

Introduction

Your Future Self

Most of us think about our brain in the present tense. We may experience its sluggishness when we don't sleep enough or its occasional difficulty remembering the name of a person we just met or the reason we walked into a room. Sometimes we think about our brain in retrospect, wistfully comparing it to what it was years ago. But most of us don't think about our future brain. It could be because we don't know that we are literally shaping our future brain with every behavior in which we engage (or don't engage) right now. We may not realize that optimizing our future brain is not only possible but the most powerful strategy we have to sharpen our memory, reduce the risk of Alzheimer's, and boost our well-being. Everything we cherish—from our life's work to our engagement with the people and activities we love—is yoked to the health of our future brain. Quite simply, that elegant supercomputer reading this right now is the CEO of all you are, and all you will be. And thankfully, that CEO reports to you.

Over the last several years, the science of brain health and the study of epigenetics (the way our behavior affects the expression of our genes) have converged around a basic hopeful message:



The lifestyle choices you make today can significantly improve the trajectory of your future brain health regardless of your genetics.

What this means is that wherever you fall on the genetic brain health spectrum—whether you do or don't have a genetic risk for

Alzheimer’s—you can improve your future brain health significantly.¹ By extension, you can improve your future relationships, work, passions, and overall well-being.

This does not mean that people who develop Alzheimer’s have failed to live a healthy life or are to blame for their illness. Lifestyle factors are only one piece of the Alzheimer’s puzzle. However, lifestyle changes are the only proven method we have to reduce the likelihood that Alzheimer’s will occur. They are also the only way to delay the start of Alzheimer’s symptoms. In fact, as you’ll learn in this book, some lifestyle factors have been shown to reduce the risk of Alzheimer’s by more than 80 percent,² delay the expression of Alzheimer’s symptoms by over 10 years,³ and reduce the amount of Alzheimer’s-related cellular changes in the brain.⁴

What Are “Lifestyle Factors”?

Lifestyle factors are modifiable habits that impact health and quality of life. They include diet, exercise, stress management, sleep, and substance use (e.g. alcohol and cigarettes).

The need for this message to reach a widespread audience has reached a fever pitch. A new case of Alzheimer’s develops worldwide every 3 seconds⁵ and in the United States every 65 seconds.⁶ Unfortunately, there is no cure for Alzheimer’s, no new medications have been approved since 2003, and several major pharmaceutical companies have exited the Alzheimer’s market. In addition, the recent failure of the most promising Alzheimer’s drug in years—aducanumab—devastated the Alzheimer’s community. In light of the fact that Alzheimer’s-related cellular changes can develop 30 years or more before symptoms begin,⁷ it has become

increasingly clear that we are unlikely to treat it successfully with medication that is administered decades after the disease has taken hold.

Simultaneously, new research has shown an increased risk of Alzheimer's for individuals with a family history of the disease among their parents, siblings, grandparents, cousins, aunts, uncles, and in some cases even more distant relatives,⁸ creating an increasing demand for proven information on how to reduce the risk of Alzheimer's and enhance brain health.

In addition to lowering the risk of Alzheimer's, lifestyle factors have been shown to significantly slow the normal age-related cognitive decline that most people experience, sometimes by more than 10 years.⁹ Lifestyle factors also help decrease the rate of other common age-related brain changes: problems with word finding and multitasking, memory decline starting in the early thirties,¹⁰ and shrinkage of several key brain regions in late adulthood.¹¹ This is promising news, especially for the 75 percent of adults who are worried that their brain health will decline in the future and want to do something about it.¹²

Unfortunately, several factors make it difficult to ensure that effective brain health strategies are put into widespread practice. The public often is misled by myths, misinformation, and pseudoscience that encourage people to spend time and money on strategies that are not maximally helpful.¹³ Some of those strategies include playing online brain games, taking memory supplements, following restrictive "brain health" diets, getting unnecessary brain scans, and engaging in tasks that are only minimally helpful on their own, such as crosswords. Tragically, ineffective strategies and misconceptions about brain health and Alzheimer's can lead to a false sense of security and years of lost time that otherwise could be spent truly improving brain health.

This book addresses the need for accurate, actionable information by incorporating the strongest science on brain health and Alzheimer's risk reduction into a five-step tracking system that can be completed in

just minutes a day. You also will find answers to the following questions as well as many others that often are misunderstood:

- Are my memory problems normal?
- What are the most effective strategies to reduce memory decline and the risk of Alzheimer's?
- Should I take brain health supplements?
- Do brain games work?
- Can I maximize my brain health if I have a family history of memory problems or Alzheimer's?
- How can I boost my memory in minutes?
- What should I eat to optimize brain health?
- What type and duration of exercise are best to reduce the risk of Alzheimer's?
- How can I stay inspired on the journey toward better brain health?

Since 2005, I've shared the science of brain health—and strategies to personalize the brain health journey—via hundreds of “Boost Your Brain” presentations and in neuropsychological evaluations of more than 5,000 clients. As the rate of Alzheimer's and unproven products geared toward preventing it increase exponentially, the need to share this information more broadly has never been more important—and has fueled my passion to write this book.

What Is a High-Octane Brain?

A High-Octane Brain is the optimal brain health trajectory that each of us can achieve: our *personal best* level of brain health. A High-Octane Brain is experienced by individuals with high levels of brain-healthy habits and is associated with the following outcomes:

- A significantly slowed rate of cognitive aging
- Reduced rates of age-related brain shrinkage
- A significantly reduced risk of Alzheimer's
- Delayed expression of Alzheimer's symptoms even if there already are related brain changes or a genetic risk
- Decreased Alzheimer's-related cellular abnormalities in the brain
- Enhanced memory functioning
- Enhanced well-being

THE HIGH-OCTANE BRAIN APPROACH

Anyone who has tried to change his or her exercise, diet, or other ingrained lifestyle habits knows that this is anything but easy. Healthy behaviors tend to be the first casualty of a busy schedule and often take a back seat to the stresses of daily life. Regrettably, the cost of not integrating brain-healthy habits is high not just for ourselves but for our loved ones, our communities, and those we serve. To answer the need for a practical system that we truly can integrate into our lives, this book fuses the best science in brain health (the *what*) with the best science in behavior change and motivational enhancement (the *how*). It strives to unite the head and the heart on a journey that requires both.

This focus on the *what* and the *how* is threaded through each of the exercises, the brain health tracking system, the stories of Meredith and

Lou (two amazing individuals you will follow throughout the book as they integrate brain-healthy habits), and the testimonials of the High-Octane Brain role models. The *what* and the *how* also are incorporated into interviews with brain health experts who graciously share how they integrate brain health habits into their own lives.



We are on the journey of brain health together, and we will never accomplish it perfectly. But we must keep moving forward because the rewards are too high to forfeit and the cost of not doing so is too great.

Are you ready to elevate your three-pound CEO to High-Octane Brain status? To experience enhanced memory, reduced risk of Alzheimer's, and well-being that comes with it?

Great! Let's begin.