Hormones are Chemicals but also They are Energetic as well
The Neurochemicals of Happiness

7 brain molecules that make you feel great.

Life in the human body is designed to be a blissful experience. Our evolutionary biology insures that everything necessary for our survival makes us feel good. All animals seek pleasure and avoid pain. Therefore, our brain has a wellspring of self-produced neurochemicals that turn the pursuits and struggles of life into pleasure and make us feel happy when we achieve them. This biological design is generous, but lays dormant in many. In this entry I will look at 7 brain molecules linked to happiness and offer simple ways you can trigger their release in your daily life.

The premise of The Athlete’s Way: Sweat and the Biology of Bliss is that through daily physicality and other lifestyle choices we have the power to make ourselves happier. One of the side-effects of living in a digital age is that we are increasingly removed from our physicality and each other. Our biology is short-circuiting. The balance of neurochemicals that evolved for millennia has been
disrupted by our modern lives, making us more prone to depression, anxiety and malcontent. Pharmaceutical companies are eager to readjust this imbalance with a pill. My goal is to prescribe simple lifestyle choices and changes in behavior that can improve your brain chemistry, make you feel better and motivate you to maximize your human potential.

Our body produces hundreds of neurochemicals. Only a small fraction of these have been identified by scientists. We will not know in our lifetime exactly how all of these molecules work. Albert Einstein believed that, "Everything should be made as simple as possible, but not simpler." Based on this philosophy I have applied simple tags to 7 brain molecules and general descriptions of how each is linked with a feeling of well-being.

THE NEUROCHEMICALS OF HAPPINESS

1. Endocannabinoids: “The Bliss Molecule” Endocannabinoids are self-produced cannabis that work on the CB-1 and CB-2 receptors of the cannabinoid system. Anandamide (from the Sanskrit “Ananda” meaning Bliss) is the most well known endocannabinoid. Interestingly, at least 85 different cannabinoids have been isolated from the Cannabis plant. The assumption is that each of these acts like a key that slips into a different lock of the cannabinoid system and alters perceptions and states of consciousness in various ways. It is likely that we self-produce just as many variations of endocannabinoids, but it will take neuroscientists decades to isolate them.

   A study at the University of Arizona, published in April 2012, argues that endocannabinoids are, most likely, the cause for runner’s high. The study shows that both humans and dogs show significantly increased endocannabinoids following sustained running. The study does not address the potential contribution of endorphins to runner’s high. However, in other research that has focused on the blood–brain barrier (BBB), it has been shown that endorphin molecules are too large to pass freely across the BBB, and are probably not responsible for the blissful state associated with the runner’s high.

2. Dopamine: “The Reward Molecule” Dopamine is responsible for reward-driven behavior and pleasure seeking. Every type of reward seeking behavior that has been studied increases the level of dopamine transmission in the brain. If you want to get a hit of dopamine, set a goal and achieve it. Many addictive drugs, such as cocaine and methamphetamine, act directly on the dopamine system. Cocaine blocks the reuptake of dopamine, leaving these neurotransmitters in the synaptic gap longer. There is evidence that people with extraverted, or uninhibited personality types tend to have higher levels of dopamine than people with introverted personalities. To feel more extroverted and uninhibited try to increase your levels of dopamine naturally by being a go-getter in your daily life and flooding your brain with dopamine regularly by setting goals and achieving them.

3. Oxytocin: “The Bonding Molecule” Oxytocin is a hormone directly linked to human bonding and increasing trust and loyalty. In some studies, high levels of oxytocin have been correlated with romantic attachment. Some studies show if a couple is separated for a long period of time, the lack
of physical contact reduces oxytocin and drives the feeling of longing to bond with that person again. But there is some debate as to whether oxytocin has the same effect on men as it does on women. In men, vasopressin (a close cousin to oxytocin) may actually be the “bonding molecule.” But again, the bottom line is that skin-to-skin contact, affection, love making and intimacy are key to feeling happy.

In a cyber world, where we are often ‘alone together’ on our digital devices, it is more important than ever to maintain face-to-face intimate human bonds and ‘tribal’ connections within your community. Working out at a gym, in a group environment or having a jogging buddy is a great way to sustain these human bonds and release oxytocin.

In a 2003 study, oxytocin levels rose in both the dog and the owner after time spent ‘cuddling’. The strong emotional bonding between humans and dogs may have a biological basis in oxytocin. If you don’t have another human being to offer you affection and increase oxytocin your favorite pet can also do the trick.

4. Endorphin: “The Pain-Killing Molecule” The name Endorphin translates into “self-produced morphine.” Endorphins resemble opiates in their chemical structure and have analgesic properties. Endorphins are produced by the pituitary gland and the hypothalamus during strenuous physical exertion, sexual intercourse and orgasm. Make these pursuits a part of your regular life to keep the endorphins pumping.

Endorphins are linked less to ‘Runner’s High’ now than endocannabinoids, but are connected to the ‘feeling no pain’ aspect of aerobic exercise and are produced in larger quantities during high intensity ‘anaerobic’ cardio and strength training.

In 1999, clinical researchers reported that inserting acupuncture needles into specific body points triggers the production of endorphins. In another study, higher levels of endorphins were found in cerebrospinal fluid after patients underwent acupuncture. Acupuncture is a terrific way to stimulate the release of endorphins.

5. GABA: “The Anti-Anxiety Molecule” GABA is an inhibitory molecule that slows down the firing of neurons and creates a sense of calmness. You can increase GABA naturally by practicing yoga, meditation or "The Relaxation Response." Benzodiazepines (Such as Valium and Xanax) are sedatives that work as anti-anxiety medication by increasing GABA. These drugs have many side effects and risks of dependency but are still widely prescribed.

A study from the "Journal of Alternative and Complementary Medicine" found a 27% increase in GABA levels among yoga practitioners after a 60-minute yoga session when compared against participants who read a book for 60 minutes. The study suggests yoga might increase GABA levels naturally.
6. Serotonin: “The Confidence Molecule” Serotonin plays so many different roles in our bodies that it is really tough to tag it. For the sake of practical application I call it “The Confidence Molecule.” Ultimately the link between higher serotonin and a lack of rejection sensitivity allows people to put themselves in situations that will bolster self-esteem, increase feelings of worthiness and create a sense of belonging. To increase serotonin, challenge yourself regularly and pursue things that reinforce a sense of purpose, meaning and accomplishment. Being able to say "I did it!" will produce a feedback loop that will reinforce behaviors that build self-esteem and make you less insecure and create an upward spiral of more and more serotonin.
Elements of Experience

**Biochemicals**
- Oxytocin: trust
- Vasopressin: commitment
- Serotonin: well-being
- Phensylethylamine: infatuation euphoria
- Dopamine: pleasure
- Adrenaline / cortisol / norepinephrine: stress, heightened senses, fight-or-flight
- Estrogen: social cognition & emotional processing
- Testosterone: risk-taking, competitiveness
- Low progesterone: PMS
- Low blood glucose: sluggishness
- Endorphins / opioids: pain killers, euphoric calm

**Conscious Mind**
- Re-framing the story, incl. the story of self (identity – “I am...”)
- Choices: “I decide / I will”

**External Factors**
- Synthetic chemicals / drugs
- Others’ biochemicals (e.g. pheromones)
- Physical environment
- Social interactions
- Food / drink

**Behavior**
- Laughter
- Meditation
- Massage
- Watching movies
- Going out with friends
- Attending church
- Exercise
- Eating
- Listening to music
- Smoking
- Doing drugs
- Lying / cheating
- Picking a fight
- Breaking up
- Avoiding people
- Over-sharing on Facebook
- Etc.

**Emotions**
- Fear
- Anxiety
- Sadness
- Apathy
- Loneliness
- Anger
- Jealousy
- Joy
- Pleasure
- Euphoria

**Other Bodily Factors**
- Physical senses / pain
- Biological pathways / receptors / transporters
- Bioelectricity / electromagnetism
- Bodily “capacities” / medical conditions
A variety of popular anti-depressants are called Serotonin-Specific Reuptake Inhibitors (SSRIs) — these are well known drugs like Prozac, Celexa, Lexapro, Zoloft, etc. The main indication for SSRIs is clinical depression, but SSRIs are frequently prescribed for anxiety, panic disorders, obsessive compulsive disorder (OCD), eating disorders, chronic pain, and post-traumatic stress disorder (PTSD).

SSRIs got their name because it was once thought they worked by keeping serotonin in the synaptic gap for longer and that this would universally make people who took these pills happier. Theoretically, if serotonin were the only neurochemical responsible for depression, these medications would work for everyone. However, some people never respond to SSRIs, but they do respond to medications that act on GABA, dopamine or norepinephrine systems.

Scientists do not fully understand the role of serotonin in mood-disorders which is why it is important that you work closely with a trusted psycho-pharmacologist if you want to find a prescription medication that works best for you. Also, the fact SSRIs take a couple weeks to kick in suggests that their effect may also have to do with neurogenesis, which is the growth of new neurons. These
findings illustrate that how anti-depressants work in each person’s brain varies greatly and is not fully understood by scientists or researchers.

7. **Adrenaline: “The Energy Molecule”** Adrenaline, technically known as epinephrine, plays a large role in the fight or flight mechanism. The release of epinephrine is exhilarating and creates a surge in energy. Adrenaline causes an increase in heart rate, blood pressure, and works by causing less important blood vessels to constrict and increasing blood flow to larger muscles. An “Epi-Pen” is a shot of epinephrine used in the treatment of acute allergic reactions.

An ‘adrenaline rush’ comes in times of distress or facing fearful situations. It can be triggered on demand by doing things that terrify you or being thrust into a situation that feels dangerous. You can also create an adrenaline rush by taking short rapid breathes and contracting muscles. This jolt can be healthy in small doses, especially when you need a pick me up.

A surge of adrenaline makes you feel very alive. It can be an antidote for boredom, malaise and stagnation. Taking risks, and doing scary things that force you out of your comfort zone is key to maximizing your human potential. However, people often act recklessly to get an adrenaline rush. If you’re an ‘Adrenaline Junkie’ try to balance potentially harmful novelty-seeking by focusing on behaviors that will make you feel good by releasing other neurochemicals on this list.

CONCLUSION
There is not a one-size-fits-all prescriptive when it comes to creating a neurochemical balance that correlates to a sense of happiness. Use this list of 7 neurochemicals as a rudimentary checklist to take inventory of your daily habits and to keep your life balanced. By focusing on lifestyle choices that secrete each of these neurochemicals you will increase your odds of happiness across the board.

Brain science is a triad of electrical (brain waves), architectural (brain structures) and chemical (neurochemicals) components working in concert to create a state of mind. This entry focuses only on the chemical elements.
Prozac & Mass Murder from Prof. Desire' Dubounet Shootings

This letter is of the utmost importance in explaining the recent tragic events. There has been a continuing tragedy of mass murder shootings mostly in America. The first largely published disaster happens in Columbine, Colorado. The amount of postal worker shooting and other such disasters, begs for an investigation into the cause. The cause is a simple word “Prozac”.

It is important this letter be published so the scientific community can evaluate its content. As a professor of medicine I can offer a scientific explanation for the disaster. When it happened I knew that this person was on some form of anti-depressant. This has just been confirmed by the news services. You see my interest started when I lived in Littleton, Colorado. I drove my step daughter to Columbine school every day. I was one of the chaperones at school dances. I knew the boys involved in the shooting. They were on Prozac.

Prozac is a drug that blocks the re-uptake or return of serotonin to the original synaptic membrane. Serotonin is one of our happy hormones. When we drink a single drink of alcohol, serotonin is released. The effect is a slight euphoria reduced inhibitions and some happiness. The natural process is that in about 12+ hours the serotonin is returned to the original spot. The theory of Prozac is that, by blocking re-uptake of serotonin, the serotonin can remain in the synaptic cleft longer. This would make us happy and reduce depression: But at what cost?

The re-uptake of serotonin has a biological function. It helps us to be grounded, it helps us to check our reality. It is said you can drink to forget, but when you wake up your troubles will still be there. And you must face them. This re-uptake reality check process is blocked by Prozac and most anti-depressants. Thereby with the reality check being disturbed a user can start to form unreal ideas. The killing on a computer game or a movie can be seen a reality. We see killing every minute in movies and tech games. Normal people see the difference, Prozac can block this perception.

Every mass murderer has been an anti-depressant user. In the recent Virginia case, a police officer observed how easily and calmly the shooters in all of these mass murders can operate. Normal people, even trained soldiers or the police, have nerves. They tremble, sweat, have some second thoughts, and sense it is wrong to kill.

But a Prozac user can be different. His reality check is interfered with. In his new reality it is logical to kill for the simplest of reasons. The shooter in Montreal said that there was too many girls in his engineering class. Normal people would choose other ways to handle such a conflict. The fact that these mass murders have little sweat or nervous reaction gives us proof of the pharmacological nature of this tragedy.

The problem is not the mental disease, but the illogical cure. Once again the synthetic pharmacology Industry has focused on the symptom (depression) and the sales. The side effects are observed, most often too late. This letter contains the explanation for the recent catastrophe.

But for over a year now this letter is not published by anyone. The Media has been bought. The world media is not doing its job. The media has been bought and is controlled by the big corporations like Big Pharma.

Now the new research shows that Prozac is no better than a placebo in treating depression. This story is a better one to remove Prozac from the market. The expose of deaths would not only continue the legal attack on damages that Big Pharma is occurring. Vioxx, DES, anti-cholesterol drugs, heart medications and a host of others. There is an ever growing awareness of just how much of a problem the incompatible synthetic pharmaceuticals are. This is a most vital story to tell, and tremendous cover up and conspiracy of the drug company.

But there is a larger story. The entire world press is bought and will not cover stories like this, will not cover stories of the international pedophile cartel, will not cover stories of Equal Economic Education, will not cover the angel. The greatest news story is that the news is not the news. Big Money and large corporations filter the news and they control the dribble of what we see. Every Journalist should be ashamed. Is there not one of them willing to step forward with honesty and integrity.

This letter must not be suppressed. This treatise requires more in-depth evaluation that cannot honestly be done from inside the Chemical companies. Please give this correspondence the proper treatment and allow others to read it.

Professor Desire Dubounet
the Sexual Warrior Witch
Emotion is one of the most controversial topics in psychology, a source of intense discussion and disagreement from the earliest philosophers and other thinkers to the present day. Most psychologists can probably agree on a description of emotion, e.g., what phenomena to include in a discussion of emotion. The enumeration of these parts of emotion are called the "components of emotion" here. These components are distinguished on the basis of physiological or psychological factors and include emotion faces, emotion elicitors, and emotion neural processes.

Components Of Emotion

The component that seems to be the core of common sense approaches to emotion, the one that most people have in mind when talking about human emotions, is the feeling component, i.e., the passion or sensation of emotion. For example, people generally agree that the state of mind during anger is different from that when one is happy. This component is also one of the most contentious in scientific discussions of emotion, raising many questions such as:

- to what extent are such feelings, especially the claimed differences in quality, based on real physical differences?
- is the feeling quality of a particular emotion shared among people?
- what is the nature of the differences in quality among emotions?
- what underlies or produces these feelings?
- what importance or function do such feelings have?

Another obvious descriptive component of emotion is the set of behaviors that may be performed and observed in conjunction with an emotion. These behaviors are produced by the striated muscular system and are of two general types: gross behaviors of the body effected by the skeletal muscles and the so-called emotion expressions. These categories shade into each other because any behavior can be interpreted as expressing emotion. The gross body behaviors may have no apparent adaptive value, e.g., wringing and rubbing the hands or tapping a foot, or they may be directed towards a goal, e.g., striking something or
running away. In the field of animal behavior, discovering the adaptive function and organization of behaviors in situations analogous to human emotion, and speculating on the evolutionary patterns of these behaviors is an established endeavor. This emphasis has not typically been given to the study of human emotions by psychologists. The facial and bodily behaviors called "emotion expressions" are indicators of emotion, as opposed to effecting some action or achieving some goal. These expressions can differentiate one emotion from another. The most widely discussed and investigated emotion expressions are the emotion faces (see the examples of emotional expressions).

A less obvious component of emotion is the set of internal bodily changes caused by the smooth muscles and glands. Chemicals secreted by the body's various glands are activated during emotion and spread to other parts of the body, usually by the blood, to act in diverse ways on the nervous system and other organs. Smooth muscles of the digestive system, circulatory system, and other bodily components can shift from their typical level or type of operation during emotion under the effects of chemical and neural action. This component includes some behaviors that can be observed, such as the constriction or dilation of the iris of the eye, possibly piloerection, and sweating, blanching, and flushing of the skin, and other responses that are relatively hidden, such as heart rate, stomach activity, and saliva production.

Another less observable component in emotion consists of the ideation, imagery, and thoughts that occur during emotion. These aspects of emotion are also cognitive activities, and can both give rise to an emotional event and be affected by it, e.g., thinking about a lost pet may evoke feelings of sadness, which may in turn evoke memories of a romance now finished. Since thoughts and other cognitions, like feelings, cannot be directly observed and are hard to measure, there is less understanding of how they fit into the emotion picture than other components.

The circumstances that give rise to emotions comprise another component, called the "elicitors" of emotion. These elicitors might be internal or external to the organism, e.g., a frightening pain in one's chest or a frightening dog at
one's heels. Some events seem to activate similar emotion in people of all cultures, for example, the death of one's own child typically elicits sadness. Other things, such as what foods are relished or rejected with disgust, vary widely according to acculturation.

Finally, the neural processes that underlie much of the preceding activities can be considered a component of the emotion process, especially how the neurons and their emotional concomitants are organized centrally in the brain. Many contemporary research studies, and thus a lot of the research money, is focussed on anatomical and functional aspects of brain activity in regard to emotion.

**Theories Of Emotion**

Beyond the descriptive approach to emotion, there are theories of emotion, which attempt to specify the interrelationships among components as described above and the causes, sources, and functions of emotional responses. Disagreement characterizes the intellectual climate surrounding emotion theories, but there are several works in print that summarize these approaches for the interested reader. The [Theories of Emotion page] of this section summarizes some of the most important theoretical statements on emotion that emphasize the role of the face.

**Expression Of Emotion**

Emotion expression is another area of controversy, but at the descriptive level, some behaviors tend to occur with other components of emotion, and seem to reveal the quality of the emotion to an observer. The [Emotion Expressions page] of this section discusses the relations between emotion and facial expression.
The Electro-Stimulant of Oxytocin Makes for Bonding to the Face

Oxytocin is Released at Birth for Bonding
New Take home SCIO Eductor Wellness Treatment Apps with Special Subspace Vibrational Sacred Geometry Videos for Patients to use on their Phone
ENDORPHINES
The happy hormone

Increase your happy hormones
OXYTOCIN
The Bonding Hormone

Oxytocin aids in face recognition
**What Are Emotions?**

Emotions, often called feelings, include experiences such as love, hate, anger, trust, joy, panic, fear, and grief. Emotions are related to, but different from, mood. Emotions are specific reactions to a particular event that are usually of fairly short duration. Mood is a more general feeling such as happiness, sadness, frustration, contentment, or anxiety that lasts for a longer time.

Although everyone experiences emotions, scientists do not all agree on what emotions are or how they should be measured or studied. Emotions are complex and have both physical and mental components. Generally researchers agree that emotions have the
following parts: subjective feelings, physiological (body) responses, and expressive behavior.

The component of emotions that scientists call subjective feelings refers to the way each individual person experiences feelings, and this component is the most difficult to describe or measure. Subjective feelings cannot be observed; instead, the person experiencing the emotion must describe it to others, and each person’s description and interpretation of a feeling may be slightly different. For example, two people falling in love will not experience or describe their feeling in exactly the same ways.

Physiological responses are the easiest part of emotion to measure because scientists have developed special tools to measure them. A pounding heart, sweating, blood rushing to the face, or the release of adrenaline * in response to a situation that creates intense emotion can all be measured with scientific accuracy. People have very similar internal responses to the same emotion. For example, regardless of age, race, or gender, when people are under stress, their bodies release adrenaline; this hormone helps prepare the body to either run away or fight, which is called the "fight or flight" reaction. Although the psychological part of emotions may be different for each feeling, several different emotions can produce the same physical reaction.

Expressive behavior is the outward sign that an emotion is being experienced. Outward signs of emotions can include fainting, a flushed face, muscle tensing, facial expressions, tone of voice, rapid breathing, restlessness, or other body language. The outward expression of an emotion gives other people clues to what someone is experiencing and helps to regulate social interactions.

* adrenaline (a-DREN-a-lin), also called epinephrine, (ep-e-NEF-rin), is a hormone, or chemical messenger, that is released in response to fear, anger, panic, and other emotions. It readies the body to respond to threat by increasing heart rate, breathing rate, and blood flow to the arms and legs. These and other effects prepare the body to run away or fight.
What Are The Sources of Emotions?

Scientists have developed several theories about how emotions are generated based on subjective feelings, physiological responses, and expressive behavior.

The facial muscles involved in emotional expression are governed by nerves following a complex system of direct and indirect pathways to and from the motor cortex (voluntary smile circuit under conscious control) and the limbic system and brain stem (spontaneous smile circuit not under conscious control). This may explain why people's faces can express emotions like happiness, fear, and disgust without their being aware of it.

The James-Lange theory

American scientist William James (1842-1910) and Danish scientist Carl Lange (1834-1900) both studied the relationship between emotion and physical changes in the body. In about 1885, they independently proposed that feeling an emotion is dependent on two factors: the physical changes that occur in the body and the person's understanding of the body's changes after the emotional event. James and Lange believed that physical changes occur first, and then interpretation of those physical changes occurs. Together, they create the emotion.

According to the this theory, when Mandy experienced a threatening situation (almost being hit by a car), her body first sent out chemical messengers, like adrenaline, that caused physical changes such as increased breathing and a faster heart rate. Her brain then sensed these physical changes and interpreted them as the emotion fear.
One of the problems with the James-Lange theory is that emotions seem to happen too quickly to be accounted for by the release of chemical messengers and the changes they cause. Another problem is that different emotions (for example fear and anger) have been shown to cause the same physical responses.

**The Cannon-Bard theory**

In 1927, about 40 years after the James-Lange theory was developed, Harvard physiologist Walter Cannon (1871-1945) and his colleague Philip Bard (1898-1977) developed a new theory that related the workings of the nervous system to the expression of emotions. Cannon and Bard found that people could experience emotion without getting physical feedback from chemical messengers. They proposed that upon experiencing a stimulating event, information about the event is collected by the body's senses and is sent through the nervous system to the brain.

In the brain, the message is sent two places at the same time. The message is sent to the cortex *, which creates emotions; in Mandy's case it created fear. At the same time, the message also goes to the hypothalamus (hy-po-THAL-ah-mus). The hypothalamus is the part of the brain that controls automatic body responses. It tells the body to send out chemical messengers that cause the body to respond. Some of these responses are experienced as behaviors such as shaking, rapid breathing, and crying.

**The Schacter-Singer model**

In 1962, American scientists Stanley Schacter (1922-1997) and Jerome Singer (still teaching at Yale University in 2000) took elements of both the James-Lange and the Cannon-Bard theories and modified them to try to better explain the relationship between physical responses and emotional experience.

* cortex is the part of the brain that controls conscious thought; it is where people experience thinking and feeling."
According to the Schacter-Singer model, both physical changes and conscious mental processing are needed to fully experience any emotion. In this model, in response to her near-accident, Mandy's body sent out messages to create physical changes such as an increased heart rate. Mandy's brain sensed these changes and then analyzed them and put a label on them. The emotional label selected for the feelings was fear, and it depended in part on Mandy's experience with large fast cars; in other words, she knew from experience in her past that cars are dangerous. This model explains why the same physical responses can produce different emotions. The brain decides, for example, whether fear or anger or surprise is the appropriate emotion based on mental processing of physical information. Thus, interpretation of information from the environment, body feelings, and experience figure more prominently in the Schacter-Singer model.

Researchers believe that the frontal lobes and the amygdala are among the most important brain structures affecting emotions. Feelings of happiness and pleasure are linked to the prefrontal cortex. Anger, fear, sadness, and other negative emotions are linked to the amygdala.

Research continues on the relationship between the body, the brain, and the perception of emotions. One current area of research is focused on whether certain areas of the cortex are dedicated to specific emotions and whether a person can feel an emotion when a particular part of the cortex is stimulated directly by an electric impulse.

**Why Do We Have Emotions?**

Emotions appear to serve several physical and psychological purposes. Some scientists believe that emotions are one of the fundamental traits associated with being human. Emotions color people's lives and give them depth and differentiation. For many people, strong emotions are linked to creativity and expression. Great art, music, and literature
deal on a fundamental level with arousing emotions and creating an emotional connection between the artist and the public. Some scientists also believe that emotions serve as motivation to behave in specific ways.

The French neurologist Guillaume Duchenne (1806-1875) studied the body's neuromuscular system. In this experiment (c. 1855), he used an electrical stimulation device to activate the involuntary facial muscles involved in smiling and laughter.

Physiologically, emotions aid in survival. For example, sudden fear often causes a person to freeze like a deer caught by a car's headlights. Because animals usually attack in response to motion, at its simplest level, fear reduces the chances of attack. When Mandy froze in response to a car racing by her, this was an example of a physical response to an emotion that improved her chances of survival.
Emotions also help people monitor their social behavior and regulate their interactions with others. Every person unconsciously learns to "read" the outward expressions of other people and apply past experience to determine what these outward signs indicate about what the other person is feeling. If a person sees a man approaching who is walking very aggressively, holding his body stiffly and frowning, the person might correctly assume that the man is angry. Using this information, the person can decide whether to leave or to stay or what tone of voice and body language to use when approaching the man.

Some outward expressions of emotions (body language) mean different things in different cultures. For example, if a young person avoids looking directly at a person in authority, it is taken as a sign of respect in some cultures. In other cultures, this expression suggests guilt or a lack of trustworthiness.

**What is Emotional Intelligence?**

*Emotional intelligence* refers to people's ability to monitor their own and other people's emotional states and to use this information to act wisely in relationships. Emotional intelligence has five parts:

1. **Self-awareness:** recognizing internal feelings.
2. **Managing emotions:** finding ways to handle emotions that are appropriate to the situation.
3. **Motivation:** using self-control to channel emotions toward a goal.
4. **Empathy:** understanding the emotional perspective of other people.
5. **Handling relationships:** using personal information and information about others to handle social relationships and to develop interpersonal skills.

Researchers are beginning to develop tests that can measure emotional intelligence. Scientists who study emotions generally believe that people with high emotional intelligence usually work well in cooperative situations and are good at motivating and managing others. People with low emotional intelligence often misinterpret emotional signals and have difficulty with relationships. Although emotional intelligence probably
has an inherited component, many psychologists believe that people can be guided into making better use of the emotional intelligence that they possess.

**Resources**

**Books**


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**Relationship Of Emotions And Food**

Margaret E. Woltjer, Ph.D | July 2006

**Introduction**

The relationship between emotions and food is complex. There are many articles available today that discuss topics such as emotional eating, the effect of stress on appetite, the effect of stress on the body’s production of certain chemicals, and the relationship between obesity and depression. The overall picture can seem unclear and contradictory at times.

Our body is multifaceted and changes in response to ongoing environmental and internal demands. People tend to look at Body (chemistry) -- Food (nutritional components) -- Emotions as a unidirectional relationship. In fact, any one of these three components can be a starting point, an end point, or a link within a chain reaction involving the other two parts. Let’s discuss the relationship of these components in terms of the impact of stress on the body and our emotional state and, subsequently,
why we may choose certain foods in response to these emotions.

The diagram below picks the beginning-point “stress” and flows from there. It would have been just as valid to choose any other point of the diagram to begin, or even to have the components flow in the other direction. But “stress” is such a common problem that it makes sense to begin there.

Questions related to the Diagram

- How does stress alter our body chemistry?
- Why do we gravitate toward eating certain types of foods when under stress?
- How well does food work to reduce stress?
- What are some good ways to deal with stress?

How does stress alter our body chemistry?

When under stress, our body increases its production of a number of hormones. The particular hormone that is produced depends upon the degree of stress one encounters. Acute stress (e.g., life or death situations) stimulates the release of epinephrine (also known as adrenaline) while chronic stress (e.g., mourning, anxiety, and separation) tends to stimulate the release of corticotrophin (ACTH) and cortisol. Stress can also stimulate the release of other hormones, while at the same time inhibiting the release of others. The release of extra epinephrine and cortisol is intended to prepare our body for action. They act to shift our organ systems into overdrive, preparing us to dig in and tackle the situation or to flee from it as quickly as possible. Either response could result
in preserving life or, at least, diminishing the threatening agent to the point where it no longer poses a danger.

If we think of the diagram above as representing a continuously flowing system that is subject to fluctuations due to internal and external agents, we begin to see that our emotions are affected by both body and brain chemistry, and vice versa. For example, when cortisol courses through the body in greater than normal amounts, metabolism is affected. Energy is shifted quickly from key storage areas to the muscles, readying them for action. We are all familiar with what we experience when we have “a close call”. But we also know that the symptoms associated with that flood of adrenaline will not last long. The entire system has a feedback loop built into it so that once the emergency is dealt with, the release of cortisol drops back to its normal rate. This is accomplished by cortisol itself, acting as its own shut-off messenger. When it reaches the brain it commands it to stop the body’s production of the hormone. But under conditions of chronic stress the system does not shut off. When we are under chronic stress cortisol production continues, leading us to feel anxious, hypervigilant, and depressed (1).

**Why do we gravitate toward eating certain types of foods when under stress?**

While the brain “instructs” the body to produce and release certain chemicals to deal with stress, these chemicals also have an affect on the mood center of the brain. In addition to the direct influence of brain chemistry on our emotional state, there are also physiological influences accounting for alterations in mood. These include the direct benefit we obtain from the nutritional content of food as well as the body’s access to its own energy storage sites (e.g., fat deposits). Because of its close proximity to the liver, abdominal fat can be more easily broken down as a source of energy. However, in times of chronic stress this source of energy cannot be broken down quickly enough to replace what is being utilized, so we tend to seek out a fast replacement in the form of fat- and sugar-laden foods. They replace our depleted energy reserves and, because they are usually highly palatable, they act as a “comfort food” as well. The problem is that while sweet, fatty foods low in protein may alleviate stress in some people by raising serotonin levels, the over-consumption of such foods often leads to abdominal obesity.

Among individuals, psychological characteristics that predict the tendency to choose comfort foods when stressed include neuroticism, depression, premenstrual dysphoria (PMS), and those who engage in emotional eating (2). This study also found that when meal size and food content were closer to the eater’s habit, expectations and needs, their mood was also more likely to be positively affected.
How well does food work to reduce stress?

Based upon the evidence so far, we know that food selection is determined in part by the presence of hormones and other neurotransmitters. Different patterns emerge depending on whether we encounter acute stress or prolonged stress. Food acts to restore energy reserves depleted as a result of chronic stress. Individuals differ from one another in terms of how they react to stress. For example, a study by Oliver, et.al. revealed that stress did not alter the overall amount of food eaten by the participants, but that stressed emotional eaters ate more of the sweet high-fat foods and a more energy-dense meal than unstressed and nonemotional eaters (3).

We know that if food selection were merely an immediate and necessary response to the body’s demands in times of stress (including ordinary hunger), we would have less difficulty with obesity. But individual food preferences are also based on food experiences and attitudes around eating. Overweight and obese individuals show a tendency to select the type of foods that contribute to and maintain these conditions. So while food plays an important role in reducing stress, it can also produce stress in the form of physiological and psychological complications. The most common ones we see are those arising from obesity and the type of health problems that so frequently accompany long-term reliance on inappropriate food choices.

There is evidence to suggest that some people respond to stress by selecting food for its chemical effects while others choose foods to meet emotional needs. Emotional eaters don’t necessarily eat greater quantities of food; they eat more foods that are higher in fat and in starch, sugar, and salt content. Information gleaned from surveys taken after 9/11 indicated that approximately 15% of Americans ate more comfort foods, while an additional 14% reported eating more sweets. Two months after the terrorist attacks, one in ten Americans had gained weight. This example of emotional eating demonstrates the power of stress in altering eating behavior.

What are some good ways to deal with stress?

The Mayo Clinic and the American Psychological Association have come up with several recommendations to help us deal with stress and emotional eating (4). The list below consolidates their coping tips.

1. **Become more familiar with which stressors trigger your emotional eating.**
   Before you begin making any changes, try taking a couple of days to see if there is a pattern of when you are more likely to eat unhealthy foods. Jot down your observations.

2. **Try to wait 15 to 30 minutes before choosing food to deal with the stress.**
   Sometimes our food craving passes if we wait. Often we become distracted and forget about our favorite comfort food.
3. **Look for “comfort” somewhere else.**
   Many times other activities provide the same kind of shift in our chemistry that we get from food, and the benefit will last longer. For example, take a walk, start an activity, call a friend, go see a movie). Begin developing a habit of using these alternative resources by using them more regularly when not under stress.

4. **Notice where and when you are more likely to snack.**
   For example, you may notice that you are more likely to eat comfort snacks when you get home from work or while watching TV. You could begin by changing what you eat and how much you eat at that time.

5. **Keep healthy snacks on hand (and remove unhealthy snacks from your home and workplace).**
   Avoid grocery shopping when hungry or upset. Remove foods from your home that are high in fats and calories. Replace them with fresh fruit, vegetables (including fat-free dressings and dips) and unbuttered popcorn.

6. **Eat regularly and eat a healthy, balanced diet.**
   One reason you may be relying on emotional eating habits to deal with stress is that your present diet does not include enough calories to meet your energy needs. Include foods from the basic food groups in your meals, emphasizing whole grains, vegetables and fruits, low-fat dairy products and lean protein sources. Filling up on these basics helps you to feel fuller, longer.

7. **Try changing how and where you eat your meals.**
   You will probably enjoy your food more, and eat less, if you sit down to eat and do not engage in other activities while eating.

8. **Develop a habit of asking yourself why you are about to eat.**
   This strategy helps you to understand more about how your emotions affect your eating choices. It also helps you pay attention to eating in response to hunger vs. emotional needs.

9. **Exercise regularly.**
   Exercise is a natural stress-reducer. Regular exercise also affects our rate of metabolism, and this continues to readjust itself as we become fitter and leaner. In addition to healthy eating, exercise does more to adjust our body chemistry and our response to stress than anything else we could do.

10. **Get adequate rest.**
    We will be better equipped to fight stress both emotionally and physically if we are getting enough rest. As we rest or sleep, our body replenishes worn and dying cells with new ones (remember, a healthy diet means the replacement parts are a better quality). Also, rest is necessary for the body to filter out the toxins produced by our body during a stressful, busy day.
Anxiety Disorder Causes – Myths & Reality

What Causes Anxiety Disorders?

It's a question that is so difficult to answer. It's not like having a cold – you can't simply wake up with an anxiety disorder because you forgot to wash your hands before eating.

Anxiety disorders are forged over years of experiences. They have a genetic component, an upbringing component, an environmental component. Every experience you've ever had can craft your anxiety disorder, just as any experience you've had in life can ensure you never get one.

Still, the best way to understand what created your anxiety disorder is to break it down into the two main causes:

- Biology
- Environment

Biological Causes of Anxiety Disorders

Genetics and biology play a role in the creation of anxiety disorders. Not only does anxiety appear to run in families – if you take two people with similar experiences, one may have an anxiety disorder, one may not, and the only difference between them may be genetic, or at least influenced by the body more than the mind. Biological causes include:

Deregulation of Brain Chemistry

Several studies have shown that brain chemistry imbalances are a very likely cause of anxiety disorders. This research has shown that those suffering from anxiety often have issues with several neurotransmitters (brain chemicals), including serotonin, norepinephrine and gamma-aminobutyric acid (GABA).

References:

It's not entirely clear if the imbalance was due to poor coping strategies, or if the imbalances came first and lead to the experience of anxiety. Therapy – without any medicinal intervention – has been shown to improve chemical regulation, indicating that even though there may be a biological component, the mind can overcome them and improve the flow of neurotransmitters throughout the brain. But in some cases, doctors prescribe medicines for these issues that are specifically designed to improve neurotransmitter regulation.

Serotonin, norepinephrine, and GABA also play a role in sleep, mood, and emotional stability.

**What Are Your Anxiety Symptoms?**

Serotonin, norepinephrine, and GABA deregulation can affect the entire body, not just the mind, and may create a variety of symptoms that indicate an anxiety problem. Take my [free 7 minute anxiety questionnaire](#) to see what symptoms of yours may be related to faulty neurochemical transmission. [Click here to take the test.](#)

**Brain Activity Alterations**

In addition to the chemicals themselves, studies of brain imaging have shown that some people with anxiety have different brain activities than those without anxiety. Those with anxiety disorders may have anomalies in blood flow and brain metabolism, as well as structural abnormalities in different parts of the brain.

Don't let this scare you, however. Studies have also shown that with effective anxiety treatments, these changes are only temporary. They may even be a result of anxiety, rather than a cause of anxiety, indicating that they should disappear when your anxiety is treated.

**Genetics**

Studies have shown time and time again that some people are more genetically prone to anxiety disorders than others. Anxiety disorders appear to be passed down from parents and immediate family to children, especially with regard to panic disorder.

It's not entirely clear what component of that is still related to upbringing (it's also been shown that children that see anxiety in their parents are more likely to become anxious themselves), but there is still a genetic component at play. Those that have immediate family suffering from an anxiety disorder should be especially careful about reducing stress and anxiety in their lives.

**Medical Factors**

Less commonly, there may be some medical conditions that lead to increased anxiety. This occurs when some disease or illness effects the brain, causing a disruption in brain chemistry. In these cases, treating the underlying condition will generally prevent further anxiety. However, diseases that cause anxiety are less common than most people believe,
and anxiety can make you fear that you have these conditions even without medical evidence.

**Environmental Causes of Anxiety Disorders**

Of course, even in those with a genetic component, most believe that environment plays a triggering role in anxiety disorders, and in some cases may cause anxiety disorders by themselves. In this cases, environment includes everything that is not genetic – every experience you have, every place you go, and everything you've been taught.

According to a study of monozygotic twins (identical twins) and dizygotic twins (fraternal twins), monozygotic twins – who both share the same DNA – were twice as likely to develop anxiety disorders than fraternal twins, but in each of these cases their genetics did not guarantee an anxiety disorder, which indicates that environment still plays a role.

It's also strongly believed that men and women can develop anxiety disorders from the environment alone. This is supported by the idea that anxiety can be treated without any medicine or surgery, indicating that a great deal of mental health is forged by life experiences.

Common environmental causes of anxiety include:

**Stress**

There are certainly some very serious causes of anxiety disorders. But simple life stress is easily one of the most common reasons that people develop anxiety. Stress – especially long term stress, like one would experience in a job they disliked or in a relationship that was emotionally damaging – appears to create anxiety disorders.

How you react to stress and cope with stress plays a significant role in your ability to prevent stress from causing an anxiety disorder, and many of those that suffer from persistent stress for an extended period of time find that the anxiety and stress doesn't leave them, even if the stressful situation goes away.

**Upbringing/Life Experiences/Parenting**

Your life is forged on millions of experiences, and each of these experiences can promote or prevent developing an anxiety disorder. You can learn anxiety from your parents, simply by watching the way they react to fear when you're younger. You can also learn anxiety from their teachings. You can create social phobia simply because of a few poor social reactions in your youth.

You can become fearful as a result of bullying, or you can develop anxiety because you're worried about school, teachers, classmates – anxiety disorders are either forged and prevented in nearly every life experience you've had, sometimes in small ways and sometimes in much larger ways.
**Trauma**

Specific traumas may also lead to the development of anxiety disorders. This is especially common in those with PTSD (post-traumatic stress disorder), but may also affect those with generalized anxiety disorder, panic disorder, social phobia, and more. Trauma early in life has the potential to have serious, long term repercussions that may lead to anxiety later in life.

**Change**

Change can actually lead to anxiety disorders as well. Some people adapt to change quickly, but many others do not. This includes smaller changes, like a new job or a new home, or larger changes, like the loss of a loved one, a divorce, or a significant move. Change puts people in an emotional place that feels unfamiliar, and that unfamiliarity can lead to significant stress and ultimately the creation of an anxiety disorder.

**Abuse/Neglect**

As children and as adults, abuse and neglect can also lead to the creation of anxiety disorders. Some psychologists point to a person's childhood as the sole creator of anxiety, and often believe that abuse and neglect play significant roles. But in reality, some form of abuse and neglect can occur at any time. Those in emotionally damaging relationships, for example, often find that the emotional instability these relationships create ultimately ends up leading to anxiety. Both abuse and neglect can create very powerful responses, and anxiety is one of these responses.

Still, the most important thing to remember with all of these environmental causes of anxiety is that in some cases you may never know exactly what lead to your anxiety symptoms.

Anxiety could have been created in your childhood as a result of the way that your parents raised you. But it also may have been created by smaller interactions that you've had over the course of your life, each one reinforcing the anxiety you experienced. Psychologists will often try to work with you to discover the origin of your anxieties, but in some cases the answer may never be known, because it may have developed over the course of years of minor experiences that ultimately left you feeling more anxious.

**Understanding the Causes of Anxiety is Part of the Journey**

Anxiety disorders are often incredibly complex – much more complex than many people want to give it credit for. It may be hard to figure out the exact cause of your anxiety, and in some cases it may be almost entirely genetic related – indicating that you may have developed your anxiety through nothing more than your genes.

But understanding the potential causes of anxiety are still important, and perhaps even more important is understanding that no matter what caused your anxiety, it can always be treated. It doesn't matter whether the cause of your anxiety was biological or environmental
– anxiety is a treatable condition, and if you make smart decisions you can even cure your anxiety completely, no matter how you were raised or how your body is designed to react.

There are countless anxiety causes, but there are also effective anxiety treatments. I've helped many people overcome their anxiety, and to start, I always tell them to learn more about anxiety causes and take my 7 minute anxiety test. It's a test designed to take the answers you provide about your anxiety and give recommendations for next steps in controlling it completely. So if you haven't done so yet, take the test here.

References

The Science of Tears

By DEREK WHITNEY

United States President Barack Obama celebrated his November 2012 victory with a mix of cool eloquence and raw emotion rarely seen in public leaders. The emotion culminated in a teary moment during his speech thanking campaign workers.
Underneath the obvious reasons for celebration lay an ancient mechanism of stress release and interpersonal bonding found in tear production. Contrary to Western stereotypes about crying and weakness, Obama shared something with his audience that has served human needs throughout history.

What is the science behind tears? What is their purpose? Let’s find out...

The Science of Tears

While people feel a profound difference between happiness and sadness, the body often doesn’t make a distinction. Intense situations of any sort can provoke overwhelming reactions. Whether the trigger is a political victory or a crisis, the body produces more stress hormones as part of the preparation for the fight-or-flight response.

Tears act as a safety valve by releasing excess stress hormones such as cortisol. If left unchecked, chronic elevated levels of these hormones can cause physical ailments and play havoc with mood. As stress often precedes a good cry, the sense of calm often felt afterward is at least in part due to hormonal release.

Tears of Victory

The grueling presidential campaign meant months of high stress on top of existing pressures. Once the election results were clear, everyone involved likely felt a great sense of relief that the process was over. Biologically, both winners and losers had elevated levels of stress hormones that needed release. When President Obama gave his post-victory speech to his campaign staff, his body was primed for a heartfelt tear or two. The expression of emotion benefited his supporters as well by boosting a sense of bonding and attachment.

President Obama’s tears were spontaneous, and their genuineness moved his audience. Tears usually signal deep emotion and communicate that a person’s response to a situation is authentic. Nonverbal signs of honesty can be critical in many social situations. In fact, tear production may have evolved partly for this reason.

Raw Emotion Builds Unity

Studies in emotion research suggest that crying often signals vulnerability. By blurring vision, tears lessen a person’s ability to behave aggressively. According to Dr. Oren Hasson, an evolutionary psychologist at Tel Aviv University, crying signals submission to an attacker. It also promotes feelings of sympathy or unity in associates. By letting your guard down through tears, you tell your supporters that you trust and identify with them. Any political strategist can appreciate the value of this dynamic.

Why Fake Tears Don’t Work

Scientists have discovered that the chemical composition of emotional tears differs from those caused by external stimuli such as slicing onions. Emotional tears contain higher levels of certain stress hormones such as adrenocorticotropic hormone, prolactin and the painkiller leucine enkephalin. Adrenocorticotropic hormone and prolactin levels rise with stress. Emotional tears also contain more manganese than those from irritants, and
manganese helps regulate mood. Chronically depressed people often have high levels of manganese in their systems.

A good cry from either happy or sad events releases high amounts of stress hormones, protein and manganese. Thanks to these chemicals leaving your body, you often feel relieved and relaxed. Crocodile tears don't have the biochemical or psychic weight of deep emotion behind them, and an audience can usually tell.

Although President Obama did not plan his emotional display as a tribute to evolution, its effects were true to scientific prediction. His vulnerability sparked a different kind of attention. Much of the audience seemed to respond with sympathy and a sense that this world leader was more like them than perhaps thought. Such social mediation is exactly what tears were designed to do.
The upper brain or higher cortex as it is called is where eloquent superior brain functions resides. Here we expand our mind to see the rights of other, to see a society, to feel a God, to feel a connection, an interdependence that transcends the selfish. Here we learn to control the instinct to kill, to steal, to lie. People are now taught respect, love, devotion, discipline, and all of the higher grandiose human abilities that inspire us to be more than just a simple fight for greed, anger, self gratification. The higher functioning brain can understand big concepts such as international, holistic, the angel. The small lower lizard geek brain fears big words and tries to stifle them.

The lower brain is also referred to as the lizard brain. It is designed for personal survival. It monitors the need for the basic essentials for self preservation. Anger, hate and aggression reside here. Thus the search for food, clothes, shelter become territorial and this leads to greed. Mind and more dictate all action. Thus killing, stealing, lying to survive is fine. Social moire, laws and ethics are not important. Self gratification is all as that the lizard brain does not see past itself. Thus the psychopath is dominated by the lower lizard brain. The fear of humiliation also resides here and exposure of false belief must be avoided. All of our education process is designed in some way to transcend the small selfish lizard brain.

The world today has slipped backwards to a “Jack ass” society of self gratification and selfishness. Many people have lost sight of the higher respectful brain function. Our education system has failed.

The world must choose now as to which direction it will proceed. The lizard brain selfish depletion of the world resources for greed, or the cooperative, respectful was of the higher brain. Do we want to share the glory, the blissful grandeur, or hoard hate and fight each other in a pool of blood.

The Angel has brought us the message in many ways. Education is the key and there is one way to break the hold of the greedy and stop the hypocrisy of a false equal society. All men are created by the education process. All men are not created equal, until education is equal.

There is one clear step to the future:

Equal Economic Education