



Brain Fitness

21 Ways
to Strengthen Your Brain
and Sharpen Your Mind

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Everyone knew, when I was a child, that kids had to drink lots of milk to make strong bones, because once we were full grown, bones were like concrete pillars. That was it. They had to last a lifetime.

Everyone knew that it was the same with our whole body. We were doomed if our liver or lungs got damaged or sick. There was no hope.

We also knew that brains got formed during infancy, developed during childhood and then they were done, finished by twenty-something. That was it.

Things seemed to go along pretty well in our twenties and thirties, and then, deterioration began to show up: a wrinkle, a gray hair, a sag or two. They multiplied for the next few decades. We tried to fix them or cover them up. Then, this or that began to hurt or become a problem; health issues got our attention. Soon we were old. The whole thing began to fall apart, sometimes rather quickly. Then it was all over. That was life, and everyone knew “that's the way it was”.

Little by little, however, we started getting happy surprises from our scientists. Our bones aren't fixed. Organs can rejuvenate themselves. And best of all, we have now learned that our brains aren't just withering away. They are soft, spongy organs that keep right on changing moment by moment. WOW!

With the proliferation of sophisticated research tools in the past decade or so, scientists have learned that our brains have “neuroplasticity”. They are not static, but are highly malleable and subject to continual change as a result of experience.

Think about this: ***Your brain changes due to your experiences, and then your next experiences are different due to your recently changed brain.***

That's not all. Scientists are learning that "experiences" are not just events that happen *to* us. Internal experiences change our brains as well, giving substance to the adage: "be careful what you think, as your thoughts become your words, your words become your actions, and your actions become your destiny".

It's good to know that with a little effort, we can change our thoughts. For more on this, see Key #1 of my book, [The Curious Upside of Growing Older: And the 7 Keys to Making the Most of It](#).

Brain science is exploding these days, as is public interest in the findings and their implications. Relevant new words are entering our daily vocabulary, like *neurogenesis*, meaning the birth of new neurons.

You will also be hearing about "BDNF", Brain Derived Neurotropic Factor. It is a protein produced inside nerve cells when they are active that keeps them functioning and producing new neurons. Scientists fondly call it "*Miracle Gro for the Brain*".

BDNF is activated by experiences that cause the brain to make new connections and new pathways. For example, aerobic exercise stimulates the activity of BDNF, which in turn, stimulates brain function, including neurogenesis. Aerobic exercise also sends oxygen to the brain, which enhances the entire process.

If you would like to expand your knowledge base about this exciting new field, I recommend that you read these books:



[Train Your MIND – Change Your BRAIN: How a New Science Reveals Our Extraordinary Potential To Transform Ourselves](#)

Renowned science writer Sharon Begley meticulously reviews the history and the findings of brain research in this very thorough book.



[The Wisdom Paradox: How Your Mind Can Grow Stronger As Your Brain Grows Older](#)

Neuropsychologist Elkhonon Goldberg elaborates on one our favorite subjects: how we become wiser while concurrently having “senior moments”.



[SPARK: The Revolutionary New Science of Exercise and the Brain](#)

Author Dr. John Ratey explains how exercise improves memory and reaction time and how it prevents and eases brain-based illness and conditions. Read this book and be amazed at the far-reaching rewards we get from improving our brains through physical exercise.

These books and other resources are referenced at the end of this report.

But wait! What about all the recent chatter about brain games, brain exercises and brain teasers, about improving our memories and reaction time, and about getting smarter? It's all over the Internet and in the media. There are brain fitness products to buy: computer software, video games, and even brain toys for tots.

Do these things work? That's a good question.

Scientists have great research tools and technologies. Neuroimaging with PET scans and functional MRI enable scientists to “see” the brain at work. Animal studies allow scientists to observe behavioral differences between animals treated one way as opposed to another. Experiments comparing groups of people using and not using brain exercises can be evaluated using tests or questionnaires. Information is coming along, but science takes time.

While data are being collected and evaluated, one clarification has emerged. Responsible pioneers and leaders in the field of brain enhancement have recommended parameters that distinguish *brain exercise* from *brain activity*.

Exercise is defined as physical activity that is planned, structured, and repetitive for the purpose of conditioning any part of the body. *Brain exercise* is based on this model, and shows up by laying down new neural pathways and causing new patterning in the brain itself.

All else is *brain activity*. It includes repetitive activity, engaging in familiar actions, and actions that are intuitive.

Here is a case in point: People have taken sides as to whether doing crossword puzzles counts as *brain exercise*. Using the above distinction solves the problem. Learning *how* to do crossword puzzles would count as *brain exercise*. Once one knows how to do them and can do them, then doing them becomes a *brain activity*.

Still, all of this begs the question: *Do they work?*

Assuming we are talking of *brain exercise*, the answer depends on at least three things. First, we need to define what we mean by “something working”. The second is to decide whether that “something” can be measured. (Reducing reaction time can be measured. Getting smarter cannot be measured.) The third is to understand the limitations of the results.

Here's an example. Let's say that a carefully crafted experiment was devised to determine whether using XYZ software improved a person's reaction time. The results showed that the reaction time was significantly improved for eighty percent of the ten thousand people being tested. Does this mean that the XYZ software works? Well, yes it does, eight out of ten times.

Anecdotal experiences are often cited, meaning they could have been measured, but weren't. A friend claims that her driving skills have improved since using Cognifit Senior Driving software. This claim is believable *because* it is amenable to measurement.

Often people have an intuitive awareness that change has taken place. “Now I am remembering better where I put things.” “Directions are easier to understand.” These are not measurable facts, or even definable events, but something is working for the person experiencing them.

So, do brain games, brain teasers and other brain exercises work? Or more importantly, will they work for you? To know, choose your goal, and then try them out. Only you can decide what works for you.

Here are **21 things** you *can* do that *will* strengthen your brain and sharpen your mind. They will because each requires that you learn and do something different from what you now know and do. This learning and doing will build new pathways and develop new patterns in your brain.

1. **Learn and play a new sport**
2. **Learn a new language**
3. **Learn a musical instrument**
4. **Mentor or raise a child**
5. **Volunteer in a field you know nothing about**
6. **Go back to school**
7. **Take up a hobby**
8. **Write poetry**
9. **Crochet unique designs**
10. **Make stained-glass pieces for sale**
11. **Build bird nests**
12. **Take up wood working**
13. **Join a choir or chorus**
14. **Get involved with Little Theater**
15. **Take up table tennis**
16. **Become active in a book club**
17. **Usher at plays, concerts and sports events**
18. **Get involved with social issues, like homelessness**
19. **Be a volunteer teacher's assistant at a local school**
20. **Join a gourmet cooking club**
21. **Play video games**

Once you become so proficient doing your *brain exercise* task that it becomes rote, it's time to take it to the next level or embrace a new challenge.

Some brain exercises continue to evolve, like learning a language or playing an instrument or raising a child. I know about this one.

Seven years ago I took custody of my grandson. He was 7 and I was 71. Initially I had to learn quickly about him and his world. Keeping up has required me to be current with new technologies and contemporary social culture. Practically every day is a new adventure. I keep learning things I didn't even know that I didn't know! Some say this keeps me “young”; I say it keeps me on my toes.

Just so you'll know, mentoring or raising a child is a hugely rewarding experience, and often it is great fun.

Here's another idea. Get together with others for brain exercise sessions. You'll challenge each other to come up with exercises that will engage your mind. Brain clubs are popping up everywhere from Mensa to Senior Centers. Every group that comes together has its own flavor.

For more than a year now, a fellow teacher and I have experimented with a variety of class formats to develop classes that offer brain exercises that work with a group. We have evolved a basic format that our students enjoy and keeps them coming to class.

The classes have energized the students' interest in keeping their brains active and challenged. Does it make them “smarter”? They think so.

Here is an example of a class that fits our current format:

We sit in a circle so we can relate to one another.

- **We begin by introducing ourselves by naming something we ate last night for dinner, our pet's name, a color or such.**
- **We take 10-second turns answering a meaningful question like: “Would you trust someone who knowingly deceived you?”**
- **Then we ask a related question like “Would you forgive them?” (Discussion generally follows.)**

- Together we recite a tongue twister, rhyme or jump rope ditty five times, getting faster.
- We share last week's homework assignment which might have been to make up a 4-line “story” using an idiom in each line.
- We play a 5-minute soft ball-throwing game.
- Quickly, we name uses of scotch tape or paperclips or soap or something. We get lots of creative input.
- Memory test: We recall how each person introduced themselves at the beginning, and how each person responded to the initial questions.

You can come up with literally hundreds of exercises like these. Members bring in ideas all the time. Our class is a lot of fun.

I challenge *you* to keep your brain working at peak performance by taking good care of yourself in every way. There are many ways to be physically fit, and there are many ways to strengthen your brain and sharpen your mind. Practically all of them are enjoyable and rewarding.

With kind regards, I wish you the best,

Coach Caroline

Caroline Anaya
B.S., M.S.



Resources



DVDs

Click on DVD title to order

- [The Brain Fitness Program](#) - PBS HOME VIDEO
- [Brain Fitness Frontiers](#) - PBS HOME VIDEO



Books

Click on Book title to order

- [The Curious Upside of Growing Older](#): And The 7 Keys to Making the Most of It - Caroline Anaya, 2010, LuLu Publishing, ISBN 978-0-615-40509-4
- [Train Your MIND – Change Your BRAIN](#): How a New Science Reveals Our Extraordinary Potential To Transform Ourselves - Sharon Begley, 2007, Ballantine Books
- [SPARK](#): The Revolutionary New Science of Exercise and the Brain - John J. Ratey, 2008, Little Brown and Company
- [The Wisdom Paradox](#): How Your Mind Can Grow Stronger As Your Brain Grows Older - Elkhonon Goldberg, 2006, Gotham Books
- [Your Brain: A User's Guide](#): How the astounding machine inside your head makes you what you are - Jeffrey Kluger (Editor), 2010, TIME Books, Time Inc.
- [You Staying Young](#): The Owner's Manual for Extending Your Warranty - Michael F. Roizen and Mehmet C. Oz, 2007, Free Press
- [Your Brain: The Missing Manual](#): How to Get the Most from Your Mind - Matthew MacDonald, 2008, O'Reilly Media, Inc.



Newsletters

- Brain Fitness for All - www.sharpbrains.com
- Experience - www.seniorfitness.net



Caroline Anaya - B.S., M.S.

Caroline has two degrees in Nutrition: BS, 1954, University of Arizona and MS, 1960, University of Maryland. Most of her professional life was spent in the fields of nutrition and food technology.

Fitness became Caroline's passion fifteen years ago when she realized that her nutrition clients got far better results when they also exercised. She became a certified personal trainer with the International Professionals Fitness Association, then a group fitness instructor, certified by the American Senior Fitness Association. She is also a Cognitive Fitness Facilitator, has many specialty fitness certifications, and is a seasoned member of Yoga Alliance.



Caroline is a member of the National Association of Professional Women.

She teaches a variety of fitness classes in an active retirement community. She lives in Henderson, NV, with her grandson, whom she is raising.