and in person courses are all good

Learn a Foreign Language

- It's never too late. Research shows that learning a new language in adulthood can improve cognition
- It's especially fun and meaningful to learn a new language prior to travelling overseas
- One-on-one or group lessons are widely available (depending upon the language) with online options including *Rosetta Stone* and *Babbel*

Play a Musical Instrument

- Evidence suggests that music stimulates the brain and enhances memory in older people - A study, using twins to control for other genetic factors, found that the twin with musical knowledge acquired in older adulthood was 36% less likely to develop dementia
- In another study, adults aged 60 to 85 without previous musical experience showed improved processing speed and verbal fluency after a few months of weekly piano lessons

Listen To Music

- Simply listening to music offers cognitive benefit and is way easier than learning an instrument if time is tight
- Music stimulates deep neural connections that activate many regions of the brain including the medial prefrontal cortex and the limbic
- This may help explain why listening to music evokes feelings connected with prior experiences and awakens memories related to when you last heard a particular song

Listen To Music

- Research shows that listening to classical music positively affects gene expression and allows new neurons to be created
- Music can enhance your exercise routine, household chores, or even your work experience
- Choose music to suit your mood and activity.

Dance

- A study examined the leisure activities of a group of older people over several decades and found that dancing provided the greatest dementia risk reduction (76%) of any activity studied, cognitive or physical
- Another recent study, using a group of retirees, compared the benefits of a six-month intervention of conventional rigorous exercise vs. a challenging dance programme. Those who engaged in the dance intervention demonstrated larger volume increases in multiple brain regions as well as an increase in BDNF levels ('fertiliser' for your brain)
- Ballroom dancing is not only fun but may also provide the perfect combination of exercise, cognitive challenge, and social interaction to promote neuroplasticity

Don't Forget Puzzles

- Challenge your brain for fun!
- A recent study found that the more people, over age fifty, engaged in challenges like crosswords and sudoku, the better their brains functioned

- In fact, those who did puzzles were found to have brain function equivalent to ten years younger than their age, with speed processing and accuracy showing the greatest gains
- But mix it up – it's all about challenging our brains. If you find crosswords easy, try something else

Brain Training

- Several recent studies suggest we can improve cognition by using an on-line brain training program. Dr Bredesen's favourite is *BrainHQ* from Posit Science
- The ACTIVE Study, using Brain HQ games, followed 2,800 people over a ten-year period
- The most dramatic improvement was seen using a speed processing computerised exercise focusing on increasing the player's useful field of view
- The risk of developing dementia was 29% lower for participants who engaged in this exercise than for those who were in the control group
- You can play a version of this game called Double Decision
- Dr Bredesen recommends 90 minutes a week – I think that's a lot. It's easy to get too competitive with yourself so you increase your stress level. Try to keep it fun.

Prioritize People who Share Your Goals

- Create meetings that promote a healthy lifestyle
- If your current group of friends doesn't share your health goals, try to encourage them to adopt healthier habits
- Suggest meet ups that support your healthy lifestyle.
- It's important to surround yourself with people who make it easy for you to adhere to your new healthier way of living