

www.CBTandFeelingGood.com - **The science of FEELINGS**
(aka how stress deregulates your nervous system)



Neuroscience is changing psychology models and how we understand and manage our lives.

With traditional CBT back in the day, it was all about *thoughts causing feelings which cause behaviours* – but in this ‘third wave’ of up to date CBT, which learns and adapts as new science informs us, it is just as important to also understand your brain’s wiring, and how the Fight or Flight threat response and emotional centre of the brain (the amygdala) physically pumps your body up in response to events, and how easily that process can go haywire, which

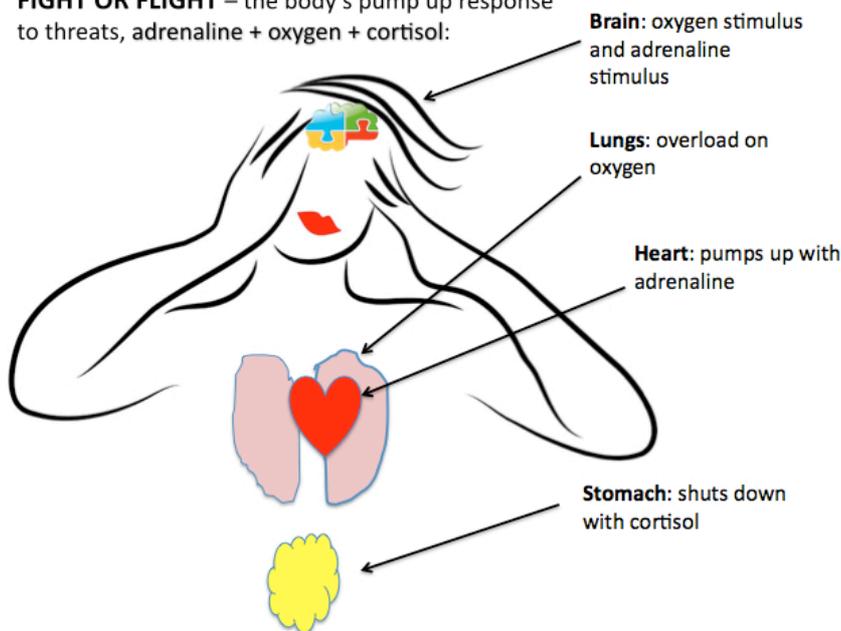
influences and messes up the data for how you explain the world to yourself. And hello disorder and confusion...

With stress disorders, this *discomfort* and pumping up of adrenaline and oxygen occurs BEFORE your rational ‘thinking and evaluating’ part of the brain, (the pre-frontal cortex), has a chance to get a look in, especially if you have general anxiety - so awareness and management of the physicality of *feelings* is where many of us should begin our journey of learning practical skills in how be happy.

Summary: when stress becomes a disorder, it can cause a **deregulation of our nervous system** – meaning our bodies are not responding in appropriate and cool rational ways to events and situations – and that our central nervous systems are on too high an alert too often, and are simmering in and out of fight or flight pump up mechanisms when they are not required to, and in fact when it is extremely unhelpful to do so. This means we are not able to evaluate situations correctly, and that our bodies are not in a healthy general balance (homeostasis) most of the time, which stops us having a happy life experience and making smart choices.

Many of us explain our ‘feelings’ to ourselves only as emotions – being angry, or nervous, or anxious, or hurt, or sad, or happy, and so on. And we think that the things that happen to us cause those emotions - even though every theory model through time tells us that the same thing can happen to 10 different people, but they will all process and evaluate and respond differently to the event, no matter how challenging it is. Therefore our feelings and behaviors are ultimately because of how we process and judge the event, are because of how we explain the event to ourselves. And our processing and judgment is greatly affected and directed by our physical comfort or discomfort, and our central nervous system, and how cool or trippy it is, meaning we use emotional reasoning rather than facts and evidence - and that we develop distorted thinking habits to navigate the world.

FIGHT OR FLIGHT – the body’s pump up response to threats, adrenaline + oxygen + cortisol:



When we are working on how to address stress disorders with practical science and evidence based methods and strategies, it is very helpful to build awareness of what our bodies are *physically* doing in situational anxieties, and to use that information when figuring out why we think and feel and behave the way we do, (often irrationally and in self

sabotaging with anxiety and depression).

Compare these scenarios to help you with body awareness strategies:

When you are safe at home watching TV, your body would typically be at it’s normal resting heart rate, and your lungs would have normal levels of oxygen, and your digestive system and immune system would be working away happily in the background. In other words, you would not have *bad feelings*, you would not be ‘pumped up’, and in fact you wouldn’t even think about feelings because *your body is physically not in any flux or discomfort*.

Your body is unlikely to be in homeostasis or relaxed balance in the following alternative scenarios: when you are about to attend an interview, or about to go on a first date, or about to perform on stage, or about to do an exam, or about to participate in an athletics event, or about to miss your bus, or in a spirited intellectual discussion with new people, or are being given a dressing down by your boss, or are being dumped by your lover, or find out you've been excluded from a social occasion by your friends, or are being subjected to another drivers dangerous behavior on the road, or are surprised by a big spider as you reach into your fruit bowl, or are woken by a loud crash in the house, and so on....

How am I feeling?



- All okay, normal resting heartbeat, homeostasis
- Low threat alert, low pump up response
- Medium threat alert, medium pump up response
- High threat alert, high pump up response

In any of these challenging or threatening situations your body will automatically initiate the threat response of pumping up, whether *low*, *moderate*, or *high* - depending on the situation, and it's challenge or threat level - and depending on your perception of the meaning and significance of the event, and the consequences and stakes of it, and your ability to cope with it...

You can see from these examples that it is natural and normal, and often even helpful and useful, for the body to pump up to prepare for challenges and threats. But long term stress makes the pump up response go haywire - and our inner caveman becomes the boss of us, and is preset to a hi 'danger avoider' alert status - which becomes normalised for people with anxiety - we are like little soldiers on alert for danger when there is no need, and we respond in over the top unhelpful ways to social transactions and challenges and threats. And our social relationships are mostly what decide our happiness, so that's not good.

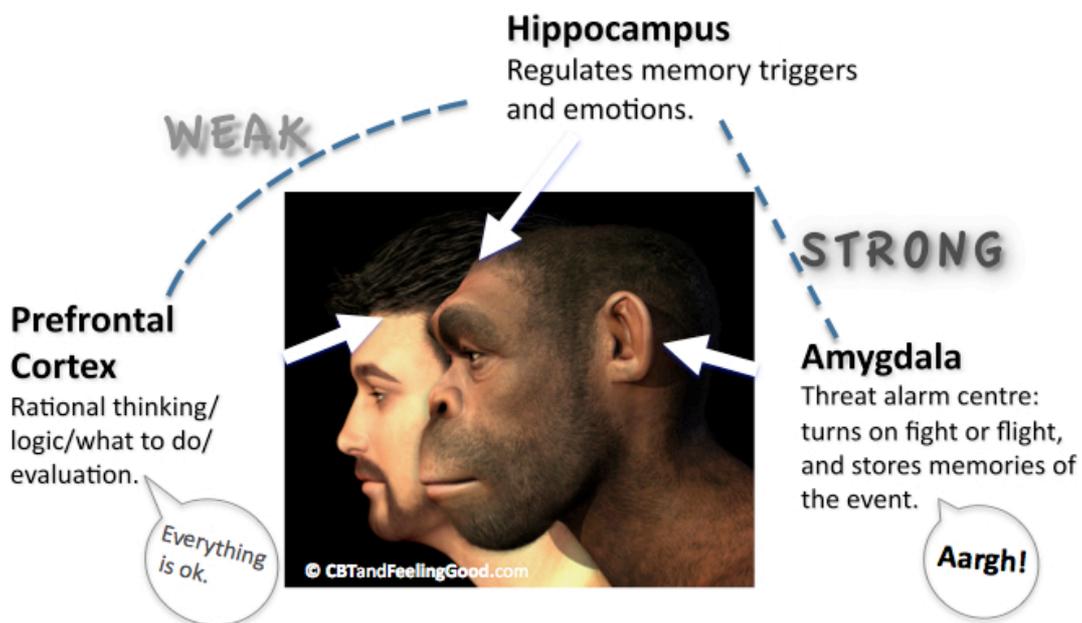
Takeaway point summary: stress disorders unbalance our body, and interfere with our rational thinking brain (our frontal cortex). Our brains evolved to initiate a fight or flight threat response that was designed to be short term (a physical burst of about 30 seconds) – to save us from that Lion about to attack us, or to mobilise strength to avert some other crisis or emergency.

If your stress has become a disorder, you are not broken and you are not crazy - but the pump up response is messing with your data, it is distorting and skewing how we explain and understand life, and it is the irrational decider of our choices and behaviors. Often we don't even know what's happened, we think it's just how it is, and just how we are, but it's not. It's simple science and very manageable. I often get clients who are confused by their lives, and tell me that they don't understand it as they don't think of themselves as 'shy or nervous' and they don't 'live on their nerves', but they are physically all over the place - and I tell them that it's not their 'nerves' as such, but it is their **CENTRAL NERVOUS SYSTEM** - and that it's nobody's business but theirs, and that it is a nuisance but we can start to manage it in effective and practical ways.

We humans got a pretty sweet deal in the animal kingdom, we rule the world even though we are not bigger or stronger than other species – and that is because we are smarter. But there are issues with our amazing brain in this modern world of new stresses and challenges – **because the brain only has one response to challenges and threats, which is to pump up and overload us on adrenaline and oxygen**, even though most of our challenges and threats these days are social and psychological, and would benefit from a cooling down rather than a pumping up. Wouldn't you like to **lower your heart beat** and **steady your oxygen levels** when doing public speaking, or when dealing with badly behaved people? Wouldn't it be more useful to be cool and calm and considered? It appears obvious that we have to take it upon ourselves to learn about how to best evaluate and manage our inner caveman and automatic physical responses when they are causing us problems and we're not happy and getting good outcomes in life. **Just because you feel bad does not mean it is bad - feelings are not facts, and emotional reasoning is irrational reasoning.** Thought stop, and reframe.

Notes to remember: We humans will do anything to avoid discomfort, and are constantly scanning the horizon for threats, physical and social. Gary Marcus, cognitive scientist and the author of *Kluge*, tells us that the human species 1.zero, (and there is no 2.zero, so we have to suck it up), often have automatic unhelpful caveman responses, because our brains have been 'cobbled together by evolution', and they are not *rational thinking devices that default to rational conclusions*.

Aside from the fact that some people have a genetic predisposition to anxiety because of fast trigger threat responses, a recent Berkeley study shows us that the brains of children exposed to chronic stress literally restructure so that the emotional threat response centre (**the amygdala**) is fast and loud compared to the rational evaluating centre (**the prefrontal cortex**) – meaning the child/adult is always on high alert, pumped up when it isn't necessary, their bodies inappropriately tripping into fight or flight as a normalised state. This discomfort, these 'feelings', will of course interfere with the brain's data processing, and the person will use emotional reasoning rather than rational reasoning to explain the world to themselves, and to make choices in what to do.



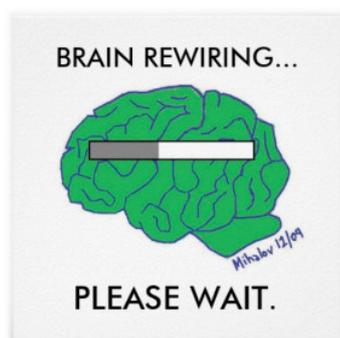
The adult brain can also restructure itself in unhelpful ways when it is exposed to long term stress. Scientist John Medina explains that this can happen over time when you have a *bad boss* or a bad marriage – he likens dit to the 'sabre tooth tiger being at your door or in your bed for years' rather than the 30 seconds our fight or flight was designed for – these prolonged stress situations can cause a fixed **deregulation of your central nervous system.**



(Copy and paste the link: <https://vimeo.com/16335631> to view the short stress video by the cognitive scientist (or more correctly the molecular biologist / evolutionary scientist) John Medina. Author of the NYT best selling book 'Brain Rules')

Studies show that fixed (constant, not temporary) deregulation of the nervous system also often occurs in adulthood after traumatic events and/or long term stress caused by any number of things, eg: war (PTSD), diagnoses of serious illness, bereavements, car accidents, breakups or divorce, long term unemployment, social bullying, toxic culture workplaces, prolonged loneliness, and so on and on and on.

Add this information to USA statistics that show numbers from 25% to 50% of people suffering diagnosable stress disorders in a given year or at some stage of their lives, and you'll see that practical stress understanding and management is an essential tool for absolutely everybody. It is not only important *self management* - it can also be curative, and of course ideally it can be preventative, letting you help manage the neurobiology of how your brain views the world before it deregulates and presets a high physical response to benign situations that don't benefit from it.



The good news: neuroscience teaches us that **brain plasticity means that we can literally rewire our brain** through 'learning and doing' – building a skill set of awareness and self management with CBT – applying journalling and thought stopping and reframing techniques, and learning relaxation and breathing and mindfulness strategies to balance our bodies (to regulate our unhelpful hi alert auto responses and our bad thinking habits - deliberately and consciously, until neuro pathways rewire to new auto presets).

Interested in learning more? Set aside time to click through the homework posts on my free online resource blog to learn about body and brain management: www.iVeronicaWalsh.wordpress.com

Great outside links – copy and paste these links into your browser:

- A short PsychologyInAction article on deregulation from childhood to adulthood (**How is it possible that something that happened in childhood could affect your health 50 or 60 years later?**): <http://www.psychologyinaction.org/2011/03/26/how-does-stress-in-childhood-lead-to-bad-health-in-adulthood/>
- A short article from the LA County Early Intervention Group on **Stress Disorders Including Anxiety and Depression Caused by Early Life Experiences:**
- http://www.healingresources.info/stress_related_anxiety_depression.htm