What is Neurodiversity?

Neurodiversity refers to the idea that neurological differences, such as those seen in autism or ADHD, reflect normal variations in brain development. Neurodiversity is often contrasted with the "medical model," which views conditions like autism or ADHD as disorders to prevent, treat, or cure. There has been a push to move away from this idea of pathology and more toward a more nuanced perspective with variations of what is "normal."

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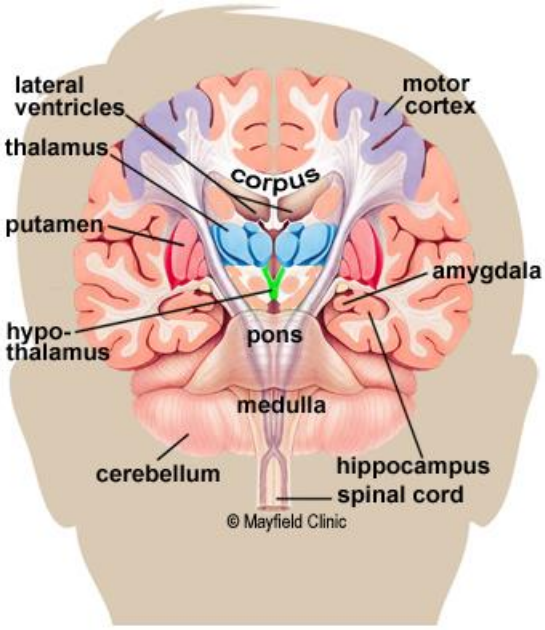

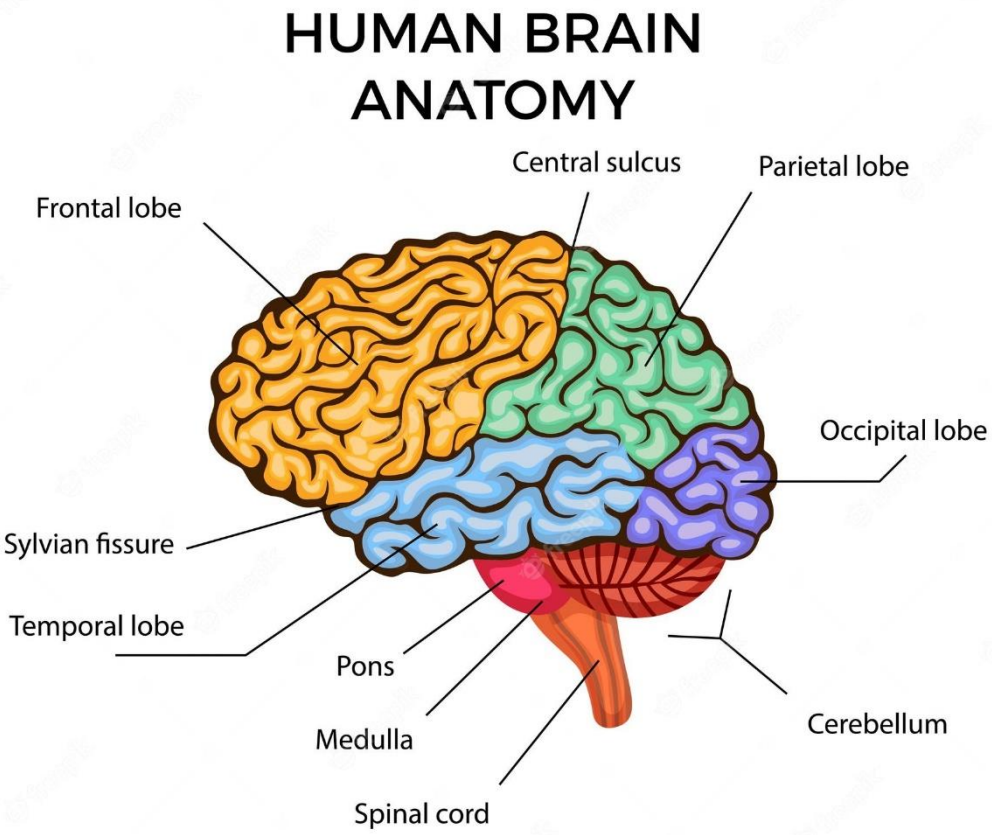

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Cerebrum:

Is the large “jello-like” part of the brain. This consists of the left and right hemisphere of the brain and performs higher functions like interpreting touch, vision, and hearing, as well as speech, reasoning, emotions, learning, and fine control of movement.

Cerebellum:

Located under the cerebrum, this piece coordinates muscle movement, maintaining posture, and balance.

Brain stem:

This is consumed by the pons and medulla, which act as a relay center connecting the cerebrum and cerebellum to the spinal cord. It performs many automatic functions such as breathing, heart rate, body temperature, wake and sleep cycles, digestion, sneezing, coughing, vomiting, and swallowing.

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Frontal Lobe:

- Personality, behavior, emotions
- Judgment, planning, problem solving
- Speech: speaking and writing (Broca's area)
- Body movement (motor strip)
- Intelligence, concentration, self awareness

Parietal Lobe:

- Interprets language, words
- Sense of touch, pain, temperature (sensory strip)
- Interprets signals from vision, hearing, motor, sensory and memory
- Spatial and visual perception

Occipital Lobe:

- Interprets vision (color, light, movement

Temporal Lobe:

- Understanding language (Wernicke's area)
- Memory
- Hearing
- Sequencing and organization

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Pons:

As a part of your brainstem, this structure links your brain to your spinal cord. It handles unconscious processes and jobs, such as your sleep-wake cycle and breathing. It also contains several junction points for nerves that control muscles and carry information from your senses in your head and face.

Medulla:

Is the bottom most part of your brain. Its location means it's where your brain and spinal cord connect, making it a key conduit for nerve signals to and from your body. It also helps control vital processes like your heartbeat, breathing, and blood pressure.

Hypothalamus:

Is located in the floor of the third ventricle and is the master control of the autonomic system. It plays a role in controlling behaviors such as hunger, thirst, sleep, and sexual response. It also regulates body temperature, blood pressure, emotions, and secretion of hormones.

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Thalamus:

Serves as a relay station for almost all information that comes and goes to the cortex. It plays a role in pain sensation, attention, alertness and memory.

Short-term memory,

also called working memory, occurs in the prefrontal cortex. It stores information for about one minute and its capacity is limited to about 7 items. For example, it enables you to dial a phone number someone just told you. It also intervenes during reading, to memorize the sentence you have just read, so that the next one makes sense.

Long-term memory

is processed in the hippocampus of the temporal lobe and is activated when you want to memorize something for a longer time. This memory has unlimited content and duration capacity. It contains personal memories as well as facts and figures.

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Skill memory

is processed in the cerebellum, which relays information to the basal ganglia. It stores automatic learned memories like tying a shoe, playing an instrument, or riding a bike.

Amygdala:

Your amygdala is a small part of your brain, but it has a big job. It's a major processing center for emotions. It also links your emotions to many other brain abilities, especially memories, learning, and your senses. When it doesn't work as it should, it can cause or contribute to disruptive feelings and symptoms.

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What do different brain scans look like with different conditions?

Compare to the parts of the brain to see which places it affects!

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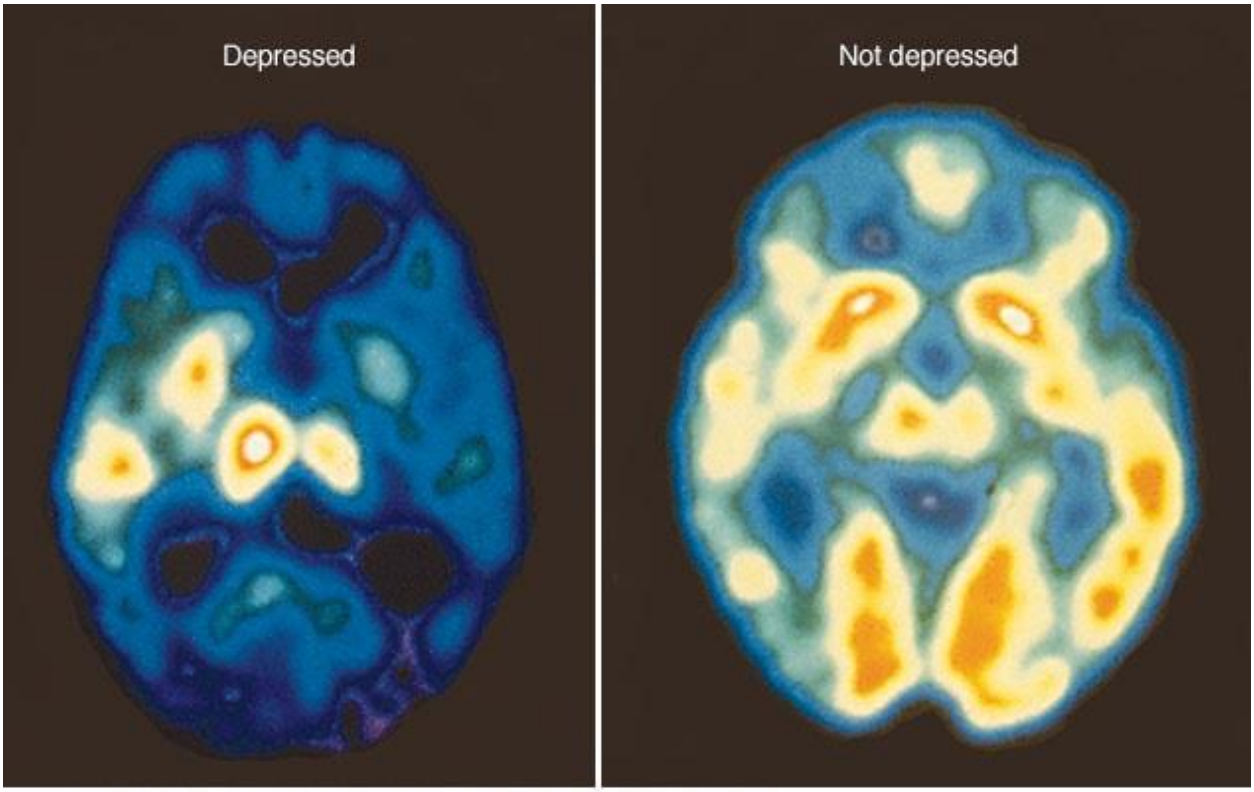

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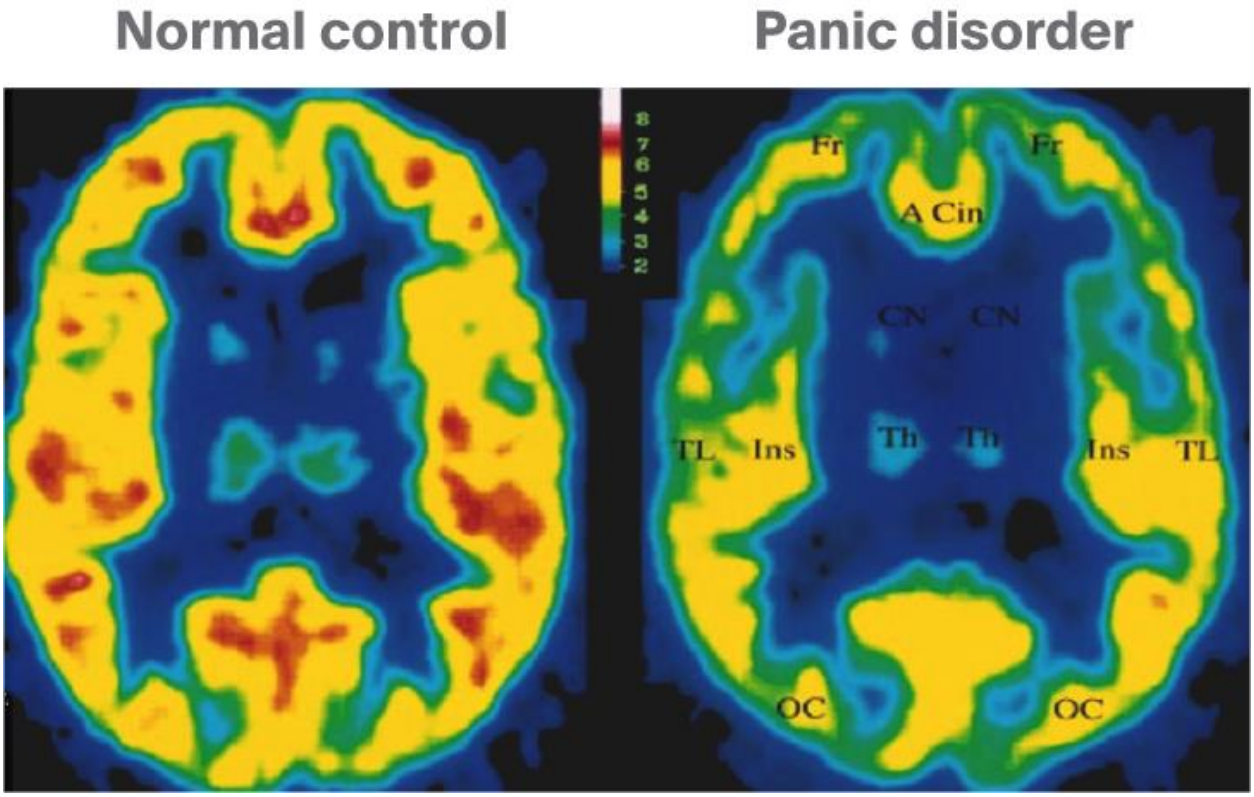

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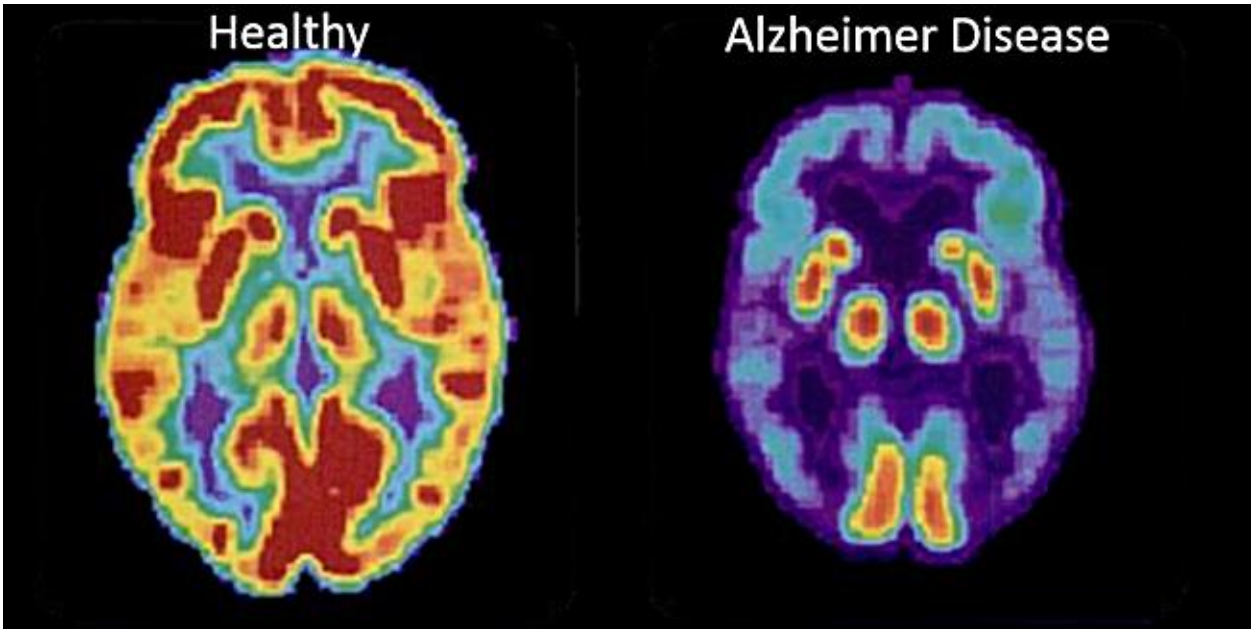

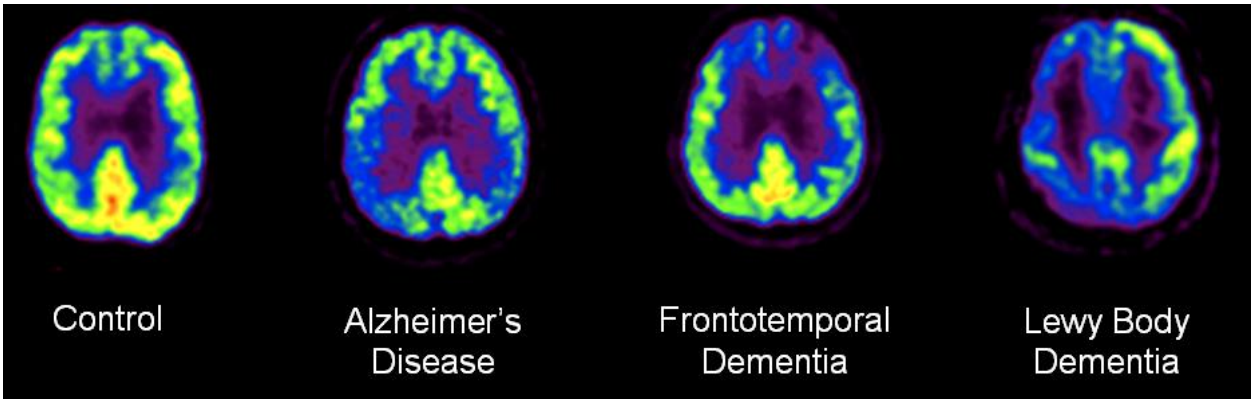

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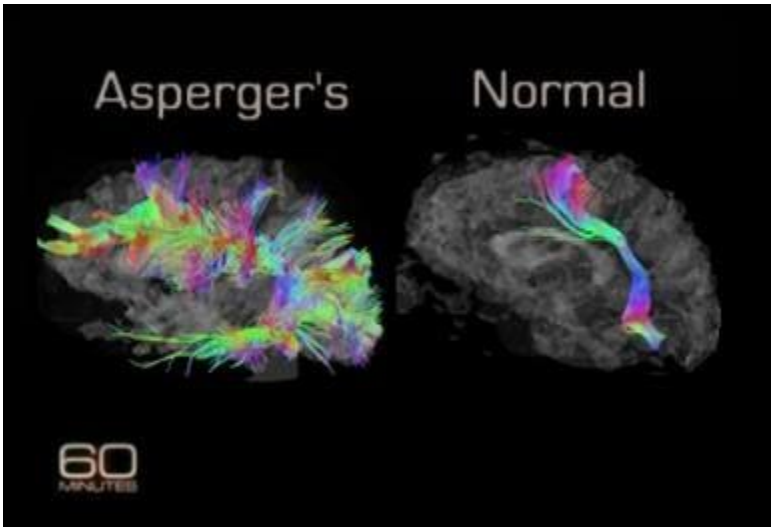

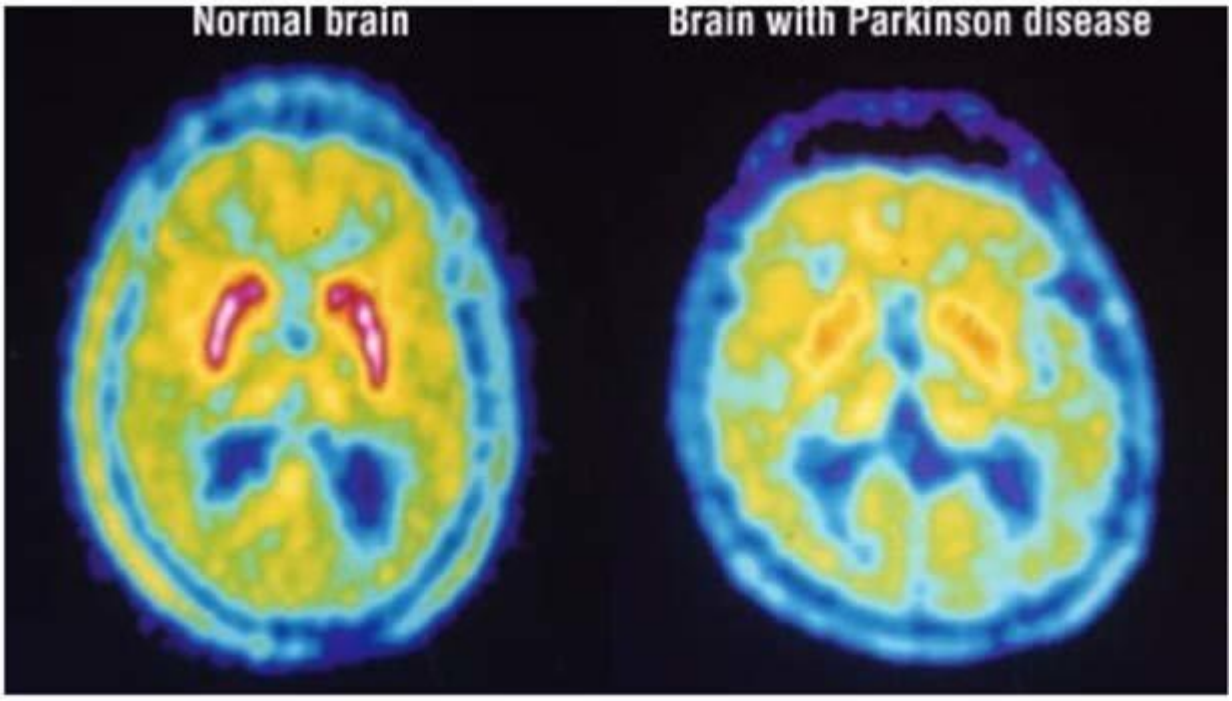

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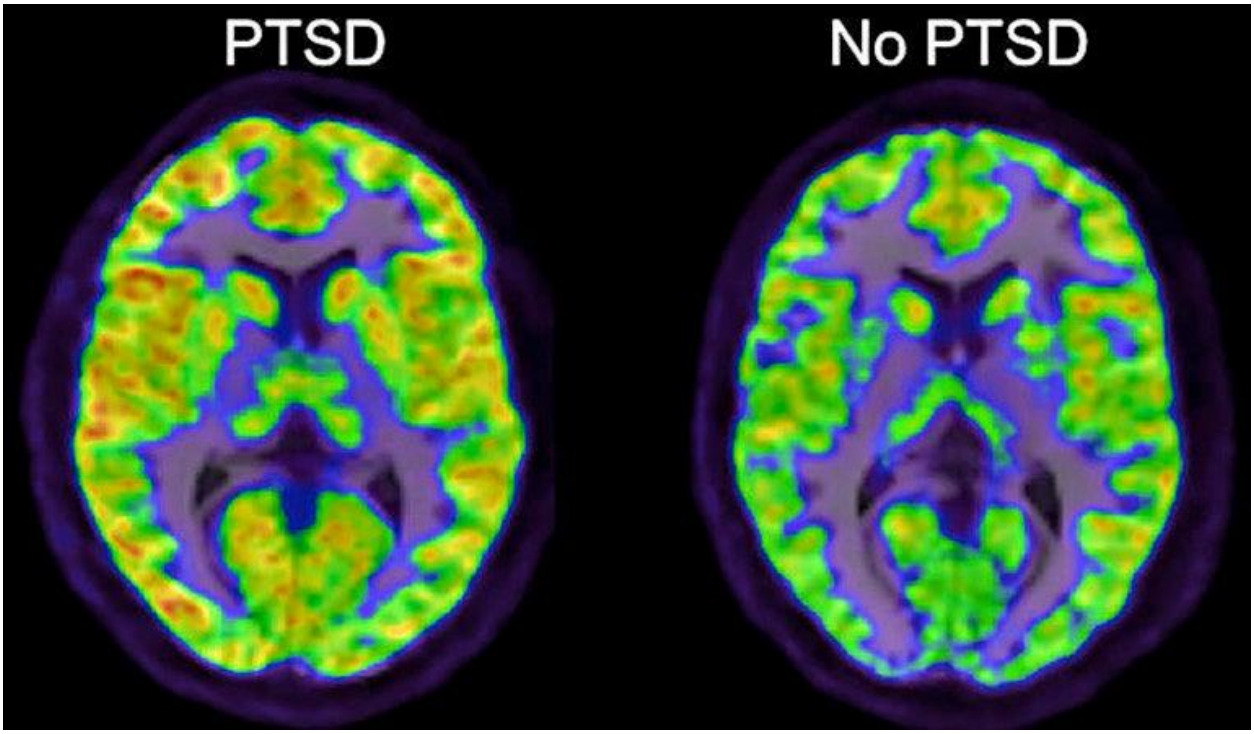

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Cognitive vs. Mental Health:

Knowing the Differences

Cognitive:

https://www.psychologytoday.com/us/blog/seeing-what-others-dont/202307/cognitive-diversity-what-it-is-and-why-it-matters

Mental Health:

https://www.psychologytoday.com/gb/blog/pathways-progress/202108/is-there-link-between-neurodiversity-and-mental-health

These two articles provide good insight to both the cognitive aspect and the mental health aspect of neurodiversity!

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TED Talk:

"Neurodiversity: The New Normal – Cynthia Coupe"

Neurodiversity: The New Normal | Cynthia Coupé | TEDxOcala - YouTube

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