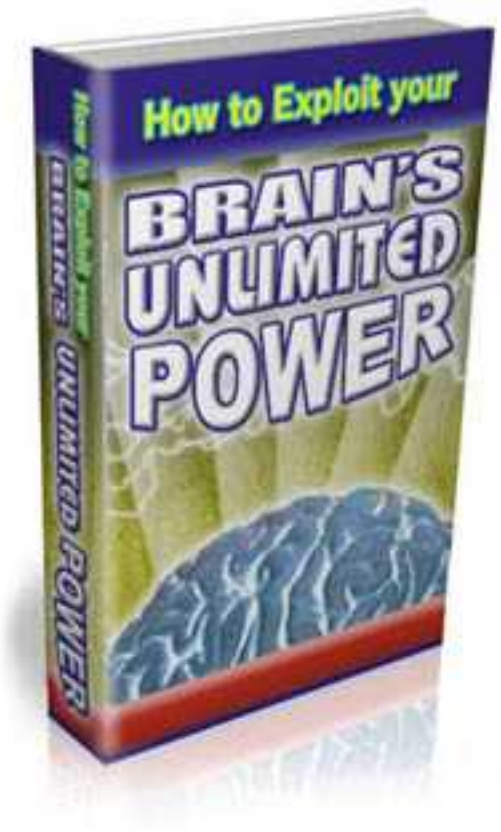
How to Exploit Your Brain’s Unlimited Power



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Introduction

Inside the human brain's three-pound package are ten billion nerve cells and almost one hundred billion smaller supporting cells. That's more power, in a smaller package, than a computer.

If you added all the telephone connections in the entire world and multiplied that number by 1, 349, you would have the total number of brain connections of which your brain is capable.

A common misconception is that the human brain is firm and grey in color, hence the expression "using your grey matter." In truth, the human brain is soft and jelly-like and of a deep red color. Chemicals or resins that the scientists use to preserve the brain are what cause the grey color and firm texture.

Another common misconception is that we humans use only about ten percent of our brains. This is a misunderstanding of the research gathered back in the late 1800s and early 1900s. It was noted then that only about ten percent of the brain's neurons actually are firing at any given time. We know now that the brain has many functions, that every part of the brain has a different purpose, and that all the neurons are busy working all the time. What everyone could improve upon is the cognitive potential of their brains; that is by reading and studying, learning to solve problems, and increasing their brain's power.

As each decade passes, doctors and researchers learn more and more about the brain - its functions, the dangers it faces and ways to protect it. They are even experimenting with ways to make the brain more retentive and thereby smarter. Whether or not they ever concoct a "smart pill," there are ways you can

train your brain to be more efficient, right now. You can protect your brain from dangerous outside influences. You can learn to feed and stimulate your brain so you not only live to a healthy old age, but you retain all your cognitive faculties. You can increase your brainpower and in the following report, we'll show you how. Don't wait for that "smart pill." You can start right now to eliminate confusion in your thoughts and learn to think better and more clearly, no matter what your age.

Solving problems is easier when you're thinking clearly. By taking care of your brain and protecting it from danger, you can learn to make decisions quickly and easily.

Do you need to:

- Learn new information easily and with greater accuracy than ever before?
- Be more creative about finding solutions to problems?
- Reduce your mental and physical stress?

Whether it's learning a new language, studying for classes, or just memorizing a speech, clear thinking is more conducive to productive, high quality work. Any man, woman or child, with the proper training, can learn to think more clearly and thereby learn to be more productive. The only thing keeping you from a highly attuned mental capacity is a failure to understand what good, clear thinking is all about and how to attain it.

“I have a theory about the human mind. A brain is a lot like a computer. It will only take so many facts, and then it will go on overload and blow up.” - Erma Bombeck

Chapter One
The Brain & Its Functions

"The brain is a monstrous, beautiful mess. Its billions of nerve cells-called neurons-lie in a tangled web that displays cognitive powers far exceeding any of the silicon machines we have built to mimic it." - William F. Allman

Your brain is the anterior or front part of your central nervous system, and is the primary control center for the peripheral nervous system. It controls involuntary activities such as the heartbeat, respiration, and digestion. These are also called autonomic functions and encompass sensation and movement. However, that's not all of which your brain is capable, of course; it also controls thought, reasoning, and even abstraction. All of these are known as conscious activities. The human brain is capable of perception, imagination, memories, and the ability to interpret information.

What makes the human brain truly unique is its ability to make synaptic connections, creating an intricate and extremely densely connected neural network. Our mental abilities are separated into the cerebral hemispheres, right and left. Some functions, such as language and speech, are localized in specific areas in only one hemisphere. Your brain is resilient in that if one hemisphere is injured, at an early age, the functions can be recovered by the other hemisphere, sometimes only in part, sometimes in full. Both hemispheres can control memory and reasoning, as well as motor control.

Thanks to a process called neurogenesis, new neurons can grow, even in the mature adult brain. That means you can learn and develop your brain throughout your life.

The neocortex, which helps us in many aspects of our thinking process, contains billions of neurons, arranged in layers on the brain's outer surface. There are two halves of the brain, the right and left side, and each half of the brain is divided into four sections or lobes, and each lobe has a special function or purpose. These lobes are the frontal, parietal, occipital and temporal lobes.

- Frontal Lobe: This controls planning and reasoning, as well as activating our muscles.
- Parietal Lobe: This controls physical sensation, such as heat, cold, pressure or pain.
- Occipital Lobe: Also called the visual cortex, this processes and interprets sensory information.
- Temporal Lobe: This controls hearing, speech perception and some kinds of memory. If you're one of the ninety percent of right-handed people, or one of the seventy percent of left-handed people, the left temporal lobe contains the center for spoken language.

All these functions actually, only take up a small space in each of the lobes, the rest of the space is for putting together the association of experiences and ideas. Simply put, it's for thinking. We are able to consider consciously what's going on, weigh our options and decide on the best choice for us to make.

The cerebellum is the part of our brain that helps control our posture and balance, even coordination. This is why once you have learned to ride a bike or drive a car, you never forget how. It requires effort to learn at first; but after that, practice makes it automatic.

The limbic system cooperates with the brain stem and regulates the body's temperature, blood pressure, heart rate and blood sugar. It's also the center of human emotion. The thalamus is essentially the brain's relay station. It channels impulses from all the senses, except smell, to the cerebral cortex and sorts out the important information from the insignificant; and together with the hippocampus, it plays a role in memory.

The hypothalamus regulates the body's temperature, as well as hunger and thirst. It also signals the pineal gland concerning sleep. The pineal gland receives nerve impulses from the eyes and regulates the body's internal clock and daily circadian rhythms. When it receives a message from the hypothalamus, it also secretes the hormone melatonin, which has to do with sleep and wakefulness. The amygdale is what integrates the senses and is essential to forming memories.

Knowing how the brain is set up and how it works will help us learn to protect, enhance and keep those brains in tip-top shape, honed and sharp, all of our lives.

So, what is your brain's potential and how can you attain it? Read on.

"If the brain were so simple we could understand it, we would be so simple we couldn't." - Lyall Watson

Chapter Two
Dangers to Your Brain!

"Whatever any man does he first must do in his mind, whose machinery is the brain. The mind can do only what the brain is equipped to do, and so man must find out what kind of brain he has before he can understand his own behavior." - Gay Gaer Luce & Julius Segal

It's common knowledge that you must always protect your head from physical danger. You wear a helmet when riding a motorcycle, skating, or playing sports. However, there are other dangers out there that you must also protect your brain against.

Studies have shown that the brain is an awesome learning device, but it can be influenced as much by negative perceptions as by positive ones. These negative influences can actually affect how the brain functions. If you limit your intellectual growth, that is, if you continuously tell yourself that you're not smart enough, your brain can never operate at peak efficiency. Self-image is how you feel about yourself and has a direct impact on your brain's efficiency, at least where intellectual activities are concerned.

So, what can you do to save your brain? You can't change your genes, but you can change your environment and your lifestyle.

Stress and Your Brain

At the first signs of stress, the adrenaline kicks in, setting off a burst of activity in your nervous system. This is turn, speeds up your heart and changes

the size of the blood vessels. Besides getting you ready for fight or flight, it also helps you to remember those frightening events of your life. Therefore, this adrenaline surge also helps to plant emotional memories of the event in your life.

After the surge of adrenaline, comes the second stage of the stress response. The adrenal cortex begins to pump out cortisol, hydrocortisone and corticosterone. These are called glucocorticoids or GCs. These GCs are helpful in dealing with emergencies. Besides boosting glucose production and constricting blood vessels, they also go straight up to the brain to help regulate stress signaling. It tells your brain whether to calm down or boost the stress level, depending on what's best for you at the moment. These GCs can exert pressure on the temporal lobe to help you remember those emotional events.

Some stress is emergency induced and some is chronic. Chronic stress can be very dangerous to your brain, since it constantly sends GCs from the adrenal glands straight to the brain. That's why stressed out brains are at risk for damage.

The glucocorticoids go straight to the brain, to the memory system, most especially the hippocampus. It tells your memories that the event has survival value to you and you need to remember it. Unfortunately, the GCs are not always beneficial. These hormones are very powerful and sometimes stress can raise the levels of these hormones beyond what the brain's neurons can handle. This can result in damage to the parts of the brain that relate to memory. Long periods of severe, prolonged stress can actually lead to the death of neurons. If you feel

you’re at the mercy of your circumstances, it can actually intensify the danger to your brain.

Different people react differently to stress. Some who go through traumatic events will go on to suffer some lasting effects, actually becoming psychologically overwhelmed. Others work through the event and come out virtually unscathed and with memories intact.

Knowing whether your stress is acute or chronic is key to figuring out why some brains are more susceptible to stress related damage. Each person possesses his/her own strengths and weaknesses when it comes to handling stress and knowing what to do about it. Those who are more vulnerable to anger, anxiety, low self-esteem, depression and post-traumatic stress disorder are more likely to suffer brain damage.

Keep in mind that everyone has moments of depression or “the blues” as some people call them. These normally do not last long and you shouldn’t worry about them. You will encounter these moments of sadness and grief or indulge in little “pity parties” many times in the course of your life.

Major depression is something different altogether and requires serious professional assistance. This is considered one of the biggest stresses for anyone and is immensely painful and ultimately dangerous for your brain. It is possible to recover from major depression, but what does it do to the brain? Doctors report that fifty percent of the people who undergo major depression possess high cortisol levels. A high cortisol level over a long period of time can bring about some degree of brain damage.

They've shown that the first neurons damaged in this way are in the memory center. The Washington University School of Medicine in St. Louis, in a study, discovered that people who had once been depressed, even several years before, showed twelve to fifteen percent atrophy of their hippocampi. That means the loss of millions of memory cells. Most people who have been depressed are more likely to have recurrent episodes of depression.

What else can cause our stress levels to rise to unhealthy levels? Anger, anxiety and low self-esteem can contribute to the problem. Here, we're not talking about slight anxiety or the occasional feelings of anger towards a situation or an individual. Where the brain and its susceptibility to damage are concerned, we're talking about severe anxiety of long duration. Someone who feels anger constantly and for years without respite, is not only a candidate for brain damage, but for a heart attack or stroke as well.

As for low self-esteem, studies have proven that success and feeling good about oneself is definitely beneficial to your health. The opposite is also true, of course. Someone who has a chronically depressed personality is doing damage to his or her brains.

In this day and age, we are not running from wild beasts and our lives are not necessarily in constant danger, but we experience our own type of stress nevertheless. With deadlines and pressures at work, rush hour traffic, family problems, the ever present need to handle money and bills, it's no wonder we experience chronic stress. We are constantly feeling the adrenaline rush of our predecessors, but without the relief of fight or flight that they had. Dr. Jeff

Victoroff, in his book, “Saving Your Brain,” says that the cultural evolution has outpaced the evolution of the brain. We are developing frayed nerves, quite literally. Only by relaxing and slowing down can we help to save our brains.

So, what’s the best way to reduce that stress, lower the hormone levels, relax and save your brain? Aerobic exercise! That’s right-it’s so simple! We have all that nervous energy stored up, and practically leaking out our ears and what do we do? We go and sit on the couch and watch television, but that’s not enough to relieve the stress of our days. We need to throw ourselves literally into some form of physical activity, in order to relieve the pressure. Strenuous physical activity will reduce the stress, the anger, and the anxiety. The endorphins produced by this physical activity make our bodies and minds feel good; and then we feel better about ourselves, boosting our self-esteem. Emotionally happy and healthy people have brains that are happy and healthy too.

How wonderful would it be if that were all we had to do to relieve stress and thereby save our brain cells? In some cases, that works beautifully well. In others, not so much. No matter how much they exercise, stress still gets to them, threatening their physical and emotional health with high blood pressure, which can lead to strokes, which in turn destroys brain cells.

On the Job Stress

How is your job affecting your brain? Overly demanding work can create too much stress, releasing hormones that can quite literally kill brain cells.

However, work that demands no thought, thereby not sufficiently engaging the brain is just as bad. Boring, mind-numbing work may actually be just as hard on your brain as unrelieved stress. Work that doesn't challenge your brain can cause it to actually degenerate or atrophy.

Therefore, you must avoid excessively demanding work as well as insufficiently demanding work and strike a happy medium somewhere. To be happy and healthy, physically, emotionally, and mentally, you need to feel a sense of purpose and a feeling of having mastered at least a part of your job, but still have enough of a challenge to be stimulated. That will allow you to have a healthy brain.

What are the hazards in your workplace? While there have always been occupational related hazards on the job, such as painters in danger of inhaling fumes from the materials they handle on a daily basis, the current era has probably produced more toxic dangers than ever before in history. The Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), and the Occupational Safety and Health Association (OSHA), all have tried to make our lives safer and healthier, testing virtually everything we could be exposed to in the performance of our jobs.

What keeps these organizations from being totally successful in protecting our bodies and our brains? It's the sheer volume of compounds they have to test every year. Thousands of compounds and toxins are synthesized every year and there's just no way to get them all tested.

When it comes to your job, how hard is too hard? We've left the pre-industrial society with it's "it takes a village" philosophy and unfortunately, entered the competitive "work, work, work" society, with its risk of identity loss.

Back in 1979, Americans worked an average of thirty-eight and a half hours per week, as compared to the forty-two hours per week in 1999. Most don't have a lunch "hour" anymore; it's more like thirty minutes. Once upon a time, workers could actually go home for lunch, but now there is simply not enough time for such luxuries, especially since most people now work so far from their homes.

Job stress is not necessarily the number of hours you put into the job, but the type of work you do too. An emergency room nurse has more stress than the receptionist does at a bank. The working mom may put in a forty hour week, but how about the extra fifty hours she puts in after she gets home, taking care of her children?

Stress at work can mean high levels of glucocorticoids assaulting your brain. Those with special stress such as doctors and surgeons or soldiers in battle are even more at risk. However, there are other mitigating circumstances that cause stress, such as:

- Changing jobs
- Working exceptionally long hours
- Conflicts on the job
- High noise levels during the workday
- Unfair compensation for work done

- Constantly changing hours
- Abusive conditions in the workplace

All these things can cause high levels of GCs to flood into the bloodstream, showing that job related stress could damage brain cells.

Ask yourself these questions about your job.

- Do you find your heart pounding from excitement about your job, or from stress?
- Do you find yourself sweating from exertion or frustration?
- Do you have a chance to pat yourself on the back for a job well done or do you feel frustrated at not being able to get everything done each day?
- Are you appreciated by your peers and supervisor, or is every job criticized, so you cease to care about the job you do?
- Do you work well under pressure or does a deadline throw you into a panic?
- Do you have trouble focusing on the key points of a problem you are trying to solve?
- Do you become anxious and confused when faced with a problem and a deadline for solving it?
- Do you begin to feel that you're incapable of solving the problem?

If you enjoy your job, feel real satisfaction in doing it, and are made to feel you're an invaluable member of the team, you will experience much less stress in your life, and that's another way you can save your brain.

As long as we're discussing how work can impact your brain, let's also add another topic that could be adding to your stress levels. While technology has enabled us to make remarkable strides in the fields of medicine and communications, it has also brought with it a new form of stress—that of Information Overload! Information can bombard you from every direction now. Just one issue of the New York Times contains more information than the average person from the 17th century encountered in an entire lifetime.

Not to mention that bad news seems to dominate the information flowing towards you. Unfortunately, bad news sells better than good news. There you go—more stress coming at you. Besides the newspapers, there are thousands of magazines, television, radio, email and snail mail bombarding you every day.

The good news is that the field of communication has taken giant leaps in our society too. The bad news is that everyone seems to feel the need for a cell phone, a pager, a blackberry, and a laptop computer. Why do we feel the need to be connected every minute of the day? Unless you're a doctor, is it really necessary? Are we really just trying to impress others with our seeming productivity? At what cost? More and more people are experiencing burnout, chronic fatigue, and nervousness. All because they can never escape this information overload.

How can you handle this overload and not let it control you? That's going to mean leaving the computer at work, turning off the pager and the blackberry. Avoid the email once in a while. Take a break from technology and give yourself

a much-needed vacation from the overload. Reduce the stress and learn to relax and your brain will thank you.

“The brain is a wonderful organ. It starts working the moment you get up in the morning and does not stop until you get into the office.” - Robert Frost

Chapter Three
How to Train Your Brain

"You know you've got to exercise your brain just like your muscles." - Will Rogers

The average human brain, while it works all the time, functions at a very low level, unless stimulated and trained. Training your brain to operate at peak efficiency increases your productivity, aids your ability to learn new information, and even stirs the creative juices. While it is a myth that people use only ten percent of their brain capacity, it is true that most people's brains are not functioning at peak efficiency. However, you can change that and train your brain to be more retentive, more creative, and more productive.

Too often, people, when faced with a problem, slip into confusion and frustration. Once they learn how to train their brains, the ability to switch to logic and clarity becomes second nature. Your brain is capable of intense concentration; you simply need to hone the ability to focus on a problem. The great thinkers of our society have learned this secret. Once learned, you will not fall into the emotional trap of confusion and frustration anymore, and you'll know how to focus instantly on the problem and the solution you need.

Thanks to research, scientists have discovered that it is possible for you to learn to rewire your brain, simply by changing your thoughts and emotions. They found that certain types of meditation made it possible to increase the activity of the prefrontal cortex. They found a way to increase mental activity without

necessarily increasing adrenaline and stress. Their research found that focusing on positive thoughts and emotions gave the greatest increase in brain activity.

This doesn't mean you need to chant a mantra or go to your happy place while meditating. The researchers discovered that just thinking happy, loving thoughts makes your brain go into overtime, making mental connections and being productive and creative. Whether you've been trained in meditation techniques or not, you can learn to increase your brain's activity, without stress.

For starters, give yourself just ten minutes in the morning and ten minutes in the evening to focus on happy, loving thoughts. Changing the way you think and behave is up to you. Henry Ford said, "If you think you can do a thing or think you can't do a thing, you're right." Find a comfortable place to sit, relax and take a deep breath through your nose. Close your eyes and concentrate first on your breathing. Then focus on thinking about being joyful. Push aside the worries and concentrate on nothing by joy, happiness and love.

You can change the way your brain works, but it takes discipline, determination and practice. If you want to be smarter, you must choose to do so, by controlling your thoughts and emotions - by choosing to be happy, grateful, and appreciative. By choosing to be emotionally happy, you are changing the way your brain works, making new connections, in fact rewiring your brain to be more productive, more creative and smarter.

I know you're asking, why just making yourself feel happy could possibly have anything to do with getting smarter. It's simple. When your body feels good, blood circulates through the brain freely. This helps you to focus and lets your

brain be as creative as it needs to be for the task at hand. Happiness releases hormones and body chemicals that will produce the greatest mental activity. Depression and unhappiness clog up the works, making your mental activity slow to a crawl and creating a sluggishness in the blood flow and thought processes. This is no way to work or live!

There's enough mental confusion being thrown at you from all directions, the last thing you need is to be bombarded by negative thoughts and emotions. All the worries and upsets, disappointments and anxieties just obliterates the learning process. When you're upset and confused, it's difficult to remember things, or even think straight. Even your observational skills are impaired by negativity and emotional upheaval. You can't enhance your brain while under the onslaught of worries and anxiety.

That's why the ten-minute twice a day are so important to your brain. During those times, you must not let any negativity into your consciousness. Allow your brain to relax with positive, kind, loving, happy thoughts. Think about all that you're grateful for in your life, everything that makes you happy. Push aside any worries and upsets, at least for that twenty minutes a day. It's especially important to start your day feeling happy and relaxed, to get through your workday; and it's equally important to end the day with those happy emotions to help you sleep soundly, unperturbed by the day's events, whether good or bad.

Feeling happy reduces the confusion in your mind, relaxing your brain and your body and allowing creativity and mental clarity to keep you on the path. This helps the mental connections in your brain to stay clear and logical.

Because of the fight or flight hormones flooding our system, we tend to make choices based on fear. Instead of facing the fears and working through them, we make choices to help us avoid pain and confusion. Unfortunately, that works against us, rather than for us. Our brains tell us to avoid anything that could harm us. That includes not just physical harm, but humiliation, embarrassment, loss of respect and credibility by peers, even loss of love. Therefore, in fear, we make wrong choices, delay changes that would help us, and try to avoid any risk at all.

Basing decisions on fear never works in your favor. It merely keeps you from fully living life, and in fact can stifle the learning and growing process that keeps us alive and keeps our brains healthy.

After you master the ability to teach your brain to work for you, rather than against you, it's time to start getting that brain in shape. You exercise your body, why not your brain too? You know that exercising your body makes you feel good and improves your life and increases longevity. Therefore, it's time to give your brain a good workout.

Believe it or not, one of the ways you can stretch your brain's muscles is by playing video games. That's right, I said video games. Playing the games actually does give your brain a pretty good workout. It allows you to develop your peripheral vision, something extremely useful in the real world too. It also

teaches you to recognize repeating patterns and to remember details, also useful in the real world. You're also learning with each game you master.

For those who think playing video games is just for nerds and geeks, there is actually a large community of people who enjoy the challenge of these games and are intent on mastering the skills. Many are games of strategy and very useful for teaching your brain. In many of the games, working your way through the various levels is much like working your way through the levels of real life, learning as you go.

Those who oppose the idea of video games being educational argue that the games are violent, that they are addictive and time consuming, and that young people especially are wasting their time. As with anything in life, perhaps moderation needs to be applied. On the plus side, playing the games enables us to learn and overcome challenges; and that is a good thing. Never stop learning, growing and being creative. It's good for your brain.

Another way to stretch your brain is to expose it to new ideas. Explore new areas of understanding. Just because you've never agreed with an idea, doesn't mean you can't give it some thought. Stretch it a little to include some new facts. Avoid getting into a rut and becoming set in your ways.

Have a particular interest in your life, something that gives you great pleasure. Find a group of like-minded individuals, a club, if you will. It can be in your local neighborhood or online. The point is to have some interesting discussions, some give and take, exchanging information and ideas. That will stretch your brain and make you feel good and your mind stimulated. Try joining

a book club to discuss some good fiction. A good story will catch your interest, pull you in and let you get to know the characters. Can't find a book club? Start one!

Another way to relax and allow your brain to stretch is by listening to music. Researchers say that music can actually help you think better and boost your brainpower. At UC Irvine's Center for Neurobiology of Learning and Memory, a study was done on music and how it impacts the brain. Thirty-six students were given the standard spatial tests found in I.Q. tests. Before the test, they listened to Mozart's sonata for Two Pianos in D Major, for ten minutes. They listened to relaxation tapes just before the second test and simply sat in silence before the third test. All the students did remarkably better after listening to Mozart. In fact, they averaged nine I.Q. points higher after listening to the music. The music put the students into a more receptive state for the tests, so they did in fact have better access to the resources in their brains. Those involved with music on a regular basis, are actually much better at solving problems and when tested, scored eighty percent higher than those not in a musical program. If problem solving is part of your everyday life, and of course that is true for all of us, then let the music play on.

Your Conscious & Your Subconscious

When it comes to brainpower, your conscious mind is only one-sixth of your brain's thinking ability. However, your subconscious represents five-sixths of that ability. That means that put together, your whole mind has enough power to

solve any problem that comes your way. Your conscious mind can only hold seven pieces of information in the short-term memory, but your subconscious mind stores every bit of knowledge you have ever learned. It contains everything you've ever heard, thought, read, or even imagined. In fact, you are much smarter than you think you are, thanks to the remarkable memory of your subconscious mind. It's from the subconscious mind that writers and artists get their inspiration. "The intellect has little to do on the road to discovery. There comes a leap in consciousness, call it intuition or what you will, and the solution comes to you, and you don't know how or why," said Albert Einstein. This is obviously the work of your subconscious.

The best part about your subconscious is that you can program it to work on whatever problem you're facing and it will work nonstop, day and night, even while you're sleeping. Whatever you're dealing with, if accompanied by strong emotions, and whether it's positive or negative, makes a deep impression on your subconscious.

Brainstorming is the most common solution when a problem arises. Another approach to the problem solving is lateral thinking. The first impulse when a problem arises is to go straight to the heart of the matter for a solution. That doesn't always work, however. Sometimes, there doesn't seem to be a straightforward approach to the solution. That's where lateral thinking comes in. Let's say for example, that you have a very important client that you need to meet with ASAP. You invite him to your office, but he says he can't make it. What do you do? Sit down and begin listing as many ideas as you can to make it

possible for the two of you to somehow meet and discuss business. There is a notation used in lateral thinking called **Po**. This stands for 'Provocative operation.' This is used to propose an idea which in and of itself may not always be a good solution, but helps to move your thinking to a new place, where you can explore some new ideas, roll them around and see how they might provide the solution to the problem.

Therefore, that client does not want to come to you. What's next?

- Po: Do you go to him?
- Po: How about a video conference?
- Po: Could you send someone else in your place?
- Po: How about trying to make a deal with him? Ask him what it would take to get him to come.
- Po: You could just wait until he changes his mind.

I think you get the idea about lateral thinking. It's okay to come up with what might seem to be outrageous ideas, ideas you know will not work. It could very well lead to ideas that will, and that's what you're aiming for. And it does work; many large corporations have used this method of brainstorming to great advantage and great profits.

Right-Brain/Left-Brain

Have you ever wondered whether you were right-brained or left-brained? That's actually very difficult to pin down and perhaps very limiting in terms of your brainpower. Pigeonholing yourself is not a good idea anyway. By telling yourself

that because you are methodical about certain things, you must be an analytical thinker, you are limiting your own possibilities. You might be very good at something creative, but will never realize it if you're too limiting. Just because you like being creative, doesn't mean you can't handle numbers like an accountant, if you choose to. Try not to limit your brain's abilities.

When it comes to processing information, both halves of your brain can do it, just in different ways. The dominant side is normally used to process information, but the learning can be enhanced if both sides are used in balance. This means you'll need to pump up your less dominant side, exercise it a bit. Knowing how each half of your brain works will help you to understand how to create a balance between the two sides.

The Left Side:

- Processes information in a linear style. That means that it takes pieces of information, lines them up and then puts them in a logical sequence, then comes up with a conclusion. List making is what left-brained people love to do. They love daily planning schedules, and they take great satisfaction in checking each item off the list as they accomplish it.
- Has no problem when it comes to symbols such as words, letters, and math notations. The left-brain person is at home with linguistic and mathematical problems.
- Verbal thinking. Has no trouble with self-expression. The left brained person can explain a problem in detail, giving a step-by-step solution.

- Deals with reality more easily and adapts to different situations with more ease. Whatever their environment throws at them, they can adjust to it more easily.

The Right Side:

- Processes more randomly, skipping from item to item, jumping from topic to topic; more of a leapfrog approach.
- Needs things to be more concrete. They need to see and touch an object, rather than just discuss it.
- Non-verbal thinking. Has more difficulty expressing themselves in words and needs everything in writing.
- Not easily adaptable to their environment. Rather than adjust, they'd sooner change the environment.

No one has quite figured out exactly why, but the right hemisphere or right brain controls the left side of our bodies, processing what we see with our left eye; and conversely, the left hemisphere or left-brain controls the right side of our bodies and processes what we see with our right eye. Many think that this is what determines whether you are left-handed or right-handed, but scientists tell us it is not related at all. Yet, no one can explain why more artists have been left-handed. If you are right-handed, rest assured it doesn't mean you can't be artistic, if you choose to be.

Once again, don't narrow your vision concerning yourself, telling yourself you are limited due to the dominant side of your brain. Learn to balance and use both sides to best advantage. It will take some practice, but you can learn to

process information on both sides of your brain. The artistic types can learn to be more linear and the logical types can learn to be more random.

You will also experience four different brain wave states. These are Beta, Alpha, Theta, and Delta. When your brain is in the Beta state, you are wide-awake and very alert. This is when your brain performs at its best, but not creatively.

The Alpha state is a slower brain wave state and your creativity starts to flow. Solutions begin to present themselves during this state.

In the Theta state, you are completely relaxed and are focused more on what's happening within you. You'll find this is very similar to a meditative state and you may even discover that the solution to a problem becomes very clear; you can actually see the 'big picture.'

When your brain is in the Delta state, you are sound asleep and it's time for your brain to recharge, to get you ready for another day and more problems and the need for creativity.

Though you are asleep, your brain is still working, indeed, it never stops, but it does slow down enough that the chatter stops. While you're awake, your brain is making connections across the neural network, in a constant flow of data. While you're asleep, however, your brain loses those connections, it does in fact, shut down for recharging. That's while you're in a deep sleep, when the brain is dreaming, the connections are still careening around in your mind, much like it does when you're awake. Scientists think that the deep sleep cycle allows the

cortical circuits to shut out the noise of the constant connections, to allow your brain to rest and recuperate for the next day.

Chapter Four
Health & Your Brain

"Our mental and emotional diets determine our overall energy levels, health and well-being more than we realize. Every thought and feeling, no matter how big or small, impacts our inner energy reserves." - Doc Childre

So, you've learned how to exercise your brain, stimulate your brain to be more retentive, and how to avoid stress that can affect your brain's health. But there's one more thing you can do to assure a healthy brain that will stay sharp for a long time. Believe it or not, you must take special care of your physical health in order to insure a healthy brain.

Learning to keep your brain healthy begins with your diet. That's right, you need brain food. A starved brain will not get you far. Giving your brains the right foods provides the nutrients and chemicals you need to help develop your brain. Those brain cells need protection to resist damage.

The first nutrient you should consider adding to your diet, is Choline, a B-vitamin that will nourish the cells. It promotes brain health and can boost your memory. The best foods to in which to find this nutrient are eggs, nuts and meat. Omega-3 fatty acids, which are components of brain cell membranes, need to be replenished regularly with foods such as sardines, salmon, mackerel, and trout. You can also supplement your diet with fish oil tablets. This nutrient is especially important, since when you're learning anything new, it creates new connections between cells in your brain, and that requires new membranes to cover them. So, enjoy that fresh fish as often as possible.

Making the news today is the information about antioxidants, especially those found in vitamin C, vitamin E, and beta-carotene. These are necessary to protect healthy cells from the damage caused by free radicals, which attack cells at a molecular level. The best source for vitamin C is in any of the citrus fruits, as well as strawberries, cantaloupe, spinach, green peppers, and broccoli. For a good supply of vitamin E, eat whole grains, nuts, apricots, fish, and vegetable oils. As for beta-carotene, try milk, peaches, and egg yolks. Stock up on the strawberries, blueberries, and spinach, which contain phytochemicals and will help boost your memory.

Basically, by eating a lot of dark-skinned fruits and vegetables, you're giving yourself the highest levels of naturally occurring antioxidants.

Watching your diet and getting out to exercise several times a week will help keep your cholesterol down. This is important since studies have shown that high cholesterol can lead to unhealthy levels of beta-amyloid, a toxic substance that doctors have discovered which builds up in the brains of Alzheimer's patients, and kills healthy brain cells. The good news is that HDL or 'good' cholesterol can help protect your brain cells. Using olive oil to cook your food, instead of mono and polyunsaturated fats will help your body and your brain. Baking or grilling your food rather than frying is another way to build up your HDL levels and lower your LDL levels.

Equally important to your brain is carefully watching your blood pressure. Doctors found that those who had high blood pressure in their middle years were six times more likely to develop some form of dementia later in life than their

healthier counter-parts. Seeing your doctor and treating that high blood pressure is essential for good memory, and to help prevent dementia later on in life.

Eating properly and reducing your consumption of high fat and cholesterol foods, plus adding some form of exercise to your life, even if it's just walking each day, will help you manage your body weight. Obesity is not just bad for your overall physical health, but it is also damaging to your brain. Once again, the doctors have discovered that adults who are overweight in their middle years were twice as likely to develop dementia later in life.

In order to have a healthy brain, it's important to have a healthy body. Illness not only slows the body, but can bring about depression, which affects the brain. Physical fatigue can cause mental fatigue as well. You've heard people say, "I'm so tired, I just can't think straight." And it's true, you need to be well rested and rejuvenated in order to be at the top of your game, physically and mentally. And remember, exercise also stimulates your brain. When you exercise, endorphins pump through your system, affecting your brain and making you feel good.

It's simple, without a healthy body, you can't hope to save your brain, your memory and your cognitive functions.

"Brains well prepared are the monuments where knowledge is most surely engraved." - Jean Jacques Rousseau

Chapter Five
Boomer & the Brain

"The greatest discovery of my generation is that man can alter his life simply by altering his attitude of mind." - William James

Scientists say we could look forward to living to one hundred years old or more. It's a great possibility that this could be the century of the centenarians. Doctors with their miracle cures and modern technology, are helping us to live longer, healthier lives. But what about our minds? Is it worth living to one hundred if we aren't in full possession of our faculties? How can we keep our brains as healthy as our bodies? It's predicted that by 2020, more than 200,000 Americans will be one hundred years old or more.

What doctors and scientist alike have discovered is that there is a great difference between aging and growing old. Believe it or not, most of it exists in the mind. Cardinal Spellman said, "The three ages of man are youth, middle age and 'You're looking wonderful.' "

For those who are aging gracefully, they are able to:

- Maintain an interest in life.
- Believe that it's never too late to learn something new or change their attitude.
- Believe that life matters and can be fun.
- Set goals for themselves and see them through.
- Never allow boredom in their lives.

Are you looking forward to your future? Humans are the only creatures that can see the big picture and plan their futures. That's due to the frontal lobe of the brain. It's that difference that enables humans to live longer, since we're able to make choices that prolong our lives and our brains. Simple choices like wearing a helmet while riding that motorcycle, choosing not to smoke or use drugs, all of which will help to save our lives and our brains.

While the brain does change fairly predictably, from your childhood and your youth to adulthood, age is not all that causes the change; it is also due to the experiences you encounter along the way. Some people will undergo a change in their brain that can be disabling, while others have little or no problems. As for why our brains change as we get older, the only explanation is evolution. That's the only way to explain why our brains have flourished, but are vulnerable to change as well as our environment.

The biggest difference in the way our human brains have evolved through the ages from that of animals is our ability to make intelligent choices. We don't have to wait and see what will happen next to impact our lives and minds. We can make the decisions, what we want to do, and what we want from our futures. And it's all thanks to our fully developed frontal lobes. It gives us the ability to take bits of information and mold it into a complete idea, then act on that idea, completely aware of the consequences of our actions. Our ability to see beyond current troubles to the future, enables us to get through those troubles and know the end results can be different and to our advantage.

The younger brain does have an advantage when it comes to “fluid intelligence,” or the ability to gather and use new information. As you age, there is a decrease in this ‘fluid intelligence’ due to loss of cells in the sub cortical nuclei. That’s what gives us the get up and go kind of energy and enthusiasm for new things. Unfortunately, aging and loss of these vital cells causes a decrease in attention and concentration, the ability to focus; you may find you are easily distracted and it’s more difficult to stick with a project.

You can compensate for this decrease in several ways. Go easy with the caffeine products such as coffee and sodas. If you’re attempting to learn new skills, break up the learning sessions into smaller chunks of time. The good news is that “crystallized intelligence,” or specific, acquired knowledge, doesn’t seem to be affected by the aging process. You’ll be glad to know that as far as problem-solving skills are concerned, this actually improves with age, because of your experience. So the function of a mature brain is neither better nor worse than a younger one, just different.

Want to keep your mind limber and your mental faculties sharp? Scientists agree the very best way to keep your brain nourished even into your nineties and beyond is education. It doesn’t necessarily mean just obtaining degrees, or even formal schooling at all. It means constantly adding to your storehouse of knowledge. Reading, discussions and debates, anything that makes you think and keeps the mental juices flowing will keep you sharp into your later years. What do you need to keep learning, now and for your whole life? Curiosity; that need to know more. Let yourself be constantly intrigued and amazed by new

knowledge. Most excitingly, it really doesn't matter what you are learning, the whole point is in the doing, the studying, the adding of knowledge.

The enthusiasm to add to your knowledge base helps nourish your brain. And you needn't decide ahead of time what you will study and learn about; as you go through life, your interests will just naturally change, grow and evolve, making you an amazing repository of knowledge. Remember, people who are interested in everything are just more interesting people.

Look around your community at all the possibilities for gaining new knowledge. In any metropolitan area, you'll find colleges and universities. Recreation centers offer classes in everything from language and business classes to basket weaving and banjo lessons, and everything in between. Ever had the urge to tread upon the stage? Most every community has a theater group with workshops and it doesn't matter if it's Shakespeare or the local playwright. Continued mental activity is absolutely key to keeping your brain alert and alive.

Life isn't necessarily going to be what you thought it would or go the way you think it should, despite your best plans. The important thing is to stay open to the possibilities, the opportunities and the challenges that come along throughout your life. If you retire at the age of sixty-five and take up rocking on the porch, you could be dooming yourself to a gradual loss of mental faculties. In order to keep your brain flexible, you have to exercise it, keep it honed and sharp. That means stimulation on a daily basis. Start small if you wish. Work crossword puzzles for starters. Then move on to other types of brainteaser puzzles, maybe even the newest rage- Sudoku puzzles.

Baby Boomers have another challenge, one that many are attempting to avoid. Mastery of this particular challenge could not only provide you with mental stimulation, but also fun, friendship and new skills. I'm talking about computers and the Internet, the World Wide Web! Cyberspace is out there for all to use and you're never too old to learn how to communicate via email, how to research and learn new facts. The old saying is wrong-you can teach an old dog new tricks!

For those starting out on a new career, or a home business, learning to use the computer and the internet could mean the difference between success and failure. A definite advantage to learning the computer and how to find your way around the internet, is the ability to work at a job from your home. Telecommuting is the newest trend in our society and is becoming more and more popular every day. Age is also becoming less of an issue where telecommuting is concerned.

Boomers possess a great deal of knowledge already learned (crystallized intelligence). And by keeping their brains sharp and stimulated on a constant basis, it's easier to grab hold of the new technology and skills (fluid intelligence). Learning is not just for the young anymore. Anyone can and should learn every day.

Many organizations have already discovered the advantages of having a Boomer on Board. They already possess so much knowledge to help bring success to those companies; they are most definitely assets.

Several studies done around the world all show that the higher the level of mental stimulation, the lower the risk of developing Alzheimer 's disease. Higher

mental stimulation in your job means you need a higher education level. The studies also showed that farmers, domestic workers and blue-collar workers had two to three times the risk of poor memory when they grew older than did those whose jobs were more managerial or professional.

The biggest misconception in our world today is the idea that the brain grows older as we do. Stereotypes get in the way of mental function. We're told that aging means loss of memory. Too many of the elderly begin to believe that falsehood. If they continue to allow this falsehood to influence their mental function, they will indeed find memories failing. This throws them into a mental rut. If their lives remain without stimulation, they will begin to lose more and more memories. But, it's not too late. Mental stimulation can still be the key to greater cognitive function. As pointed out before, just as you would exercise to keep your body in shape, so should you also exercise your brain to keep it in shape.

Getting older doesn't mean you're doomed to be absent minded. Studies have proved that age has nothing to do with lowered mental function. Not only can the brain be kept in shape, but absent-mindedness can actually be reversed.

Maintaining a network of friends and relatives that you enjoy being with, and who stimulate your mind and heart, is a great way to combat the aging stereotypes. Good friends can help relieve the stress that we find in life. Better to find support with good friends and family than to begin altering your conscious mind with outside influences such as drugs, alcohol or tobacco. Good friends or abusive substances? Here's a perfect example of proactive choice. What choice will you make?

Memories Are Made of This

The memory is where we store all the ideas, thoughts and experiences in our brain, so we don't lose them. We are bombarded all day, every day by sights and sounds. But where are these memories stored exactly? Once recorded, a memory is then stored close to the same part of the brain where it entered in the first place. For example, memory of a song will be stored close to the auditory cortex. Memory of a burn, a broken bone or other pain will be stored near the sensory cortex. For multiple types of sensations, such as the birth of a child (for women), where emotions and physiological experiences are involved, the memories are distributed across multiple cortical areas.

One of the most serious dangers to our brains and memories in particular is Alzheimer 's disease. This begins with short-term memory loss, with simple symptoms like constantly losing your car keys or mislaying your eyeglasses. Patients of Alzheimer's may find themselves forgetting even a loved one's name, or forgetting words for ordinary objects. Sad to say, it can become even more serious and life threatening if not treated.

Have you ever experienced the temporary loss of a vital piece of information-information you know you possess? But, what happened, where did it go? Baby Boomers simply laugh and refer to it as a 'senior moment.' Many of us suffer from these 'senior moments.' These momentary lapses are not to be confused with Alzheimer's. A word or a name just escapes you for a moment and usually returns a little while later. You should not worry unduly about these temporary lapses, everyone experiences them at one time or another.

You've probably heard people use expressions like, "my memory is like a sieve." Or, maybe the lament that "my memory must be failing." This attitude that the memory is hopeless only perpetrates the misunderstanding about aging and memory loss. No matter what your age, you can attain any intellectual goal you care to set for yourself and improve your memory. You simply must exercise your brain. You wouldn't attempt to run a marathon without advanced physical training; why would you expect your brain to perform feats of intellect without advanced mental training? Remember the old saying that if you don't use it, you'll lose it.

So, you have all these wonderful memories stored within this marvelous machine, just waiting for you to tap into them, or access the files, to use a computer analogy. That's what your brain actually is, an amazing memory bank of information. But how, you ask, can we do that?

In the late 1950s, Dr. Wilder Penfield, at the Montreal Neurological Institute was trying to cure epileptics by applying electrical stimulation to certain areas of his patients' brains. The slight current the doctor used brought out very precise, very vivid memories. His patients were able to relate certain memories, in great detail. The memory evoked depended on the part of the cortex, or the outer layer of brain cells being stimulated.

Another method of stimulating these deeply buried memories is hypnosis. Hypnosis allows the subject to recall in minute detail every aspect of an experience. Sometimes, a person can recall conversations, recall a scent or sound connected to that experience. Think those old memories are forgotten, lost

forever? They're not lost, just mislaid, filed away in that marvelous machine in your head.

And Now For Something Completely Different!
Estrogen!

Estrogen, a hormone produced by females and that influence sexual behavior-what could that have to do with the brain? How about making us smarter?

It doesn't matter whether you're a male or a female. Every 'body' makes estrogen. It's just that women make more than men. But, estrogen is not just a sex related hormone and doctors are working to determine whether estrogen and other hormones of this type could actually save human brains from strokes, memory loss and maybe even Alzheimer's. Most importantly, what they're trying to determine is can hormones keep you smart?

An experiment as early as 1952, showed the connection between estrogen and memory, but, was ignored for more than thirty years. Today doctors have learned that not only does miracle hormone affect memory, but it can also nourish, modify, protect, and yes, even heal brain cells. We'll surely be hearing more on that front in the future.

Until we do, it's a good bet that taking simple precautions, like eating smart, exercising (your body and your brain), making intelligent choices, and continuing to learn all through our lives, will prolong our bodies and in turn, keep our brains honed and sharp.

“Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young. The greatest thing in life is to keep your mind young.” - Henry Ford

Chapter Six
Train Your Child's Brain

"I like nonsense; it wakes up the brain cells." - Dr. Seuss

Helping your child develop his/her brain starts in the womb. The baby's body is not the only thing growing and developing in the womb, the brain is working away as well. That's why special care must be taken from day one, to ensure that the child is born healthy, both physically and mentally. The mother needs to choose carefully her diet and her lifestyle, in order to give her baby the best chance in life.

The mother will tell you how tired she sometimes feels while she's pregnant. This is because the baby's brain is making a quarter of a million new neurons every minute, as well as new connections between those neurons. Now you know what hard work goes into making sure that the baby is healthy, mentally and physically.

Doctors have determined that newborn babies can recognize their mother's voice, which shows that their memory was developing before their birth. Their little brain is only about one-fourth developed when they're born. Their skulls and their brains will continue to grow until they reach adulthood. By the time the child is ten years old, his brains will have formed billions of new connections.

Is there a difference between boys' brains, and girls' brains? A male brain develops from the back to the front, which is developing the "doing" part before

the “thinking” part. A female brain develops the other way around. The “thinking and language” part develops first, then the “doing” part.

Any parent will tell you how quickly a child grows in the first year of life. Every aspect of the child is involved - their behavior, understanding, and the way they interact with others in their family. At this point, the brain of that child may look like any adult’s brain, but the changes have only just begun. By the time that child is three years old, that little brain has made a thousand trillion connections—twice as many as an adult. That’s just the tip of the iceberg in their development. Their social, emotional, and intellectual development will undergo a mind-boggling surge of activity from this age to the age of ten. Believe it or not, their brain activity during this time is twice that of a grown adult.

The reason for so much activity? A child experiences more in a short time than an adult. They learn to crawl, walk, run and explore. Reasoning and behavior come next, as well as memory; and of course, the biggest experience of all that separates us from the animals - language!

The difference in the brains of children and adults has to do with the acquisition of language. An adult brain processes language in the left hemisphere of the brain. However, scientists have discovered that, until a year old, babies can respond to language with their entire brain. Then, as they grow older, it shifts to the left hemisphere.

Language is the area that parents, teachers, and child-care providers have always understood to be of primary importance in the first years of life. It encompasses more than just reading. It also involves story telling and singing,

and even just the common everyday exchange between the adult and the child. Children love to converse with the adults in their lives, and the give and take conversations can have an enormous impact on the child's language skills.

Working on the child's language skills helps with more than just improving their intellect. It also helps the child with social and emotional skills. As the child begins to develop his/her brain as an infant, reading becomes the biggest and most important way to help wire your child's brain for continued learning.

We've already determined that a child's brain is a place of rapid activity to the age of ten, forming connections or synapses constantly. What causes their little brains to form these connections? Is it in their genes, or is it mostly environmental? Scientists have determined that genes have some control over this process, but what is crucial in the development of the brain's ability to form connections has to do with the experiences they encounter in life. It's true that having an adult read to the child, and other positive stimulations of this sort, have a profound impact on the child's brain development. This helps to create new neural pathways, as well as fortifying existing pathways.

As the child moves on towards adulthood, the pathways that are used repeatedly become stronger, but those that are not used often enough are discarded. This happens at a rapid rate once the child enters adolescence. Don't let this worry you as a parent; it's all completely natural. It's more of a pruning process, and is in fact advantageous to the human brain. By discarding unnecessary connections, the ones that remain can grow stronger and healthier.

It actually creates space for the more useful and favorable synapses and makes the brain function more efficiently.

So, there's a new way of thinking and training the brain of children. We know now that it's not only the genes you're born with that have to do with the brain's development, but also the experiences you gather along the way. Scientists also know now that early childhood experiences have a huge impact on the brain's development and your capacities as an adult.

The relationship between the child and the early childhood caregiver, that is besides the parents, the teachers, the babysitters, etc., have an enormous impact on the way that child's brain becomes wired for learning. Scientists have also learned that it's not just a steady flow of development from infancy to adulthood, but that there are prime times in the life of the child that's best for them to acquire different kinds of knowledge and skills.

So, the good news is that while it's no easy task to help your children develop their brains, there are many, many ways you can help them. Keep them stimulated, keep those synapses firing back and forth; and to do that, you must read to them, talk to them, and tell them stories and jokes. Positive interaction is essential to their intellectual growth.

That brings us to the bad news about training the brains of children. Studies show that at least one in four children under the age of six are growing up in impoverished situations. The nutrition or lack there of for the expectant mothers, as well as that of the children, medical care, even the safety of the environments they have to live in, affect those tiny brains. Poverty can affect the

stress levels of their parents, and constant working prevents those parents from the necessary interaction with the children. If all they do is work, they have no time to read and interact with the children.

Children raised in poverty situations have an increased chance of exposure to drugs, alcohol, violence and abuse. These conditions are not limited to only economically disadvantaged children, but are simply more likely to occur in those situations.

Researchers have noted more developmental delays and learning difficulties in such kids than in the more advantaged children, and that's because these early negative experiences have a huge impact on brain development. They are proving conclusively that poverty definitely influences these early childhood experiences.

Given the right circumstances, how smart can we make our children? Scientists have determined that a mere ten minutes a day of brain stimulation can create a brain with a standard I.Q or Intelligence Quotient. What if we added more stimulation to a child's day? Would an extra hour or two make a big difference? Could we, in effect, create children with super mental powers?

A prime example of the possibilities of this scenario would be the amazing life of Wolfgang Amadeus Mozart. His father, Leopold, was one of Europe's leading musical teachers and was Wolfgang's only teacher in the early years of his life. The result was that the young Mozart began learning to play the organ, violin, and the clavier when he was only three years old and was composing when he was five!

Prodigies, like Mozart, are not necessarily born smart or talented, but can be created by the parents and other caregivers. Stimulation every day causes the child to think more, thus producing more brain growth. Left on their own, children will find lots to do to entertain themselves, but more structured stimulation will produce more desired results. Young brains have been compared to small sponges, soaking up information all the time from all around them. Give them the desired information to produce the desired result.

How early is too early to learn to read? If the child is able to handle the spoken language, it's a good time to start teaching him/her to read. A child's brain is so ready and willing to tackle new skills, so able to handle all the new connections, that reading is actually amazingly easy for the young brain.

The parents are actually the ideal people to teach their children to read. It requires love, patience and determination, things parents already possess in abundance. They needn't have a college degree to be qualified to teach their children this skill.

"If I appear to see further than others it is because I sit on the shoulders of giants," said Baron Gottfried Wilhelm von Leibnitz

We can help our children stand on our shoulders and attain everything they want in life. Then we need to teach them to boost up their own children, and be the shoulders they stand upon.

Chapter Seven
You & Your I.Q.

"The difference between intelligence and an education is this-that intelligence will make you a good living." - Charles Franklin Kettering

Before you can understand how your I.Q. affects your brain and your life, you must understand what it is, how it works, and how to interpret the scores. Let me emphasize right off the bat that your I.Q. score has nothing to do with your value as a person. The tests should not necessarily be considered an absolute measure of intelligence. It should only give you an idea of your range of intelligence. It often happens that a person of above average intelligence scores low. It could be as simple as having an off day. The test scores should not be looked at as the be-all and end-all of measuring an individual's intelligence.

The I.Q. tests are made up of a set of standardized tests developed to measure your cognitive abilities, in relation to your age group. The WISC-III test contains ten types of problems, rated by difficulty and skill type and is the most common I.Q. test administered. The online I.Q. test is very popular right now, easy to take and costs nothing. The disadvantages, however, are that the online versions have no experts to certify them; they have fewer questions and no time limit. But, they can measure a general capacity for solving verbal and mathematical problems.

The average I.Q. score is 100 and the standard deviation of the scores is 15. What this means is that:

- 50% of the people have scores somewhere between 90 and 110.

- 2.5% of the people are considered superior in intelligence and have scores over 130.
- 2.5% of the people are considered mentally deficient or impaired and have scores under 70.
- 0.5% of the people have near genius scores of over 140.

What does this all mean to you? If you score 100 on the I.Q. test, it means that half the population scored higher than you and half scored lower than you.

The tests themselves are made to evaluate your skill in several areas.

- Verbal - This measures your mastery of vocabulary and your ability to use language to express yourself, as well as to comprehend stories and understand other people.
- Mathematical - This measures your mastery of numerical skills, the ability to use numbers and calculate computations. This also shows your mastery of shapes and equations.
- Spatial - This measures your ability to deal with visualization and manipulating 3D objects by flipping and rotating them.
- Logic - This measures your ability to make deductions that will lead to rational conclusions, as well as your understanding of cause and effect.
- Pattern Recognition - This measures your ability to see order in a chaotic environment. Patterns are found throughout nature and in everyday symbols, words, and images.
- Visualization - This measures how well you perceive visual patterns and extract the information you need for problem solving.

- Classification - This measures your ability to find similarities and differences between selected items.

Studies have shown that those people who are careful about their health and safety have a higher I.Q. They also discovered that conditions such as post-traumatic disorder, severe depression, and schizophrenia show up less often in those with a higher I.Q. On the reverse side, there was a much higher incident of OCD (Obsessive Compulsive Disorder) in those with a higher I.Q. score.

There is a controversy surrounding the administering of the I.Q. tests. Some insist that the Symbolic Logic, which is used as a means of scoring on these tests, does not necessarily denote intelligence. There are some too, who wonder exactly what is being measured with these tests. It's felt that some could show an amazing amount of emotional intelligence and yet not be able to comprehend the information necessary to do well on the tests. Many feel that other tests should be added to the existing I.Q. standardized tests. There are still those who debate whether income level, nutrition, race and gender have a definite impact on these tests, and thereby question their validity.

There is also the question of whether nature or nurture actually influences the development of the human brain, and can be argued on both sides.

Scientists are also reeling over the data gathered that shows a large jump in the average I.Q. score, presenting the question of whether this new generation is really smarter than all the previous ones. In a study done in 1998, it showed that it was indeed an increase of three I.Q. points per decade in the United States.

Part of the answer was in the early neurological development of the children; they are being stimulated at an earlier age than ever before. They also credit better education, better nutrition, more money, the fact that families are smaller these days than before, as well as television and video games. As a side note, it was determined that because they taught the children to manipulate objects through a 3-dimensional space, certain video games actually increased their I.Q.

Many of the scientists agreed that we must become smarter if we hope to survive. The world has become more complex and our intelligence must keep pace.

Despite whether or not the I.Q. tests are valuable, or a waste of time, they will continue to be administered, in the hopes of determining where a person's skills are strongest and weakest. Yet another reason to continue to learn and grow, and keep our brains honed and sharp.

"Thinking is the hardest work there is, which is probably the reason why so few engage in it." - Henry Ford

Conclusion

“There are three different kinds of brains, the one understands things unassisted, the other understands things when shown by others, and the third understands neither alone nor with the explanations of others. The first kind is most excellent, the second kind also excellent, but the third useless.” - Niccolo Machiavelli

Tests or no tests, the point is to enhance your intelligence, build up your mind, and train your brain. So, perhaps your I.Q. score is not that important; it’s real life intelligence that matters. Some will say it’s more important to be book smart (get an education), while others will say it’s street smarts (experience) that will serve you best in life. How about if we combine those two? Get the best education you can and learn from every experience in your life. In other words use everything at your disposal. That’s the best way to train your brain.

We’ve been talking about how your brain is like a computer. It is in fact a three-pound computer. No computer in the world has so much packed into so small a space. The human brain is an amazing machine, capable of more than you ever dreamed possible. It’s all in the way you look at things, how you treat that marvelous machine, how you feed it and train it. And remember, there are no limits to how much you can learn and how far you can take that human brain of yours.

You have the power to make all your dreams come true. You possess everything you need in the way of brainpower to get you where you want to go, no matter how far that might be.

So stop making excuses, stop the laziness, stop the defeating self-talk. But do ask yourself the tough questions. How smart do you want to be? Start now, today, training your brain. Feed it foods that help build it up, take good care of it, learn something new every day, stimulate your brain constantly, and make good choices. Try new things, develop new skills and talents, and think new thoughts. Keep that red matter constantly churning out new connections, and keep those neurons firing.

We've made great strides with our regular computers. They are almost smart enough to do without us. But, they are more than mere storage devices. Nowadays, we use them for everything. It's the same with your brain--your three-pound internal computer. It's capable of so much more than you realize. Now's the time to start finding out just how marvelous a machine you possess, there between your ears.

"I said in Dorian Gray that the great sins of the world take place in the brain; but it is in the brain that everything takes place…It is in the brain that the poppy is red, that the apple is odorous, that the skylark sings." - Oscar Wilde