

AGE, DEPRESSION & HEALING THE HUMAN BRAIN

by

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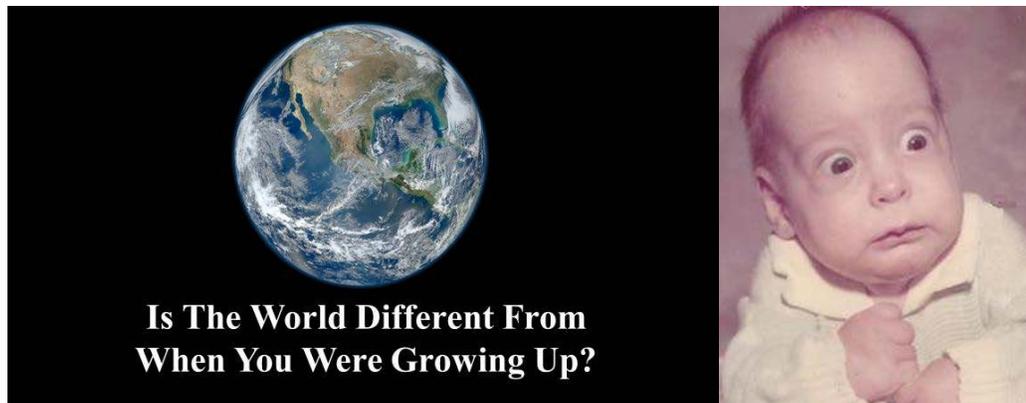
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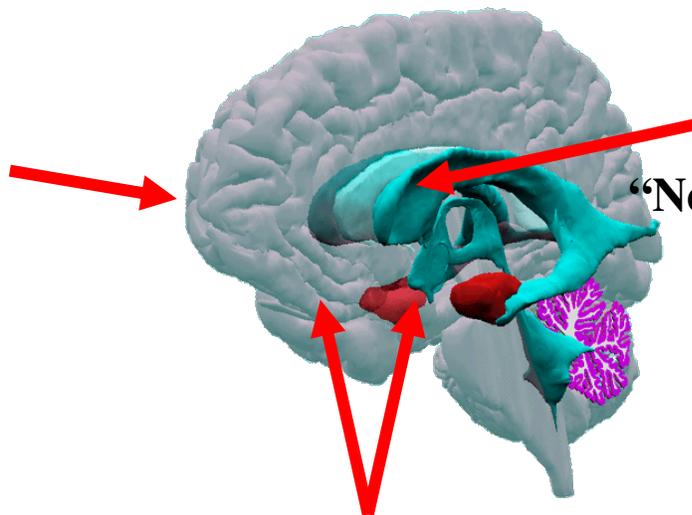
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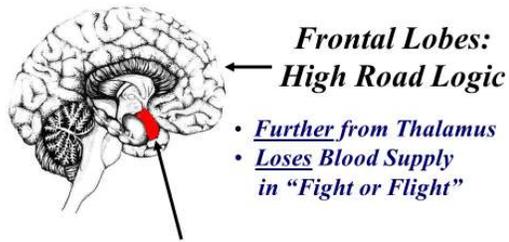
Different parts of our brain do different things, as shown in the following diagram:

Frontal Lobes:
Logical Center,
&
Emotional
Thermostat



Thalamus:
The Brain's
“Neural Junction Box”

Amygdalae: Emotions

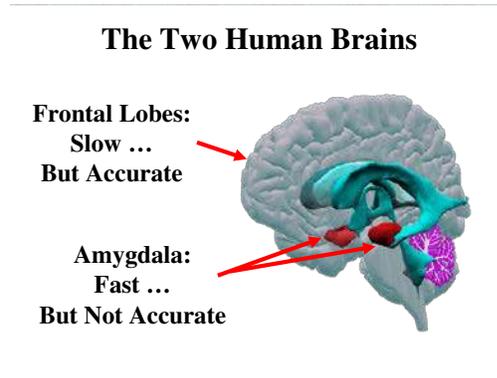


**Frontal Lobes:
High Road Logic**

- Further from Thalamus
- Loses Blood Supply in "Fight or Flight"

The Amygdala: Low Road Emotions

- Closer To Thalamus
- Retains Blood Supply in "Fight or Flight"



The Two Human Brains

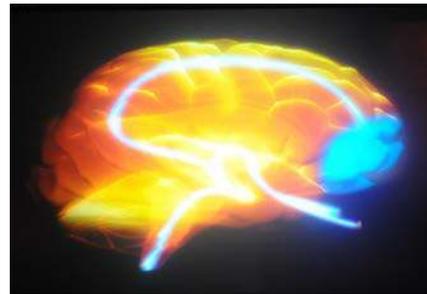
Frontal Lobes:
Slow ...
But Accurate

Amygdala:
Fast ...
But Not Accurate

COMPUTER IMAGE OF THE SPEED OF EMOTIONS



Computer Image #1

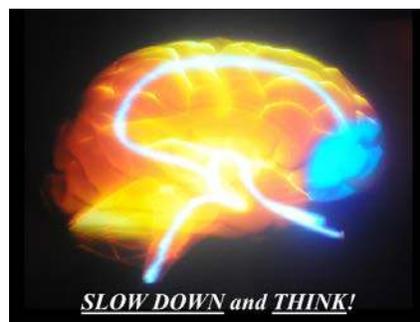


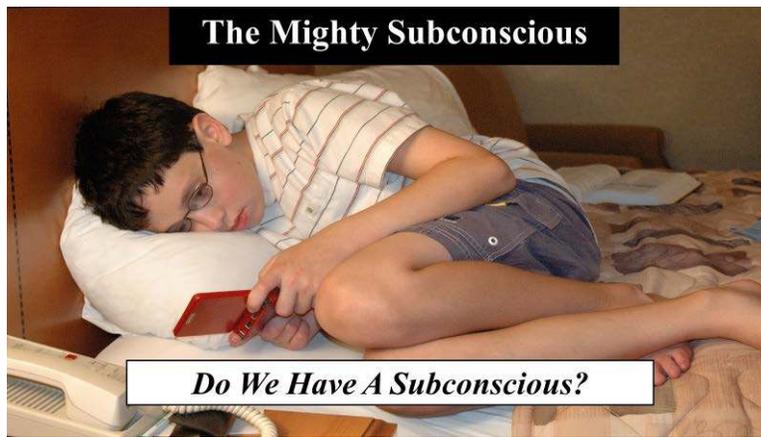
Computer Image #2

In Computer Image #1, the stimulus enters the brain and goes to the thalamus, where it then takes the "Low Road" directly into the amygdalae, or the emotional center of the brain. As you can see, the "Low Road" to the emotional system takes the stimulus only 1/33,000ths of a second ... which is "lightening" fast.

However, in Computer Image #2, the stimulus enters the brain and takes the "High Road," where it is finally delivered to the frontal lobes of the brain, or our "Executive Center."

As you can see, the stimulus taking the "High Road" to the logical brain takes at least twice as long to reach the frontal lobes as it does to reach the emotional center of the brain. This is a primary reason why our emotions are so much faster than our logic.





The Mighty Subconscious



Bruce Lipton Ph.D.

CONSCIOUS MIND
5% - 10%

SUBCONSCIOUS MIND
90% - 99%





How We View The World

Priming IN ...
(Implicit Bias)

Projection OUT ...
(Confirmation Bias)



THE AMAZING HUMAN BRAIN

- ❖ Your brain is involved in **EVERYTHING** you do. So, when your brain works right...**YOU** work right. However, when your brain **DOES NOT** physically work right...**YOU DO NOT WORK RIGHT.**
- ❖ Your brain **IS** your personality. It determines **HOW** you think, feel, act and interact with others. It also determines **WHO** you are as a parent, friend, child and a human being. It is your character and your intellect. 1
- ❖ Your brain only comprises about 2% of your body's weight, but it uses **25%** of the calories you burn, it uses 25% of your total blood flow and it uses 25% of all the oxygen you breathe. In short, your brain is the true work horse of your body. It is the hardest working organ you possess. As a result, when you do not get enough water, nutrients or when we have reduced blood flow in our bodies for any reason, the brain is the **FIRST** organ to be harmed.
- ❖ The brain is fragile. It has the consistency of "soft butter."
- ❖ The brain is the most complex organ in the entire universe. It is made up of over 100 billion nerve cells...and each cell is surrounded by trillions of supportive "glial" nerve cells...and each of these nerve cells is surrounded by over 20,000 individual connections...
- ❖ This means there are over 1,000,000,000,000,000 (one trillion) nerve connections in the brain.

We all need to understand how our brain works so we can give it what it needs for it to function properly. Your brain is your "central control and command center," so it is the organ that handles your stress. If you do not take care of it, it will not function properly, so your distress will become more and more difficult to control. 2

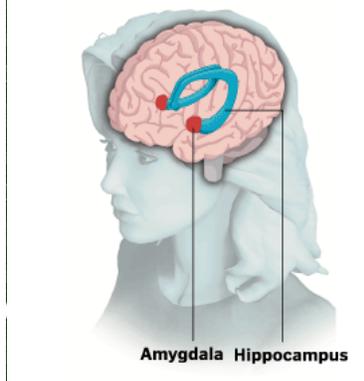
You shouldn't look at this discussion as indicating that anything is wrong with you individually. Quite to the contrary. If you are human, this discussion applies to you. It applies to all of us.

1 "Change Your Brain, Change Your Body: Use Your Brain to Get and Keep the Body You Have Always Wanted," Dr. Daniel Amen, published by Harmony Press, 2010, p. 3.

2 "Change Your Brain, Change Your Body: Use Your Brain to Get and Keep the Body You Have Always Wanted," Dr. Daniel Amen, published by Harmony Press, 2010, p. 3.

How Can You Damage Your Brain?

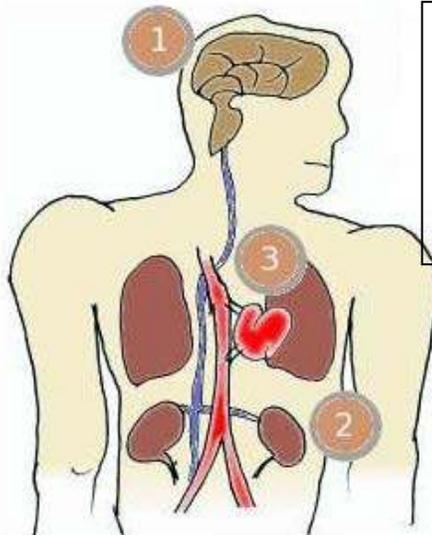
**Why Do I Forget Things
When I Am Stressed?**



FIGHT or FLIGHT What happens in your body?

1.

We hear, see, taste, smell or feel a “danger” or stimulus. The brain instantly sends an alarm down our “Vagus Nerve” which goes directly to our adrenal glands, located right above our kidneys. We then get that “tightening knot” in our “gut.”



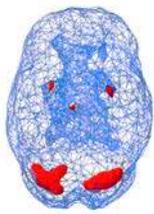
3.

The blood in the body is re-routed to the lungs, arms and legs, leaving the frontal lobes deprived of blood and the face “flushed.”

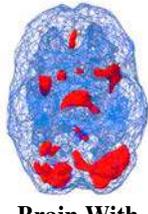
2.

The adrenal glands release epinephrine (adrenaline) into our body. This release of adrenaline will then speed up our heart rate. When our heart rate hits approximately 145 beats per minute, we go into full fight or flight.

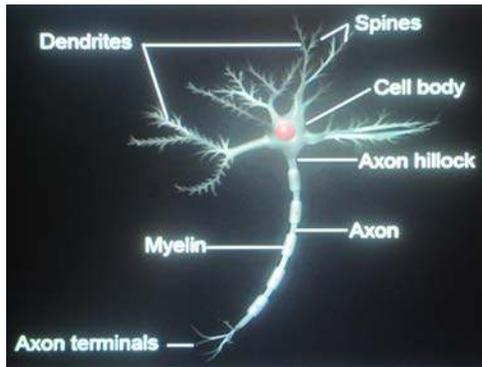
Damaged Goods



“Normal”
Healthy Brain



Brain With
Depression, OCD,
& Panic Attacks =
PTSD



SOCIAL EPIGENETICS



“Social Epigenetics” is the study of how the neurons in our brains change in response to the outside world. In other words, the cells in our brains physically change in response to our everyday experiences.

Modern science has discovered that one of these factors that cause our brain cells to alter themselves involves the “methyl” molecule. The methyl molecule not only determines whether certain genes will be turned “on or off,” but it also determines how far their activity levels will be “turned down” or “turned up.”³ It is the methyl molecule that determines where more than 100 billion neurons in the brain will end up, as well as which neurons will connect to one another. In other words, the methyl molecule directly sculpts not only our bodies, but also our brains.

Therefore, thanks to Social Epigenetics, the century-old debate of “nature versus nurture” has been settled:

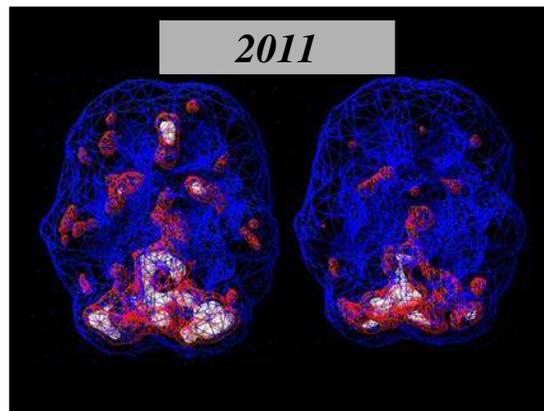
Nurture IS Nature

Both our genes *and* our experiences determine who we will become ... which includes how our brain will form throughout our entire lives. We now know that our genes and our environment are *not* independent of each other. Instead, they are interdependent.⁴

³ “Social Intelligence: The Revolutionary New Science of Human Relationships” by Daniel Goleman, page 150, footnote

⁴: The methyl molecule consists of just four atoms – a carbon and three hydrogen; precisely how they attach to one gene determines what happens. In one formation, the methyl group inactivates the gene, coiling its DNA tighter so the gene cannot be expressed. In another configuration, the methyl group relaxes the DNA coils, enabling the gene to manufacture its particular RNA (and so its protein).

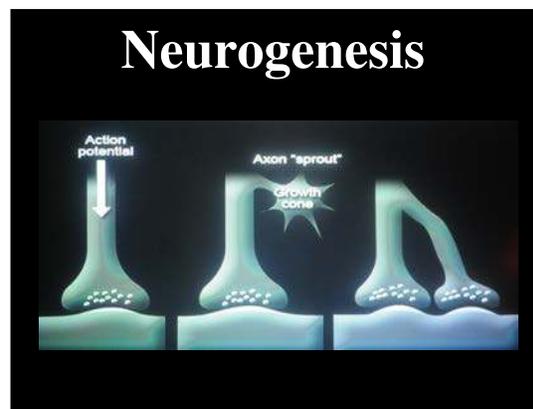
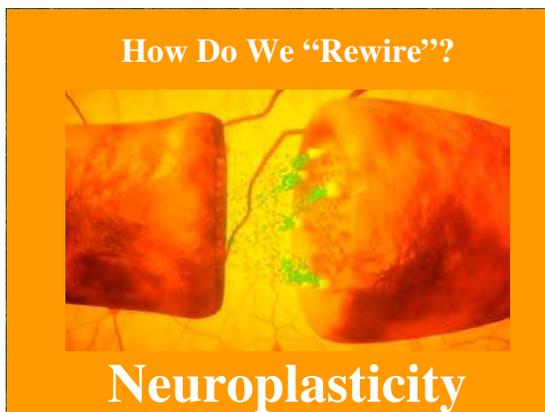
⁴ “Social Intelligence: The Revolutionary New Science of Human Relationships” by Daniel Goleman, page 150, footnote
⁵: On genes and environment, see Robert Plomin and John Crabbe, “DNA,” *Psychological Bulletin* 126 (2000), pp. 806-28.

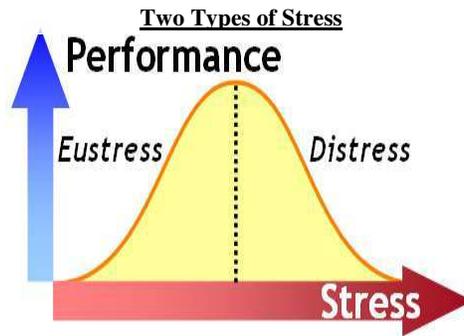


In order to repair my brain, I designed my own program. This program consisted of:

- Getting as many jackasses out of my life as possible,
- My own diet program,
- An aerobic exercise program what was designed to develop my circulatory and respiratory systems,
- A strength training program that I intended to use to put on more lean muscle,
- A regiment of vitamin and mineral supplements,
- A meditation routine,
- Monthly massages,
- Drinking half of my weight in ounces every day,
- Spending more time on my hobbies, such as photography and
- Getting enough sleep.

How Does The Brain REWIRE Itself?





Eustress Chemicals

Oxytocin
Dopamine
Serotonin
Endorphins
Telomerase

Distress Chemicals

Flooding of ...
Adrenaline
&
Cortisol

Eustress Chemicals

Oxytocin

Oxytocin is known as the “Bonding Hormone” because it reduces anxiety and helps us build relationships with others.

Whenever we engage in positive interactions with others, such as when we help a loved one or when we engage in activities with supportive people, our brains will often give us a nice “shot” of oxytocin. As a result of this activity, our brains will produce oxytocin, which generates a sense of satisfying relaxation in us. 5

Oxytocin causes our brains and our bodies to experience many different and healthy changes. As the oxytocin flows throughout our brains, we grow more and more relaxed. As a result, our blood pressure drops. Oxytocin also acts as a stress hormone “down-regulator,” so our cortisol levels drop. In this relaxed state, our metabolism is able to revert into a more “restorative” mode where our energy can then be used for storing nutrients, growth, and healing our bodies. Our wounds will then heal faster. Our threshold for experiencing pain also rises, so we are less sensitive to discomforts. 6

5 “Social Intelligence: The Revolutionary New Science of Human Relationships” by Daniel Goleman, page 164.

6 “Social Intelligence: The Revolutionary New Science of Human Relationships” by Daniel Goleman.

Dopamine

The discovery of dopamine in the 1990s has been one of the most interesting revelations in the world of neuroscience. Lately, dopamine has received a great deal of press, so it is now one of the best known neurotransmitters. 7

The brain uses dopamine in a variety of ways. Since dopamine is most heavily concentrated in the pleasure systems of the brain, it plays a crucial role in our level of motivation and our ability to experience pleasure. When our brains continue to release dopamine, we experience prolonged feelings of enjoyment. Consequently, dopamine reinforces all of those activities we engage in that make us feel good, such as when we eat food we like, have sex and so on. 8

That is why dopamine is commonly referred to as the “motivation drug.”

Serotonin

“Serotonin” is a naturally produced neurotransmitter generated at the center of the human brain. Serotonin is an important neurotransmitter that is thought to induce pleasure in humans. Consequently, low levels of serotonin are thought to result in depression, anger, sleep disorders, worrying, moodiness, emotional rigidity, irritability, sexual disorders and even vomiting. The average adult human maintains only about 5 to 10 milligrams of serotonin ... 90% of which resides in the intestines. The remainder can be found in our blood platelets and in the brain. 9

Endorphins

Another vital neurotransmitter humans rely heavily upon are “endorphins,” which are released by the pituitary gland in the brain. 10 However, there are at least 20 different types of endorphins in humans. 11 Endorphins, which are basically opiates, have the same pleasure inducing feelings as heroin. Actually, the endorphins produced by our bodies are stronger than the morphine we inject our soldiers with when they are wounded in the war. 12

Most people associate endorphins with stress and pain, which are in fact the two most common factors leading to the release of this neurotransmitter. When our body has a nice flow of endorphins, not only do we feel less pain but this neurotransmitter greatly lessens the negative effects we feel from distress. Endorphins are partly responsible for the famous “runner's high” that athletes experience with prolonged exercise. 13

7 (www.iscid.org/encyclopedia/Dopamine; “Dopamine,” International Society for Complexity, Information and Design.).

8 (www.iscid.org/encyclopedia/Dopamine; “Dopamine,” International Society for Complexity, Information and Design.).

9 www.chm.bris.ac.uk/motm/serotonin/home1.htm; University of Bristol, UK “Serotonin: A Molecule of Happiness.”

10 **HealthCentral.com**, “**Can Exercise Make Me High?**” **Sept. 17, 2001**. Adapted from “The Fit or Fat Woman” by Covert Bailey and Lea Bishop, published by Houghton Mifflin Company.

11 Medicinenet.com; “**Endorphins: Natural Pain and Stress Fighters**” by **Dr. Melissa Conrad Stoppler**.

12 “Social Intelligence: The Revolutionary New Science of Human Relationships” by Daniel Goleman, page 164.

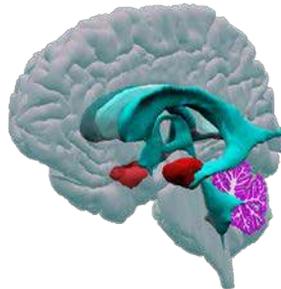
13 Medicinenet.com; “**Endorphins: Natural Pain and Stress Fighters**” by **Dr. Melissa Conrad Stoppler**.

Telomerase

Two researchers, Carol W. Greider and Elizabeth Blackburn, discovered in 1985 a chemical that is released into our bodies when we feel the moral support of others. This chemical actually bonds to and protects the cells in our bodies whenever they reproduce. As a result, when we humans feel great distress, and we also have the positive support of others, our bodies naturally release a chemical to protect our cells from harm.

Greider and Blackburn aptly named this chemical “telomerase.”

Therefore, researchers have discovered that if we have this positive on-going support from others when we are under great distress, not only will the chemical telomerase protect our telomeres from unraveling too quickly, but it will also help *rebuild* that part of our telomeres that we have already lost.



How Do You Repair Your Brain?

ANNUAL PHYSICAL

Get Your Physical

Fasting Blood Work

Make sure you check your Magnesium and Vitamin D levels

Thyroid Free Floating Levels

T4

(“Total T4” or “Total Thyroxine”)

“Free T3”

(“Free Thyroxine”)

Thoughts, Hobbies & Friends

Veterans Who Cared For Others Suffered Much Less Depression & Anxiety

Close and loving relationships prevent depression, anxiety, suicide, heart disease, infections, hypertension and cancer.

~~Dr. Dean Ornish

Spend time with your pets!

Spend time doing your hobby!

Spend time with friends/family!

FAVORITES?

Diet

↑ Protein

↓ Carbs

↓ Fat



Have you ever heard the expression, “You are what you eat?” *Nothing* could be more true.

Well, your “diet” is also critical in maintaining good brain health. Therefore, we need to think of food as “fuel.”

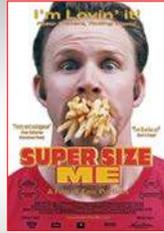
Since our brains burn 25% of everything we eat, the food we use to fuel our bodies is crucial for our mental health ... but it is even more important for our children’s developing brains. If children do not receive the nutrition they need, severe mental impairments could result, such as “Attention Deficit Disorder,” or “ADD.”

Unfortunately, we have created a society that lives on fast food that contains more fat and carbohydrates than vitamins, minerals and protein.

The following websites are excellent sources of nutritional information:

- American Diabetes Association at www.diabetes.org
- The Glycemic Index at www.glycemicindex.com

Does Food Make Me Crazy?



Ate McDonald's Three Times
A Day For 30 Days

Does Food Make Me Crazy?

Gained 24 lbs.

Heart
Palpitations

Liver Failure



Depression

Mood Swings

Sexually
Dysfunctional

Consumed Approximately 30 lbs of Sugar



What Should We Be Eating?

↑ **Protein**
4 Calories/Gram

↓ **Carbs**
4 Calories/Gram

↓ **Fat**
9 Calories/Gram



GENERAL THOUGHTS

Stevia

1,000 times sweeter than sugar ... but 0 carbs.

Snacks

Almonds, walnuts, pistachios, apples, blueberries, raspberries, blackberries or strawberries.

Protein Bars On The Run



Nutritional Fact Labels

1. Serving Size

2. Percent Daily Value

3. Calories

4. Total Fat

5. Sodium

6. Total Carbohydrate

7. Protein

8. Vitamins & Minerals

Nutrition Facts	
Amount Per Serving	As Served
Serving Size 3 oz. (85g)	
Calories 38	Calories from Fat 0
% Daily Value	
Total Fat 0g	0%
Saturated Fat 0g	0%
Cholesterol 0g	0%
Sodium 0g	2%
Total Carbohydrate 0g	3%
Dietary Fiber 0g	8%
Sugars 0g	
Protein 0g	
Vitamin A 270%	Vitamin C 10%
Calcium 2%	Iron 0%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	30g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Water

It is absolutely vital to your brain's health that you drink several glasses of water everyday. Since our brains are 80% water, it is extremely important to keep our brains hydrated. If you are human, you need to drink...

Half of your weight in ounces of water everyday.

Otherwise, your brain will simply “dry out” and it will not work properly. 14

In one study, the brains of professional body builders had their brains scanned when they were training for a competition. When they are training, body builders keep themselves very well hydrated. While they were fully hydrated, their brains looked very healthy from these nuclear brain scans.

However, in the week when these body builders are actually competing, they dehydrate themselves in order to appear more muscular. These same body builders then had their brains scanned again. This time, their brains looked like they were drug addicts. The difference between their hydrated and dehydrated brains was remarkable after only one week of not properly hydrating their brains.

The morale: **Hydrate ... hydrate ... hydrate.**

14 “Change Your Brain, Change Your Body: Use Your Brain to Get and Keep the Body You Have Always Wanted,” Dr. Daniel Amen, published by Harmony Press, 2010, p. 18.

Exercise

Exercise Is a **MIRACLE DRUG**

You Make ***BDNF*** When You Exercise, Which Is Miracle Grow For Your Brain.
(**“Brain-Derived Neurotrophic Factor” protein**)

Tryptophan, The Precursor for Serotonin, Gets Into Your Brain When You Exercise



One nutritional supplement that can be very useful in boosting our levels of serotonin is the amino acid L-tryptophan, which was recently reapproved by the Food and Drug Administration. L-tryptophan is a naturally occurring amino acid found in milk, meat, and eggs. Coincidentally, it does not have side effects, which gives it a real advantage over taking antidepressant medication. L-tryptophan was taken off the market a number of years ago because a contaminated batch was produced by one manufacturer that caused a rare disease and a number of deaths, much like happened with the peanut butter that was contaminated with salmonella in 2009. However, the L-tryptophan itself had nothing to do with the deaths. Dr. Daniel Amen of the Amen Clinics recommends to his patients to take L-tryptophan in doses of 1,000-3,000 milligrams at bedtime. Of course, as always, you would want to check with your doctor before taking any supplements. 15

Exercise Releases EUSTRESS Chemicals ... Which DEFEAT Distress Chemicals

FAVORITES

15 “CHANGE YOUR BRAIN CHANGE YOUR LIFE” by Dr. Daniel G. Amen, pages 81.

TO DO LIST

Set Three Action Items

1. _____

2. _____

3. _____



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Business First's 20 People To Know In HR

CEO Magazine's 2008 Human Resources "Superstar"

Nationally Certified Emotional Intelligence Instructor

2012, 2008, 2007, 2006 and 2003 SHRM National Diversity Conference Presenter

Scott Warrick combines the areas of law and human resources to assist organizations in **"Solving Employee Problems BEFORE They Happen."** Scott uses his unique background of **LAW** and **HUMAN RESOURCES** to help organizations get where they want to go, which includes coaching and training managers and employees in his own unique, practical and entertaining style.

[Scott Trains Managers and Employees ON-SITE in over 50 topics](#)

Scott's ["Law College Videos"](#) on the ADA, FMLA, FLSA and Harassment, updated for 2017,

["The Human Resource Professional's Complete Guide To Federal Employment And Labor Law"](#) &

Scott's ["Do It Yourself HR Department"](#)
are favorites for anyone wanting to learn Employment Law and run an HR Department.

Scott's academic background and awards include:

Capital University College of Law (Class Valedictorian (1st out of 233))

Master of Labor & Human Resources and B.A. in Organizational Communication:
The Ohio State University

The Human Resource Association of Central Ohio's Linda Kerns Award for Outstanding Creativity in the Field of Human Resource Management and the Ohio State Human Resource Council's David Prize for Creativity in Human Resource Management

For more information on Scott, just go to www.scottwarrick.com