

Food For Thought:

How your diet can impact your mental health

By

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Aims

- Participants will learn:
 - Important facts about the brain
 - Neuroplasticity
 - Food and Mood: Gut brain connection
 - How diet can impact Depression
 - How diet can impact Anxiety
 - How diet can impact PTSD
 - How diet can impact Social Anxiety
 - How diet can impact OCD

Facts about the brain

AMAZING BRAIN FACTS



EXPERTS AGREE

There is more we don't know about the brain than we currently know.



95% of your decisions take part in the subconscious mind



Your brain contains **100 billion** neurons: about **16 times** the number of people on Earth



THE BRAIN

2% of body weight



Consumes **20%** of the body's energy production.

25% of the cholesterol in your body resides in your brain

60% of the brain is fat

Each of them links to as many as **10,000** other neurons = Massive Parallel Processing



Men's brains are generally **10%** bigger than women's brains

Women have more grey matter and a larger Hippocampus (Involved in emotional processing) than men



Babies have big heads to hold rapidly growing brains. A 2-year-old's brain is **80%** of the adult size



Your brain consumes about **20** watts of power: enough to illuminate a very dim light bulb

Your brain keeps developing until your late **40's**

BRAIN SIZE

The human brain weighs about three pounds and has a volume of about **1,300 cubic centimeters**, *about the size of ten tennis balls.

The Neocortex (Language and consciousness) accounts for **76%** of the brain's mass

SECOND BRAIN

Your gut contains **100,000** neurons (The enteric nervous system)



SIZE DOESN'T MATTER

Einstein's brain was 1.2 kg:

Your gut bacteria makes over **300,000,000,000** neurotransmitters, including Serotonin

Neuroplasticity

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Neuroplasticity

The ability of the brain to rewire and rebuild itself to form new neural networks and reinforce familiar neural connections.

Why should you care about your

BDNF ?

Brain Derived Neurotrophic Growth Factor is a key neurochemical responsible for the growth and maintenance of neural connections.

- BDNF helps your brain adapt & learn
- Improves all forms of plasticity

YOU control your BDNF levels

Nutrition

Sugar reduces BDNF Levels while Fasting, Ketosis and Omega 3 fatty acids improve BDNF levels.

Sleep

Poor Sleep reduces BDNF Levels.

Exercise

Movement and exercise at any age improves BDNF levels.

Chronic Stress

Imbalances in cortisol and adrenaline lower BDNF levels.

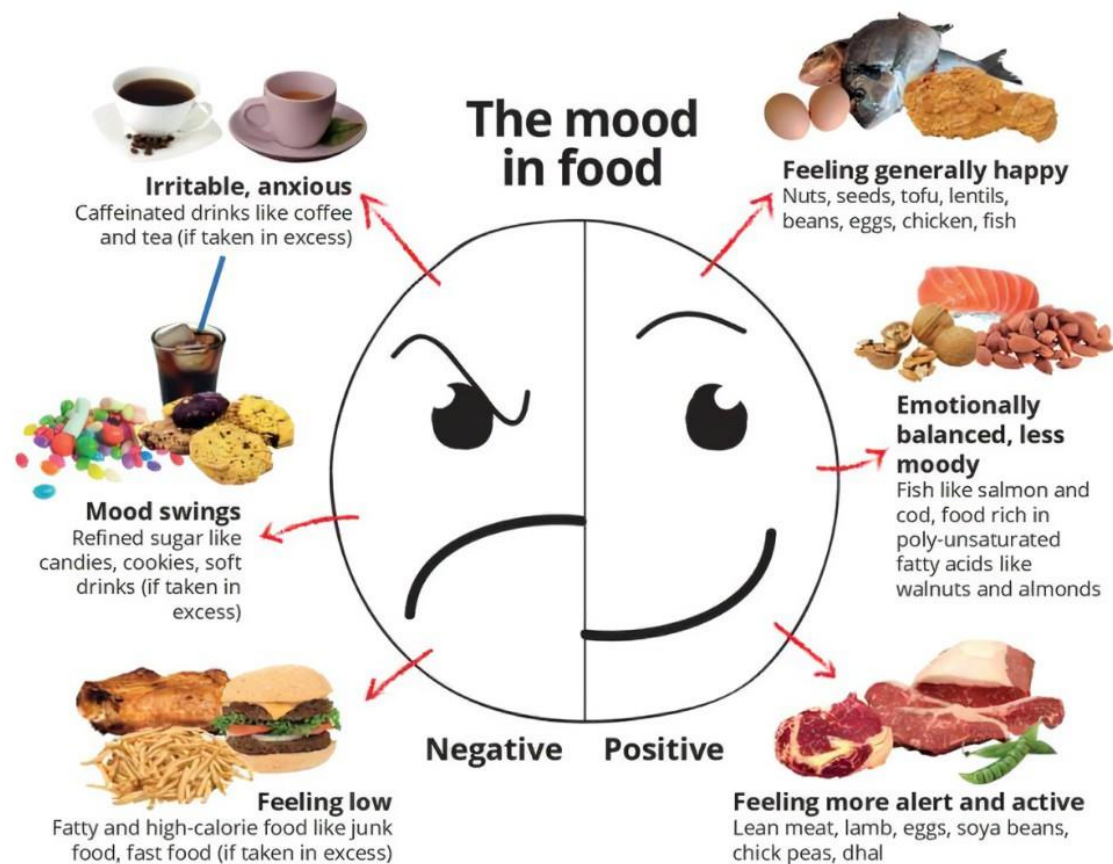
Food and Mood

The effect of food on mental health

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- [Revista Internacional de Educação Saúde e Ambiente](#) 3(2):1-17

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Gut Brain Connection

GUT-BRAIN AXIS

HEALTHY CNS FUNCTION

Healthy Gut Function

SYSTEMIC COMMUNICATION

HPA axis
Neurotransmitters
Bacterial Metabolites
Cytokines

INFLUENCE ON:

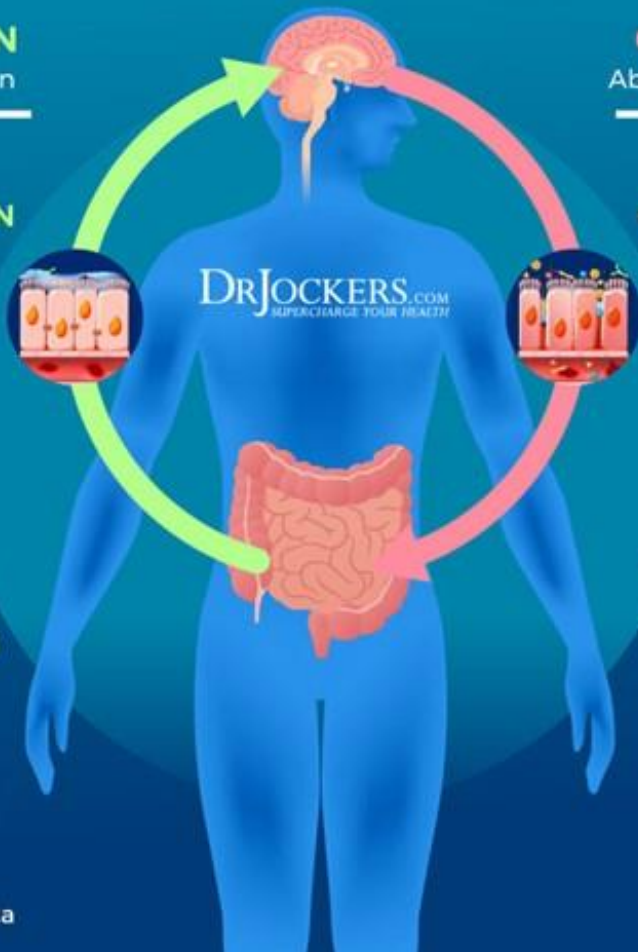
Motility
Secretion
Nutrient Delivery
Microbial Balance

HEALTHY STATUS

Normal behavior,
cognition, emotion,
nociception

Healthy levels of
inflammatory cells
and/or mediators

Normal gut microbiota



ABNORMAL CNS FUNCTION

Abnormal Gut Function

NEURAL COMMUNICATION

Vagal
Sympathetic

INFLUENCE ON:

Neurotransmitters
Stress/Anxiety
Mood
Behavior

STRESS/DISEASE

Alterations in behavior
cognition, emotion,
nociception

Altered levels of
inflammatory cells
and/or mediators

Intestinal Dysbiosis

CNS

Central Nervous System

HPA

The hypothalamic-pituitary-adrenal (HPA) axis describes a complex feedback system of neurohormones that are sent between the hypothalamus, pituitary gland, and adrenal glands. This negative and positive feedback system regulates the physiological mechanisms of stress reactions, immunity, and fertility

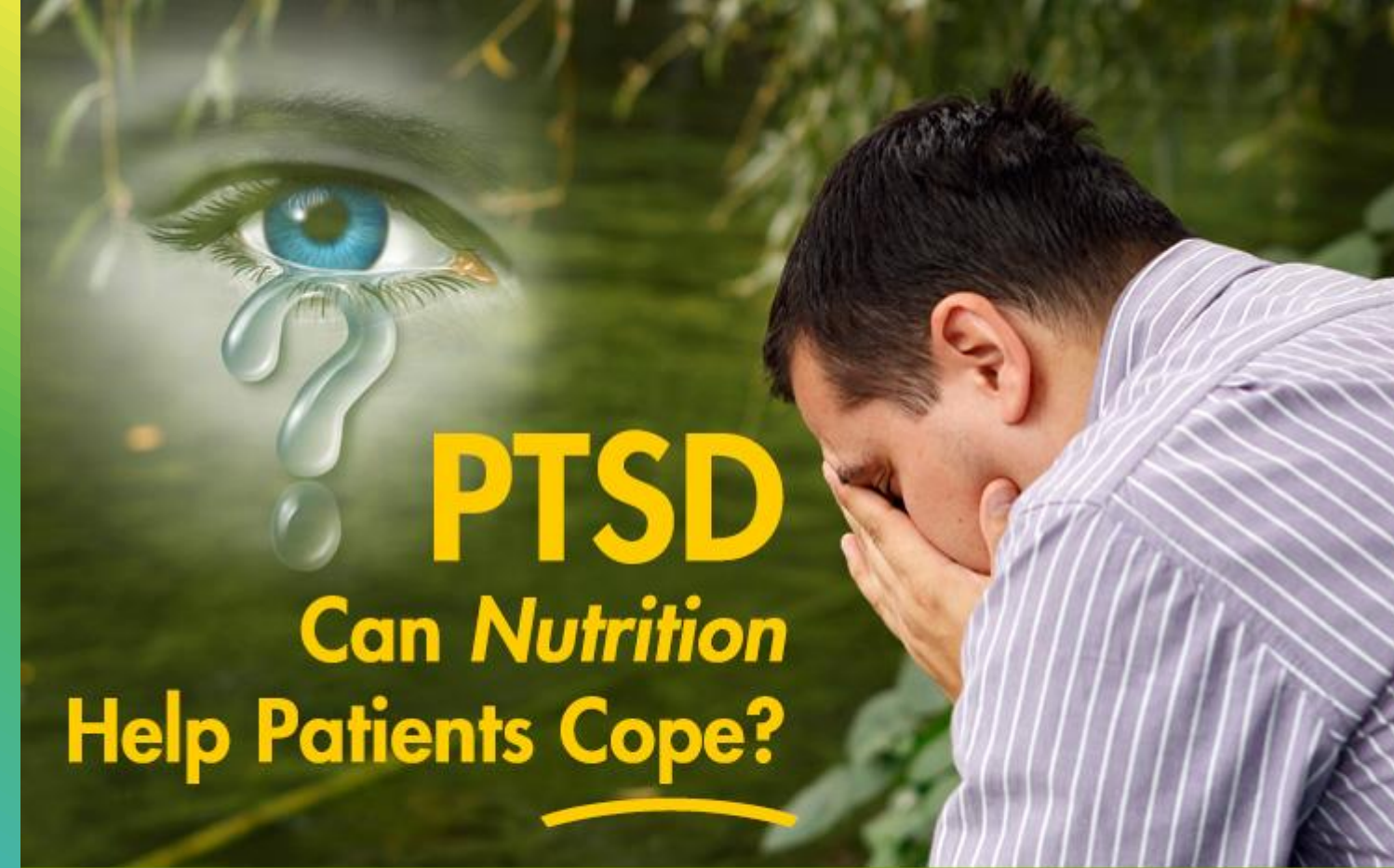
Depression and the food connection



[Doctors have stopped believing that 'chemical imbalance' causes depression. They didn't tell us \(msn.com\)](#)

Anxiety and the food Connection





PTSD

Can Nutrition
Help Patients Cope?

Leading Research on the Future of PTSD Treatment



**Link
Between
Trauma &
Nutrition**



Social anxiety

Fermented food

- + -15 million in the US
- + -Early onset about Age 13



OCD





Thank you

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