

The Surprising Secret Life of Brains...

This is a script about the middle age and aging brain – It is created to be amusing, informative, and delivered by two people... Please feel free to rewrite or edit in a delivery style that will allow you to feel comfortable and within time constraints. This script was inspired by Barbara Strauch’s book, “The Secret Life of the Grown-up Brain.”

Set-up 2 people with 2 microphones, best at a podium where a marked script is convenient.

It is important that you read through this script together at least a couple of times to work out your responses and to feel comfortable with your delivery.

Introduction of presenters by presiding individual– presenters may recognize audience – give them an idea of your presentation and then begin conversation style

Speaker 1 Did you remember to bring one of those brain scan things?

Speaker 2 What brain scan things? You didn’t say anything about a brain scan!

Speaker 1 Well... I distinctly re..mem..ber *(slowly)* thinking... I... was going to... you know... *(exasperated)* there is just so much going on that I can’t remember everything!

Speaker 2 There you go!! How co-in-ci-dental! It just so happens *(to the audience)* that is exactly what we came to tell you about... *(dramatically)* The Surprising Secret Life of Brains! There are lots of things you probably already know..

Speaker 1 For instance, a baby's brain makes over one billion neural connections a day... just trying to make sense of their new world.

Speaker 2 Which explains why they sleep so much... *enjoy it while you can...* By the time a child is six years old they pretty much have right and wrong figured out... and by age eleven the basic architecture of their mind is set.

Speaker 1 Whoa... that is what Neuroscientist thought up until five or ten years ago... then they found out that teen age brains pretty much do a shuffle... some say a scramble... the amygdala (*ah-mig-dah-lah*) the part of the brain that tells you to use caution and to respect the warnings of fear – that part pretty much goes on vacation and the frontal lobe of executive decision making, well, that leaves with it... in many cases they don't really return until around age 25 or later in some brains.

Speaker 2 To be fair... it isn't as dramatic in some as it is in others... then comes middle age...

Speaker 1 Middle age is relative... in Socrates day by the time you were 30 you were considered

pretty old... once a citizen reached the age of 50 they were revered as older and wiser and pretty rare...

Speaker 2

(Laughs) I've heard that 50 is the new 30. Do you think that's true?

Speaker 1

Well... almost...! *(laugh)* A funny thing happened on the way to brain scans... Scientists discovered that aging research was usually being conducted in nursing homes. You can imagine, their research produced a pretty negative view of what it means to get old. In that era of research, doctors thought that dementia, in some form, was inevitable.

Speaker 2

Brain scans and new technology revealed that brain cells in real people, aging in real time, are not disappearing after all. Most of those brain cells can stick around well into our eighties, nineties, and beyond.

Speaker 1

Somehow... I feel as if many of my brain cells are making a mass exodus... I forget things the minute I walk through a door! And names! No matter how many tricks I

try I can't remember names for longer than five minutes!

Speaker 2

That may be true but how many teenagers do we know who forget things and yet it is no big deal when they do it! That is what's so surprising about the brain. We have to give up believing those old out-of-date timetables that were set on life spans several years ago. The world's mind-set actually believed (*surprise*) that the middle-age brain was diminished, declining, and depressed.

Speaker 1

Harvard Medical School and a variety of research entities are finding that the middle-age brain – rather than giving up and giving in... adapts. (*enthusiasm*) The brain actually powers up... rather than down and uses more of its real estate to solve problems.

Speaker 2

In many cases – people in middle age start to use both sides of their brain. Tapping into the strength of the brain, particularly the powerful frontal cortex... individuals develop what scientists call cognitive

reserve. That reserve acts as a buffer against the effects of aging. This brain strength enables you to size up a situation... and get to the point... much quicker than a younger mind.

Speaker 1

It makes sense that our investment of experience, education, and/or working can be the key to a lifetime reserve of brain power and actually wards off debilitating brain disorders like Alzheimer's.

Speaker 2

This new culture of possibility is a surprise to researchers. Haven't you noticed that as you mature you are actually reconsidering your brain... and your life... as you age?

Speaker 1

Oh, only every time I pass a mirror! Or... looking back at photographs of ten or eleven years ago... I do think how much better I looked "back-in-the-day" – But... in many ways my brain is much better right now, much smarter. I feel I have a more perceptive, superior brain than back-in-the-day. *(defensively)* But I still have a challenge walking through doors.

Speaker 2

It's called focus... but we'll get into that later. The more you experience and develop in your life... it all becomes an investment. Each investment helps build Myelin (*my-lynn*) in the brain. Myelin is a fatty white coating over the neurons which increases and builds as we age. It actually helps your brain make many more connections while you work to find a solution or make sense of the world around you.

Speaker 1

I believe I've heard that referred to as "middle-age wisdom."

Speaker 2

Experience is being examined in all of its workings and how it really physically changes the brain. What kind of experiences are you having that change the brain for the better and create that feeling of middle-age competency?

Speaker 1

Barbara Strauch, author of the "The Secret Life of the Brain," says, "one way to measure how excited a particular group of scientists is about the potential of their field is to follow the money. And there is now real money behind various ideas about how

to extend the useful life of our brain cells. Now that science knows we are not losing millions of neurons as we age, it seems possible that, if we look hard enough; we can find easier ways to keep our brain cells in top form.”

Speaker 2 You are a great example...

Speaker 1 I am?

Speaker 2 Yes, you used to just make mental notes of things and you were always so organized... but now you have to write everything *(Speaker 1 looks downcast)* down... You can't find your glasses because they are on your head... you are always complaining about how you forget things and yet... you are one of the smartest people I know, *(Speaker 1 looks pleased)* you effortlessly organize Pilot fundraisers, fashion shows... and you have a very highly responsible job in which you just received a promotion and you do it with ease. You know what you are doing. You are criticizing your little missteps and not noticing the big picture that you just seem to waltz through. The middle age brain is a contradiction.

(Speaker 1 looks smug) Some parts run better than other but your brain is more than the sum of your parts.

Speaker 1

Thanks... you'll be happy to know that Gene Cohen, author of *Mature Mind*, has also made some interesting connections in research. He says that the brain's left and right hemispheres become better integrated during middle age, allowing greater creativity... the neurons may lose some processing speed but they become more richly entwined... that is why age is such an advantage in fields like editing, law, medicine, coaching, and management." Remember Grandma Moses... she didn't start painting until her 70s.

Speaker 2

I'm really glad that scientists and researchers findings are so positive... apparently as we age we also become more positive and are more likely to shut out negativity in our lives... that positive energy inspires the brain to seek new ideas and to become more aware... especially of the

broader view ... things are looking pretty good.

Speaker 1 It's terrific that we are so positive but how can we maintain it and keep our brain active and building new brain cells?

Speaker 2 Sounds like a job for Dentate Gyrus (*den-tate geye-russ*)!

Speaker 1 Who?

Speaker 2 Not who... but what.

Speaker 1 I'm not falling for that Who is on first base!

Speaker 2 The dentate gyrus is a small section of the hippocampus located in the back of the brain... an area that is crucial for memory.

Speaker 1 Now we're talking... tell me who, what, where, when...

Speaker 2 Not too long ago, at Columbia University, a group of scientists were studying what happened to the brain of a tiny mouse scampering on a little wheel up to twenty thousand revolutions a day. As the results were shown on a computer screen they noticed small green dots were showing up

in this microscopic view. The other mice in this story did very little exercise and had very few green dots. However, the more the volunteer mouse ran... the more green dots were produced. You have probably guessed by now... exercise had prompted the birth of new neurons in the dentate gyrus. This is known as neuro-genesis (*new-ro-gen-isis*). The scientists were amazed and all agreed that to see so clearly that new brain cells came with exercise... it was impossible to ignore. To answer your question... the most promising solution is exercise. It's the magic wand...the best builder of branches, baby neurons and when used with education it helps multiply the myelin in your cognitive reserve.

Speaker 1

So if I put on my sneakers and start walking, exercising, aerobic or yoga I can actually GROW my brain at my age?

Speaker 2

Pretty much. Once, scientists' believed that when the brain reached a mature age that brain cells just died off one by one... that may have been true of some in nursing

homes... but today... active individuals are creating new brain cells every day.

Speaker 1 Tell me some other ways I can help my brain.

Speaker 2 Remember a few minutes ago you mentioned you had a problem walking through doors and not remembering why you went into a room? The ability to focus is a crucial brain function. As we age we are more easily distracted because our frontal lobes go into a default mode... we are more aware of the overwhelming amount of distracting information happening all around us. When you think of all of the events in a day, in which you are involved, it certainly makes sense why making lists could be a big help. In fact, you might want to consider a brightly colored clipboard to hold your notes. I can't begin to tell you how many notes I've lost in a day!

Speaker 1 You are right... it would be hard to misplace a colorful clipboard. So moving right along... What do all of these researchers think is

next most important for keeping a healthy happy brain?

Speaker 2

Education! You know... the more education the more neural connections are made... this can increase the production of myelin well into the 60s. All of this leads to what we referred to earlier as that valuable cognitive reserve.

Several studies over the years have involved following the lives of productive people and then examining their brains after death. Some of the results were astounding. Many of these individuals' brains were riddled with plaque and tangles of fibers that indicated dementia in various forms of severity. However, in life, they functioned without any or little indication of dementia; the researchers felt they functioned at a high cognitive level... lots of tangles but mentally first-rate. The late Dr. Robert Katzman a professor emeritus of neuroscience at the University of California, San Diego referred to the patients in this study as the escapees.

Speaker 1

So if I dig out the Sudoku and crossword puzzles and maybe learn a new language or skill – you think I can keep those brain cells perking?

Speaker 2

It beats being a couch potato. Your odds look good and, of course, antioxidants such as grape seed extract, spirulina and watching your cholesterol levels and calories won't hurt.

Speaker 1

There was a French woman, Jeanne Louise Calment who died at age 122. She smoked, loved chocolate, poured olive oil on all of her food... took up fencing at 85... rode a bike until she was a 100, and she lived on her own until she was 110. Being a French woman she spent most of her life sipping red wine too. She lived well I'd say!

Speaker 2

You are right! She did... there are so many factors that come into play... all we can do is try to give ourselves a little edge.

Speaker 1

Maybe this economy is helping to create a world in which we will never retire and we'll take it for granted that our dentist and mechanic will be in their seventies and the

80 year-old mailman is delivering requests from our 39 year-old son studying for his post, post, post doctoral degree. Thanks for those tips. I don't remember what those brain scans were for but now I don't feel so bad about it. I have more important things on my mind.

Speaker 2

Like... Pilot Brain Power? If you will allow us a moment here... Pilot International's "Protecting Your Brain for Life" program has been saving lives since 2001 by teaching children how to protect their brains and avoid traumatic brain injury.

The program expanded to include senior programs... the Wii Win programs in healthcare facilities... Safety and Health Fairs... public service announcements and civic presentations.

Speaker 1

Pilot Clubs have also been sponsoring Project Lifesaver programs in communities throughout the United States... this equipment and training helps local law enforcement to rescue children and adults affected by the wandering syndrome – a

typical symptom of brain disorders and traumatic brain injury.

Speaker 2

Every year our foundation awards grants to Pilot Clubs around the world to help improve the quality of life for those affected by disabilities and brain disorders. Our foundation also presents scholarships to outstanding individuals entering careers with a brain related focus.

Speaker 1

I'm _____ and this is _____ we are proud to be Pilots guiding community projects in friendship and service. Our presentation today was designed to help you feel good about your snappy synapses and naturally good-looking neurons. If you'd like to learn more we recommend Barbara Strauch's book "The Secret Life of the Brain." Thank you for being a great audience.