SUMMARY

GENIUS FOODS

MAX LUGAVERE

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Summary of "Genius Foods" by Max Lugavere

Written by Lea Schullery

Learn about the diet that makes you smarter, happier, and more productive while protecting your brain for life.

Introduction

After moving away from home and living life on his own, Max Lugavere returned home in 2010 to find a few subtle changes in his mother. At only fifty-eight years old, Lugavere's mother Kathy was walking differently, complaining about "mental fogginess," and delaying her responses when it came to normal requests such as asking her to pass the salt at the dinner table. It wasn't until the summer of 2011 that Kathy revealed she was having memory problems and had sought the help of a neurologist. When asked what year they were living in, Kathy broke down crying because she couldn't answer the seemingly simple question. Lugavere attended countless doctor's appointments with his mother, wondering how a healthy fifty-eight-year-old woman could be experiencing symptoms that much older people experience.

Through years of research, Lugavere discovered an important link between diet and cognitive health. In an attempt to uncover the facts about food, Lugavere teaches readers how to cure brain fogginess, depression, and anxiety while also decreasing your risk for diseases like Alzheimer's, Parkinson's, and ALS through simple diet and exercise. Through *Genius Foods,* you'll understand your brain in a new way, and learn where to find the nutrients that can help you to remember things and improve your memory.

The Importance of Diet for Brain Health

When you think of the human brain, you might be among those who believe that the brain eventually stops developing. The good news, however, is that our brain is the most powerful organ in the body and even improves over time. Did you know that your brain is capable of storing nearly *eight thousand iPhones' worth* of information? In fact, when scientists tried to simulate just one second of the human brain's abilities, it took supercomputers forty minutes to do so. Unfortunately, our lifestyles of today are hindering our brains from functioning to their fullest potential.

Author, Max Lugavere, sought to research brain health once his mother was diagnosed with Alzheimers and Parkinson's disease at just fifty-eight years old. With countless doctor's visits, Lugavere wasn't getting the answers he needed, so he consumed himself with researching how environmental factors affected brain health. Throughout his research, he discovered how important diet and lifestyle are to brain function.

For example, Deakin University's Food and Mood Centre revealed in 2017 how even *major depression* might be treated with food. Participants cut sugar, fried food, and processed meats from their diet while adding vegetables, olive oil, nuts, fish, whole grains, legumes, and lean red meat. The results showed that their depressive thoughts reduced dramatically. As you can see, our diet and lifestyle play a major role in our cognitive abilities. So what hinders those abilities?

According to Lugavere, the most common factors that compromise our cognitive abilities are:

- Inflammation: With our immune systems under constant stress from our diet and lifestyle, we begin to experience widespread inflammation that places us at risk for damaging our DNA, becoming insulin resistant, and experiencing weight gain.

- Overfeeding: Today, food comes as easily as swiping on our smartphones. With an unparalleled amount of food available in today's society, we now experience low brain energy, accelerated aging, and decay.
- Nutrient Deficiency: Despite an increase in the availability of food, we are failing to eat the right foods. In fact, 90 percent of Americans now fall short in obtaining adequate amounts of at least or vitamin or mineral which leads to accelerated aging and a decline in cognitive function.
- Toxic Exposure: With toxic additives like syrups, industrial oils, and emulsifiers, we begin seeing an increase in anxiety, depression, suboptimal cognitive performance, and long-term risk for disease.
- Chronic Stress: In a fast-paced world, our bodies are unable to handle the increase in stress and anxiety that many of us suffer from today. This chronic stress is toxic to our brain function and also causes us to seek out unhealthy foods.
- Physical Stagnation: Life is largely sedentary nowadays compared to the lives of our ancestors. Exercise, however, boosts our long-term brain health and enables us to fend off diseases we once thought were unpreventable.
- Sleep Deprivation: Good-quality sleep is one of the major keys to optimal brain function and health. When we are well-rested, we gain the ability to make dietary and lifestyle changes and ensure that our hormones are working properly. Sleep purifies our brain and backs up our memories, and while many of us know the importance of quality sleep, we still struggle to sleep properly.

At the end of the day, these villains wreak havoc on our brains. Luckily, Lugavere has laid out the genius foods that will reset your brain and make you feel and perform your best.

Oils and Fats

When it comes to oils, which ones should we be consuming for optimal brain health? Well, extra-virgin olive oil (EVOO) is known to possess a compound called *oleocanthal,* a compound that has anti-inflammatory effects so powerful that it is comparable to taking a small dose of ibuprofen. Inflammation affects our brain's ability to change throughout our lives and can even cause depression.

Extra-virgin olive oil is a staple in the Mediterranean diet, and many people who consume these kinds of diets experience a lower incidence of Alzheimer's disease, partly because of the oleocanthal compound. While extra-virgin olive oil has anti-inflammatory benefits, there are certainly many other foods that have similar properties. However, since the "demonization" of fat that began in the 1950s, Americans have become misinformed about which fats are good for consumption and which fats are harmful.

You see, back in the 1950s, Ancel Keys convinced both the U.S. government and the public that consuming fat was the reason behind the heart disease epidemic. However, the information released to the public was largely misguided and biased. The average household was cooking with canola oil and corn oil because they were cholesterol-free and had no saturated fat. Additionally, people were using margarine as a healthier alternative to "artery-clogging" butter.

So what should we be consuming? Lugavere clarifies that "good fats" include omega-3s like DHA and EPA. These fats are anti-inflammatory and support brain function. Foods high in omega-3s include wild fish, pastured eggs, and grass-fed or pasture-raised meats. An Ohio State University study found that simply taking a daily fish oil supplement that had 2,085 milligrams of anti-inflammatory EPA per day resulted in students achieving a 14 percent reduction in inflammation. Additionally, students experienced a 20 percent reduction in anxiety.

Another trial by Berlin's Charité Hospital gave participants daily omega-3 supplements containing 1320 milligrams of EPA and 880 milligrams of DHA. After twenty-six weeks, the researchers found participants displayed a 26 percent increase in executive functioning. Of course, fish oil supplements aren't a cure-all for mental health. While also increasing your omega-3 fat consumption, you would also benefit from consuming more monounsaturated fats. Some common sources of these fats include avocados, avocado oil, macadamia nuts, wild salmon, beef, and extra-virgin olive oil.

You should, however, avoid eating foods high in trans fat which aren't just bad, but *"Darth Vader-meets-Lord Voldemort"* bad. You can look out for foods with trans fat by looking for hydrogenated or partially hydrogenated oils listed on food packages. These oils are found in packaged foods like cakes, margarine, nut butters (where they prevent oil separation), and even some vegan "cheese" spreads. So why is trans fat so bad? Well, in terms of the brain, trans fat can integrate into your neural membranes and stiffen them, think of a corpse with rigor mortis. Trans fat has also been linked to brain shrinkage and increases the risk of Alzheimer's disease.

Aging Toxins

In today's society, we have an abundance of food compared to our hunter-gatherer ancestors. However, we have also introduced foods that create more problems. One of those problems is the number of carbohydrates and refined sugar which is now added to everything including juices, crackers, condiments, and soft drinks. No matter how much we try to avoid these sources of carbohydrates, food manufacturers are masters at disguising them in our foods.

In fact, Robert Lustig has identified fifty-six unique terms used in place of added sugar, including cane juice, fructose, malt, dextrose, honey, maple syrup, molasses, sucrose, coconut sugar, brown rice syrup, fruit juice, lactose, agave syrup, glucose solids, barley malt, maltodextrin, and corn syrup. So what's the harm in these sugars? Sugar is sticky like maple syrup, the difference is that sugar also sticks to your insides and can't simply be washed off. This process is called glycation.

Once sugar sticks to your insides, it begins to damage the surface of proteins and cells that are necessary for your organs and tissues to function properly. The most damaging aspect of glycation is that it leads to the formation of *advanced glycation end-products* or AGEs. AGEs are known as *gerontotoxins,* otherwise known as aging toxins and are associated with inflammation and oxidative stress. In fact, a brain affected by Alzheimer's disease contains three times the amount of AGEs as in a normal brain.

Aging toxins are especially present in foods that are grilled or seared. Browning of meats promotes the formation of AGEs and processed meats like sausages and hot dogs, for example, contain even higher amounts in natural forms. Therefore, the safest cooking style involves moist heat, like steaming or sautéing. Maybe you're thinking that skipping meat altogether is sounding like a good idea, well, you can't simply judge the health quality of food strictly by its AGE content. For example, wild salmon has a considerable amount of AGEs, yet has been associated with healthy

cognitive and cardiovascular aging. So don't skip the meat, you can simply opt for a generous portion of dark leafy greens on the side of your roasted chicken to minimize the impact of aging toxins.

When it comes to eating healthy, it seems that fruit doesn't necessarily do our brains any favors. In fact, a study done by the Mayo Clinic found that excessive consumption of high-sugar fruit like figs, dates, mango, banana, and pineapple may cause as much metabolic and cognitive imbalance as processed carbs. That doesn't mean that all fruits are bad, however. Lugavere says that low-sugar fruits like coconut, avocado, olives, and cacao are all good for brain health. While cacao isn't necessarily a fruit, it certainly has many similar brain benefits as other Genius Foods.

The best fruit to consume, Lugavere says, is blueberries. Blueberries are high in antioxidants and have an abundance of compounds called *flavonoids*. The flavanoid most abundant in blueberries is *anthocyanins* which aid in the memory function of humans. Dr. Krikorian's research revealed that twelve weeks of blueberry supplementation improved memory function and mood and reduced fasting blood sugar in older adults at risk for dementia.

The Truth About Carbs

You've probably heard the terms "good carbs" and "bad carbs," right? We associate bad carbs with foods like confectionery bakery products like cookies and cakes. However, how often do we choose wheat bread over white bread because we believe wheat to be a "healthier" grain? We might find ourselves even choosing to cook brown rice over white rice. Author, Lugavere, found himself falling into this trap and believing that whole grains like wheat, quinoa, and brown rice were healthy; however, he still noticed that his energy levels and food cravings were similar to that of a roller coaster throughout the day.

When observing a largely "grain-based" Mediterranean diet, Ancel Keys saw how the people built their diets around plant foods, seafood, vegetables, legumes, fish, olive oil, grains, and nuts. He, however, failed to take into account the lack of meat consumed during the days he visited back in WWII, so when he revealed his findings, they were largely biased. Still, the "healthy-grain" myth began and people began consuming more whole grains believing they were turning to a healthier option.

So what's the problem? While grains are considered healthy for their small amounts of vitamins and fiber, they are actually causing a spike in blood sugar as effectively as table sugar. This happens because the starch they contain is simply glucose molecules bound together that then come apart as you chew them. Therefore, the pancreas begins to release insulin into the bloodstream to convert those sugar molecules into energy; however, over a period of time, this can result in resistance to insulin. That resistance to insulin results in a myriad of problems with brain health including diseases like Alzheimer's. This can be illustrated by the effects of insulin on the mysterious sticky protein we produce in our brains called *amyloid-beta*.

When the brains of Alzheimer's patients were examined upon autopsy, scientists found their brains to be filled with plaques formed by the amyloid protein. Additionally, sugar binds to the amyloid-beta which only makes

the protein become even stickier which makes it less likely to be washed away during the glymphatic system's cleaning of your brain as you sleep. The combination of the sticky protein on the brain and the increase of insulin resistance leads to two major diseases: Alzheimer's and diabetes.

Therefore, Lugavere advises consuming a diet that is low in carbohydrates and high in micronutrients and fiber. Foods like avocado, asparagus, bell peppers, broccoli, brussels sprouts, cabbage, celery, cucumbers, kale, tomatoes, and zucchini are better alternative sources of energy. The genius food to consume is dark chocolate. Rich in both magnesium and flavanols, dark chocolate promotes insulin sensitivity, vascular function, athletic performance, and more importantly, blood flow to the brain which reverses the signs of cognitive aging. Lugavere recommends looking for chocolate with a cacao content of 80 percent or above and eating one bar of dark chocolate a week.

The Benefits of Cholesterol

One of the most important aspects of brain health is understanding vascular health. You see, the health of our veins and arteries affects more than just our hearts! The brain is fed nutrients, energy, and oxygen through a grid of an estimated four hundred miles of microvasculature. If any part of this network performs poorly, the brain experiences a reduction in blood flow which results in cognitive impairment. Therefore, we become at risk for Alzheimer's disease and vascular dementia. Luckily, we have a much deeper understanding of the vascular system today.

So how can we ensure that we are eating the right foods to promote vascular health? Well, you've likely heard to avoid foods that are high in cholesterol and saturated fats, right? It turns out, that's all a myth. In 2010, Dr. Ronald Krauss, a top nutrition expert in the United States, concluded that "there is no significant evidence for concluding that dietary saturated fat is associated with an increased risk of CHD (coronary heart disease) or CVD (cardiovascular disease)."

In fact, cholesterol is a vital nutrient for the brain where 25 percent of the body's total cholesterol content can be found. Dr. Yeon-Kyun Shin recently published findings of the harm of using cholesterol-reducing medicines, stating "If you deprive the brain of cholesterol, then you directly affect the machinery that triggers the release of neurotransmitters. Neurotransmitters affect data-processing and memory functions. In other words -- how smart you are and how well you remember things." Additionally, a recent study of twenty thousand people found evidence that using cholesterol-lowering medications called *statins* increased the risk of Parkinson's disease.

In the Framingham Heart Study, two thousand male and female participants were subjected to rigorous cognitive testing. Researchers found that those with higher levels of cholesterol scored better on cognitive tests that involved abstract reasoning, attention and concentration, verbal skills,

and executive abilities. On the other hand, those with lower cholesterol performed more poorly than their cholesterol-ridden counterparts.

One of the most popular foods that many people have feared due to its high cholesterol content is eggs. However, eggs are actually important for cognitive function. One study showed that those suffering from metabolic syndrome found positive results when reducing carbohydrates in their diet and incorporating three whole eggs per day. Patients saw a decrease in insulin resistance and an increase in low-density lipoproteins (LDL), which transport cholesterol through the bloodstream. The study proved that an egg yolk is “perfectly designed” to contain everything needed to grow a healthy, optimally performing brain. In other words, eggs are one of the most nutritious foods you can consume.

How Fasting Helps our Brains

Today we are experiencing an energy crisis. That crisis, however, refers to a lack of energy in our brains. How often do you experience mental fatigue, insatiable hunger, brain fog, and forgetfulness? You see, our brains require a tremendous amount of fuel in order to function properly. That's because we are using them constantly, whether we are studying for a test, preparing a speech, or just swiping through a dating app, your brain burns through fuel at the same rate as the leg muscles during a marathon!

So how can you fuel your brain properly? Ketones are one of the most efficient forms of fuel for your brain, and to put your body into ketosis, you should cycle between feasting and fasting. The idea of feasting and fasting is far from new, in fact, almost every major religion has its version of fasting protocol. In the Book of Acts, from the Christian New Testament, it is said that believers would fast before making important decisions. Essentially, these ancient traditions understood the psychological effects of fasting long before the benefits were proven by science.

Today, however, humans spend the majority of their time feeding instead of fasting. Typically, we eat from the moment we wake up to the moment we go to sleep which is far different from human history. Throughout history, our preagricultural ancestors experienced regular fasting periods considering they faced an unpredictable food supply. If we were to mimic this pattern today, we could force the production of ketones. There are many protocols for this process, but a popular protocol is the "16:8" method of fasting which entails sixteen hours of fasting and eight hours of allowed eating.

By using the 16:8 method every day, you can reduce insulin and promote the breakdown of stored fats. Women, however, should start with twelve to fourteen hours of fasting instead of sixteen as extended fasts may negatively affect fertility. An easy way to begin intermittent fasting is by skipping breakfast. While cereal companies have been promoting the importance of

breakfast, it's actually a nonessential meal. When you skip breakfast, you make use of the hormone, cortisol, which helps mobilize fatty acids and glucose.

In a study conducted by Louisiana State University, overweight participants were instructed to consume all their calories between 8 a.m. and 8 p.m., the average feeding time for most people. However, researchers then told the subjects to skip dinner and stop eating at 2 p.m. Eventually, participants were burning fat more efficiently and they experienced improved metabolic flexibility, the body's ability to switch between burning carbs and fats.

In other words, adopting a ketogenic diet is good for the brain. For over eighty years, the ketogenic diet has been used as a powerful treatment for epilepsy. It has been shown to dramatically reduce seizure incidence and calm inflammation in the brain. It's been so effective, that it is currently being evaluated as an option for other neurological diseases associated with brain inflammation including migraines, depression, Alzheimer's, Parkinson's, and ALS.

While adopting a ketogenic diet is good for the brain, it's also important to eat ketone-generating food. Lugavere recommends eating foods that contain a natural source of fat called *medium-chain triglyceride,* or MCT. MCTs are found in coconut oil, palm oil, and goat's milk. Additionally, consuming grass-fed beef is critical for cognitive function. Grass-fed beef is rich in minerals like iron and zinc and is a great source of omega-3 fats, vitamin B12, and Vitamin E. Researchers believe that deficiencies in these nutrients are linked with brain-related disorders including low IQ, autism, depression, and dementia.

When it comes to consuming meat, researcher Charlotte Neumann designed a trial to see the effect of meat consumption on the developing brain. After dividing children into four groups, she found that those who consumed meat gained more muscle mass and had fewer health problems than the children who consumed porridge plain or with milk. Kids who ate meat also showed greater confidence in the playground, which is a sign of

improved mental health. Lastly, the meat group showed the steepest rate of improvement in math and language subjects.

Fiber and Gut Health

We often think of bacteria as something we need to clean or even kill. We buy antibacterial soaps and sanitizers in hopes of ridding our house of these invisible particles that are only out to harm us and make us sick. The truth is that we have been sold a lie about bacteria, and without them, we wouldn't be here.

In fact, there are countless microbes on our skin, around our ears, in our hair, in our mouths, and even in our guts. Known as the gut microbiome, your gut is home to microbial cells that are essential to keeping your immune system healthy, extracting energy, and synthesizing important chemicals like vitamins. Unfortunately, our modern diets have negatively impacted the host-microbe relationship because we fail to consume the one thing the gut needs: fiber. Specifically, *prebiotic fiber*. For hundreds and thousands of years, humans ate diets rich in fiber - roughly 150 grams of fiber per day. Today we only consume just 15 grams per day on average. Luckily, there are plenty of foods full of prebiotic fiber including berries, leeks, kale, avocado, spinach, arugula, garlic, onions, coffee, unripe bananas, raw nuts, fennel, okra, bell peppers, broccoli, radishes, dark chocolate, and sprouts.

So how can these foods help your brain? Prebiotic fibers metabolize and then transform into chemicals called *short-chain fatty acids*, or SCFAs like *butyrate,* acetate, and propionate, all of which have many health-promoting effects. Butyrate, for instance, is a particularly desirable fatty acid because it has been shown to promote neuroplasticity and neurodegenerative processes. But most importantly, butyrate has been known to reduce inflammation which means you can think more clearly, focus, and remember things better.

One study followed 1,600 adults for an entire decade and showed that those who ate more fiber were 80 percent more likely to be free of hypertension, diabetes, dementia, depression, and disability than their low-fiber

consuming counterparts. Fiber consumption determined healthy aging more than any other variable studied, including sugar intake.

Of course, the gut does more than just help your brain, it helps your immune system as well. You see, if the gut isn't healthy, it'll begin to attack itself which is known as autoimmunity. There are many people who suffer from autoimmune disorders including celiac disease, MS, type 1 diabetes, and Hashimoto's disease. Even worse, these diseases are seemingly on the rise. But why? Well, Lugavere suggests that the modern diet leads to permeable guts that expose our guts to potentially dangerous bacteria.

For instance, gluten (the protein found in wheat, rye, barley, and many packaged foods) is not completely digested by humans. When we digest gluten, the protein breaks down into large fragments called *peptides*. These fragments have been found to lead to a permeable gut and eventually evoke an autoimmune response. When our guts are permeable, we become susceptible to bacteria that cross over into circulation and wreak havoc on our systems, including our brain.

This inflammation then leads to sickness behaviors like lethargy, depression, and anxiety. Your brain's best friend, however, is vegetables. But more importantly, nonstarchy veggies like spinach, romaine lettuce, and cruciferous veggies like cabbage, kale, mustard greens, arugula, and bok choy. These dark leafy greens are low in sugar and filled with vitamins and minerals that the brain desperately needs to function properly. In fact, the best way to produce fatty acids like butyrate is to increase vegetable consumption like dark leafy greens. So try eating one huge "fatty salad" a day filled with kale, arugula, romaine lettuce, or spinach, and doused with extra-virgin olive oil. Avoid nutrient-poor varieties like iceberg lettuce, which is essentially just water and fiber.

How Diet Affects Neurotransmitters

Neurotransmitters are found in many prescriptions today, including antidepressants, ADHD medications, and drugs that reduce anxiety. All of them aim to alter your levels of neurotransmitters to make you feel good. As humans, we tend to alter them ourselves by consuming things like coffee, alcohol, cocaine, and MDMA. We even expose ourselves to sunlight to make us feel a certain way, right?

In many cases, we take prescription pills to put our neurotransmitters back on track to make us happy if we are unable to do so ourselves. However, new research suggests that many common brain problems are not caused by deficits of neurotransmitters, but rather by neurotransmitters that are unable to work the way they should because of underlying dysfunctions. Similarly, dementia is not caused by low *acetylcholine*, the neurotransmitter involved in memory; but rather, acetylcholine is low because the neurons that produce it are slowly dying. In other words, medications are simply acting as Band-Aids rather than solving the underlying problem that is causing the disease or disorder.

Acetylcholine (ah-see-till-ko-leen) is a neurotransmitter best known for its role in REM sleep, learning, and memory. Low levels of this neurotransmitter are associated with Alzheimer's disease, where acetylcholine-producing neurons become damaged. To ensure optimal acetylcholine function is to avoid a broad class of "anticholinergic" drugs. These drugs are used and available over the counter to treat everything from allergies to insomnia.

Research published in JAMA Neurology shows that regular users of anticholinergic drugs had lower brain glucose metabolism and poorer cognitive abilities. These drugs included nighttime cold medication, over-the-counter sleep aids, and muscle relaxants. So do chronic users of these drugs have an increased risk of developing dementia? The simple answer is yes. A study by the University of Washington found that people who used

these drugs were more likely to develop dementia than those who didn't use them.

Some common anticholinergic drugs that have a strong impact on the brain include Dimenhydrinate, Diphenhydramine, Doxylamine, Paroxetine, Quetiapine, and Oxybutynin. These drugs are used to treat motion sickness, depression, overactive bladder, and sleep issues.

So how can your diet help? Well, many foods are rich in choline, including seafood and poultry, but eggs may be the best source with one large egg containing about 125 milligrams of choline in its yolk. Other top foods include beef liver, shrimp, scallops, beef, chicken, fish, Brussels sprouts, broccoli, and spinach.

Once you've focused on acetylcholine, you should focus on serotonin. You know, the neurotransmitter that influences how you *feel*. Taking supplements like vitamin D and omega-3s can be a simple solution to increase your serotonin. But how does low serotonin affect your brain? It's been proven that low serotonin levels are linked to behavioral changes including increased aggression, impaired learning and memory, poorer impulse control, and impaired long-term planning. All of which are traits that reinforce feelings of depression.

Depression is commonly linked to a poor diet, and if we improve our diets, we improve our mental health! A 2017 study by Deakin University revealed that a Mediterranean diet focusing on fresh vegetables, fruits, raw unsalted nuts, eggs, olive oil, fish, and grass-fed beef improved the mental health of patients suffering from depression. In other words, we can eat our way to a better mood.

Final Summary

The Genius Plan focuses on eating nutrient-dense foods for an optimally performing brain. This includes eating foods like eggs, avocados, dark leafy greens, and nuts while avoiding foods that increase inflammation like processed oils and grain products. Once you begin to implement the Genius Plan, you'll begin to experience a myriad of positive effects such as weight loss, an increase in energy and stamina, and a happier disposition. But more importantly, you'll begin to minimize your risk for prediabetes or even reverse insulin resistance. You'll also lessen the number of aging toxins within your body and reduce inflammation that is common in many neurodegenerative disorders, including Alzheimer's, Parkinson's, and ALS.

Begin by throwing out refined and processed carbohydrates, including products made with corn (and corn syrup), potato flour, and rice flour. These include chips, crackers, salad dressings, soft drinks, and frozen packaged foods. You'll also want to eliminate foods with wheat and gluten, processed meats and cheeses, concentrated sweeteners like honey and sugar, and commercial cooking oils. Add in genius foods like omega-3 rich oils, grass-fed beef, vegetables, low-sugar fruits, dark chocolate, and 50-70 grams of carbohydrates a day from either ripe bananas, sweet potatoes, or white and brown rice. Keep your body moving daily while consuming a low-carb diet, and you'll begin to not only feel better but you'll begin to think better as well.