

the study of lesioning in humans and animals without tissue destruction.

• Used as a treatment & method as well as a research tool.

Good for researcher, able to communicate in scans. virtually perfect.
Functional Magnetic Resonance Imaging (fMRI) - Structure & Function. *No radiation, but not able to use on people with surgical pain*

• A brain imaging method that uses magnetic fields to produce images of brain ~~str~~ structure and tracks blood flow to study the function of an active brain.

• An fMRI tracks real-time brain activity by measuring oxygen level changes in the blood flow (metabolic process).

Really detail. Exposure to low level.
Positron Emission Tomography (PET) - Function.

• A brain imaging method that maps brain activity by monitoring a harmless amount of short-lived radioactively tagged ~~glucose~~ glucose introduced into the brain via the blood (metabolic process).

• Indicates the area of the brain that are active during ~~a~~ cognitive or motor tasks.

• PET scans are used in the detection and study of brain diseases including strokes, Alzheimer's ~~diseases~~ disease, and Multiple Sclerosis (MS).

* Genetic - about 30% of genes are expressed only solely in the brain

• People have about 24,000 genes.

• Most of the genes are same between people.

• A small percentage of genes are different from others.

• Gene are the blueprints for the human body and how it grows, but just like building houses.

Scientists still debates about how to label them or what is gene etc.

Genetic is not destiny.

- Genes and behavior are bidirectional.

- Epigenetics: study of changes in gene ~~is~~ expression due from non genetic causes.

- Methylation: process by which genes ~~turn~~ turn off due to protein interaction.

- 5-HTT gene is related to ~~re~~ reuptake of serotonin.

*just related,
not exactly cause.*

Polygenic - a trait is caused by more than one gene. *most traits (especially behavior) are polygenic.*

- "Identify key research contributions of scientist in the area of heredity and environment". - Darwin.

- "Predict how traits and behavior can be selected for their adaptive value." - James.

Functionalism :: Nothing is by accident.

- All traits must serve an evolutionary purpose.

- In humans, we can't see the cause of a trait or behavior.

- In simple creatures such as a spider, people can see instincts are almost interchangeable with behavior. But in humans, people have nature, learning and society, which act as confounding variables to inherited behavior.

Endocrine System

- Hormonal messengers that go between glands.

- Neural communication ~~the~~ ~~by~~. If neural communication is the internet, Endocrine system is snail mail.

- Some hormones interact with receptor sites on dendrites and some neurotransmitters "talk" to glands.

• Epinephrine (adrenaline) is produced by the adrenal glands so it is a hormone but it also exists in the brain and is a neurotransmitter.

• The effect of the endocrine system on behavior.

• Interaction: Hypothalamus. (brain region controlling the pituitary gland).

Ghrelin

Testosterone.

Hormone cause emotion?

Emotion cause hormone?

Think vs. Feel.