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Exercising the Brain through Life Story

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A life story is an account of the series of events and experiences that make up our life and represent who we are. Our life story is important because it helps explain who we are, where we have been, how we got there, and even where and what we will be doing in the future. Life story also contributes to brain health, as the process of documenting and sharing life story is a form of brain exercise.

Exercising the Brain with Life Story

Like a muscle, the brain follows the "use it or lose it" philosophy. This means that the health and function of the brain can improve with proper exercise. It is important for people of all ages to challenge their brain, but it is especially important as we become older. It is easy and fun to maintain an active brain. The best brain exercise involves a combination of social, mental, and physical activity. Documenting and sharing life story involves all three of these brain activities.

Social Activity

Social activities protect and improve areas of the brain that are involved in memory, planning, and communication. When writing a life story, we may rely on family and friends to check facts or reminisce. Some memories may even lead us to call an old friend or lost relative. Through life story, we are able to seek meaningful social engagement.

Mental Stimulation

Reading, jig-saw puzzles, traveling, and taking on a new hobby are just a few examples of intellectual pursuits that mentally stimulate the brain to help protect against decline in cognitive function. Documenting life story is a beneficial mental activity because it challenges us to remember and organize events and experiences from the past. Thinking back on past experiences can strengthen existing connections in the brain.

Physical Activity

From gardening to dancing to cycling to strength training, physical activity increases the amount of blood, oxygen, and nutrients flowing to the brain to keep it healthy. Even though documenting life story may not be a physical activity, reminiscing about leisure activities or lack thereof in addition to thinking about our past, present, and future health status may inspire us to become more physically active or remind us to keep up the good work.

Start Writing Your Life Story Today!

Create a list of 10 significant life events and experiences and think about the different key life domains into which these experiences fall—family/friends, place/home, education, work/volunteer, recreation/leisure, spirituality, historical contexts, and health.

Expand your list with additional memories along the life domains. Look at old photos or memorabilia and talk to family and friends to help jog memories.

Write about what your memories mean to you and how they make you feel. You may want to write about your family and the way that you see them, examine the good and bad in your life, or explore the role religion or a job has played.

Organize your information into life chapters—child-hood, adolescence, young adulthood, middle adulthood and old age.

Share your story with others.



Memory and the Brain 101

The more we know about our memory, the better we can understand why it is important and how we can work to improve it. Memory is divided into three categories or levels: sensory, short-term, and long-term.

The First Level of Memory: Sensory Memory

Sensory memory helps us take in the world through our eyes, ears, nose, mouth, and fingertips. Everyone's sensory memory has an unlimited capacity, but memories only last in this level for a fraction of a second. This is just enough time for the brain to decide whether or not to take that information and pass it along for further processing. Memories that are not passed along to the other levels of memory will fade away.

Exercise Your Sensory Memory

Exercise your sensory memory with "letter-tracking." To letter track, re-read the last sentence of this paragraph and circle every "e" that you can in 10 seconds. In another 10 second period, circle every word that starts with the letter "c." This activity exercises your sensory memory by improving your ability to focus and concentrate.

The Second Level of Memory: Short-Term Memory

Short-term memory acts as a workbench. This level of memory temporarily stores information that has been sent from the sensory memory and figures out what the information means and its importance. Short-term memory holds only a small amount of information at one time. This level of memory is important because it allows you to retain ideas and thoughts as you work on problems.

Exercise Your Short-term Memory

Exercise your short-term memory with "chunking." Chunking is a technique that involves taking a list of information and grouping it into more manageable "chunks." Chunking is often used to remember phone numbers or other long lists of information. Try to remember this sequence of numbers: 4-7-1-1-3-2-4. Does this seem tough? Now try breaking it into two familiar chunks, like a telephone number: 471-1324. Not as hard now, is it?

The Third Stage of Memory: Long-Term Memory

Long-term memory works to store large amounts of information over a long period of time. In addition to storage, long-term memory can delete and retrieve information. The more times something we want to remember is practiced or repeated, the more likely it is to stay in this level of the brain instead of fading away.

Exercise Your Long-term Memory

Exercise your long-term memory by reminiscing. Take a trip down memory lane by talking to people who shared your life events and experiences. Go to the attic and dig through old chests for photos and mementos to help transport you back in time. Take time away from busy schedules and daily stresses to rediscover long-buried memories and what they mean to you.

Memory Triggers Improve Memory

It can be helpful to both aid and exercise the brain with memory triggers. Memory triggers are entities such as a person, animal, sound, scent, or sight that help make, store, and retrieve memories. When it comes to documenting life story, key memory triggers include:

- Senses. Life experiences typically involve a combination or our senses—sight, smell, sound, taste, and touch. For example, when we attend a family cookout, we may not be aware that along with the emotions we feel, we are also storing the sight of the lake, smells of fresh cut grass, sound of laughter, and taste of lemonade. Different parts of our brains store these sense impressions. Down the road, when one of these senses is stimulated—tasting lemonade while at the fair, for example—it triggers the other senses, and our memory of the family BBQ comes flooding back to us.
- Objects and mementos. Mementos are physical objects such as jewelry, a blanket, or furniture that have special personal meaning. A memento can trigger memories of a person with whom we associate the memento, a relationship the memento represents, or a time in our life that the memento symbolizes.

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Combining social, mental, and physical activities maximizes brain health.

• Traditions. Traditions are repeated practices or beliefs that create positive feelings within families and communities. Traditions have special meaning because they often encourage strong social connections and family bonds. Associated with fondness and routine, traditions serve as memory triggers because they often spark a "reminiscence roll" or a variety of stories and memories. We can get on a reminiscence roll while alone, with another person, or with a group of people. Once this roll begins, it can be a fun and meaningful experience.

The Aging Memory

It is normal to experience some decline in our ability to recall specific names, places, and events as we age; but age-related memory loss does not prevent our ability to live a full and productive life. Forgetfulness that interferes with everyday activities is not normal and an appointment with a health care provider should be made right away in order to obtain a timely diagnosis. A number of treatable issues, including medical conditions, stress, medications, lack of sleep, and depression may be the cause. If it is something more serious, medical professionals can get to the bottom of it and provide proper care. Regardless of age, it is important to work toward an active, healthy brain.

Conclusion

Taking care of our brain is just as important as taking care of the rest our body. Participating in a combination of social, mental, and physical activities are easy and stimulating behaviors that maintain an active, healthy brain.

Resources

Alzheimer's Association

24/7 Hotline: 1-800-272-3900

www.alz.org

Franklin Institute: The Human Brain and Brain Training Games http://www.fi.edu/learn/brain/exercise.html.

How to Improve Your Memory: Tips and Exercises to Sharpen Your Mind and Boost Brainpower. http://www.helpguide.org/life/improving_memory.htm.

Mayo Clinic. Memory Loss: When to Seek Help. http://www.mayoclinic.com/health/memory-loss/HQ00094.

Memory Banking. Contact your local Extension Agent for more information about this life story program. Memory Banking is a 4-week program designed to increase participant's knowledge and skills to collect, document, and maintain life stories and health histories. The program is valuable for promoting an active brain, quality relationships, mental healthiness, and legacy building.

References

Ashley, M. J. (2004). Traumatic brain injury: Rehabilitative treatment and case management. Boca Raton Florida: CRC press.

Barton, S. (2010). Remembrances. Retrieved February 25, 2010 from Remembrances.org.uk

Cowan, N. (2000). The magical number 4 in short-term memory: A reconsideration of mental storage capacit. *Behavioral and Brain Sciences*, 24(1), 87-185.

Hintzman, D. L. (2010). How does repetition affect memory? Evidence from judgments of recency. *Memory and Cognition*, 38(1), 102-115.

Hopkin, M. (2004). Link proved between senses and memory: Brain scans show how sights and smells evoke the past. *Nature News*.

Swaab, D.F., Dubelaar E.J., Hofman M.A., Scherder E.J., van Someren E.J., & Verwer R.W. (2002). Brain aging and Alzheimer's disease; use it or lose it. *Progress in Brain Research*, 138, 343-73.

Swaminathan, N. (2007). Partial recall: Why memory fades with age. *Scientific American*.