

Frontal Lobe Conditions and Executive Dysfunction

NM START PROGRAM

Tiffany L. Otero, Ph.D., BCBA, NM START Clinical Director

Cynthia King, MD, NM START Medical Director

Allison Salazar, NM START Coordinator

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START Model

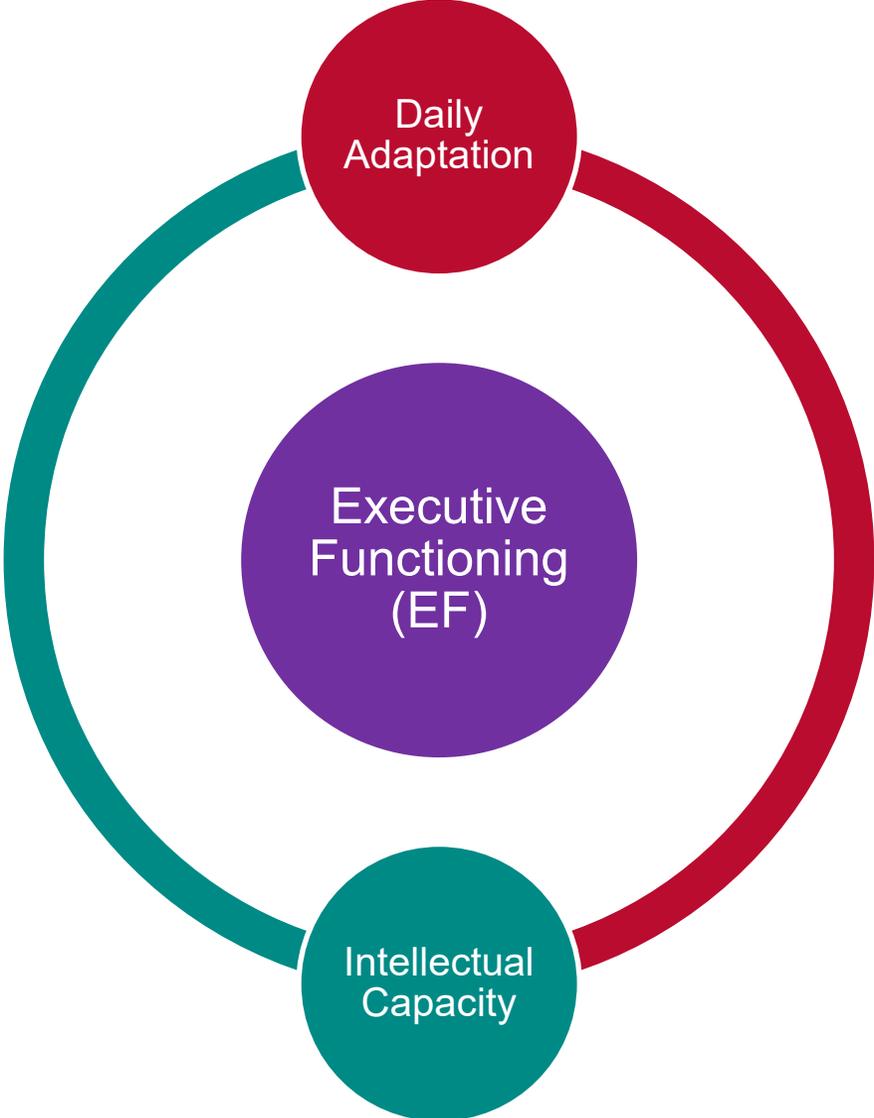
The START (Systemic-Therapeutic-Assessment-Resources-Treatment) model is an evidence-informed model of integrated community crisis prevention & intervention services for individuals ages 6 and older with intellectual and developmental disabilities and mental health needs.

START was first developed in 1988 by Dr. Joan B. Beasley and was cited as a best practice in the 2002 US Surgeon General's report and by the National Academy of Sciences in 2016.

The **National Center for START Services** at the UNH Institute on Disability oversees the development, measurement and quality of START programs across the country.

Objectives

1. Define Executive Functioning (EF) as a domain of cognition and understand the discrete functions commonly associated with EF
2. Describe the neuropsychological and structural underpinnings of EF according to recent research
3. Describe how deficits in EF can impact thinking, learning, and adaptive behavior.



Core Functions of EF

Working Memory

- Short term memory
- Updating and monitoring

Inhibition

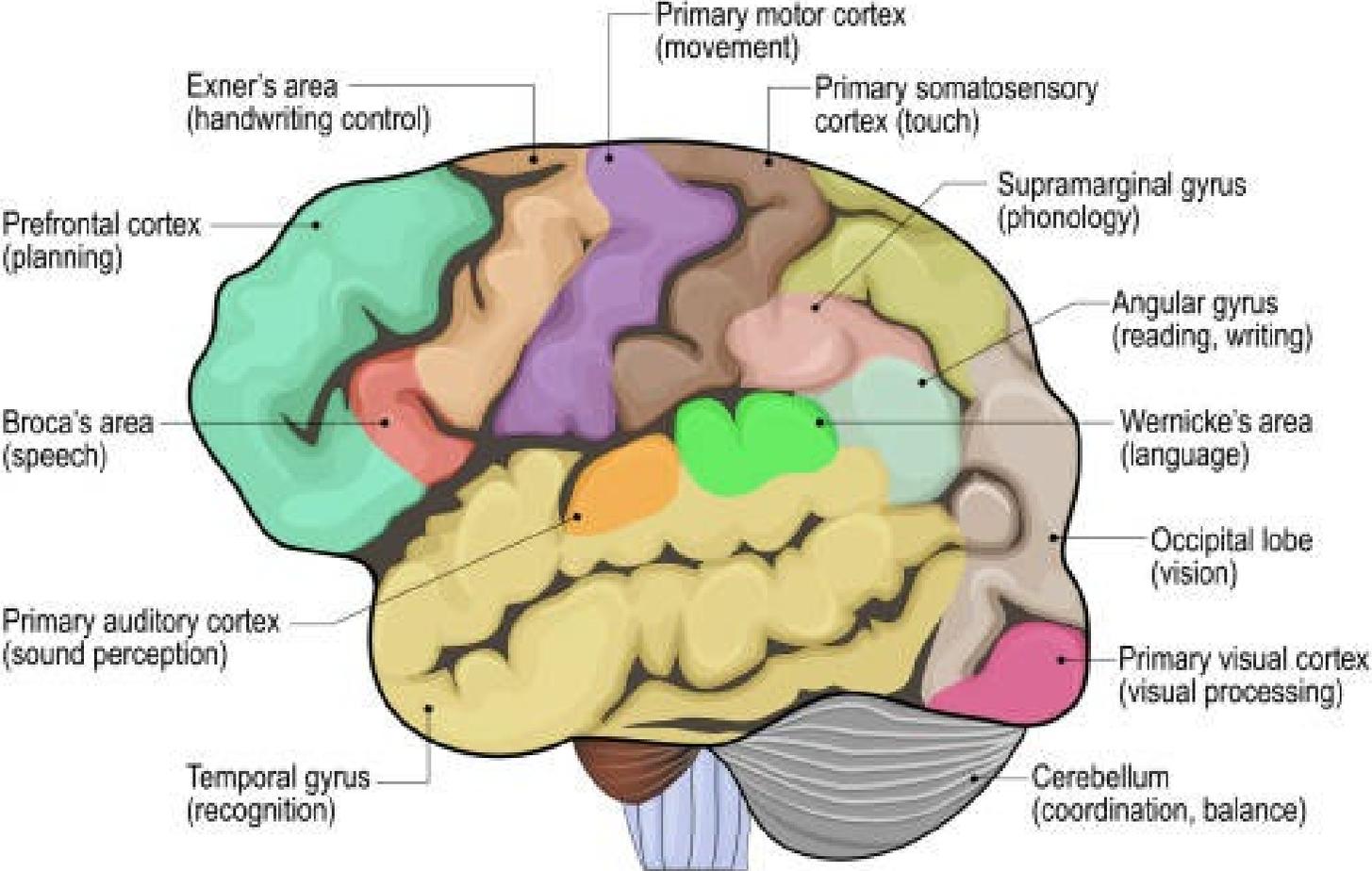
- Interference control
- Managing impulses

Cognitive Flexibility

- Shifting
- Considering multiple conflicting bits of info simultaneously

(Zink, et al., 2021)

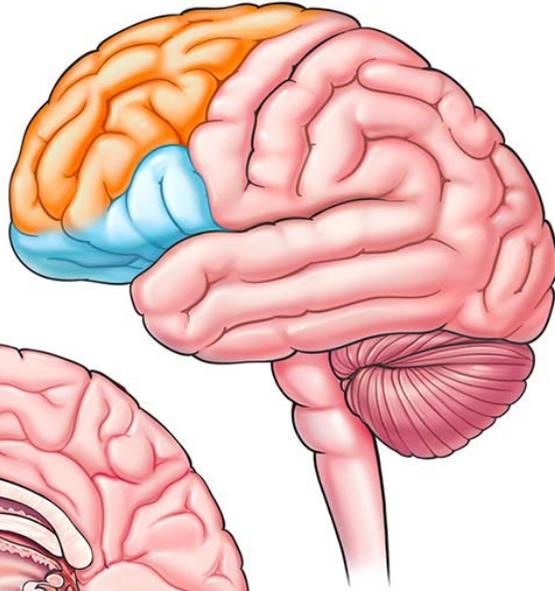
FUNCTIONAL AREAS OF HUMAN BRAIN



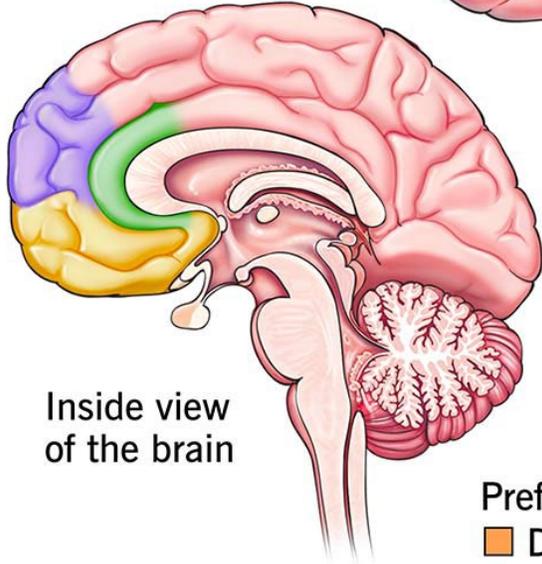
Prefrontal cortex

The front part of your brain behind your forehead

Outside view of the brain

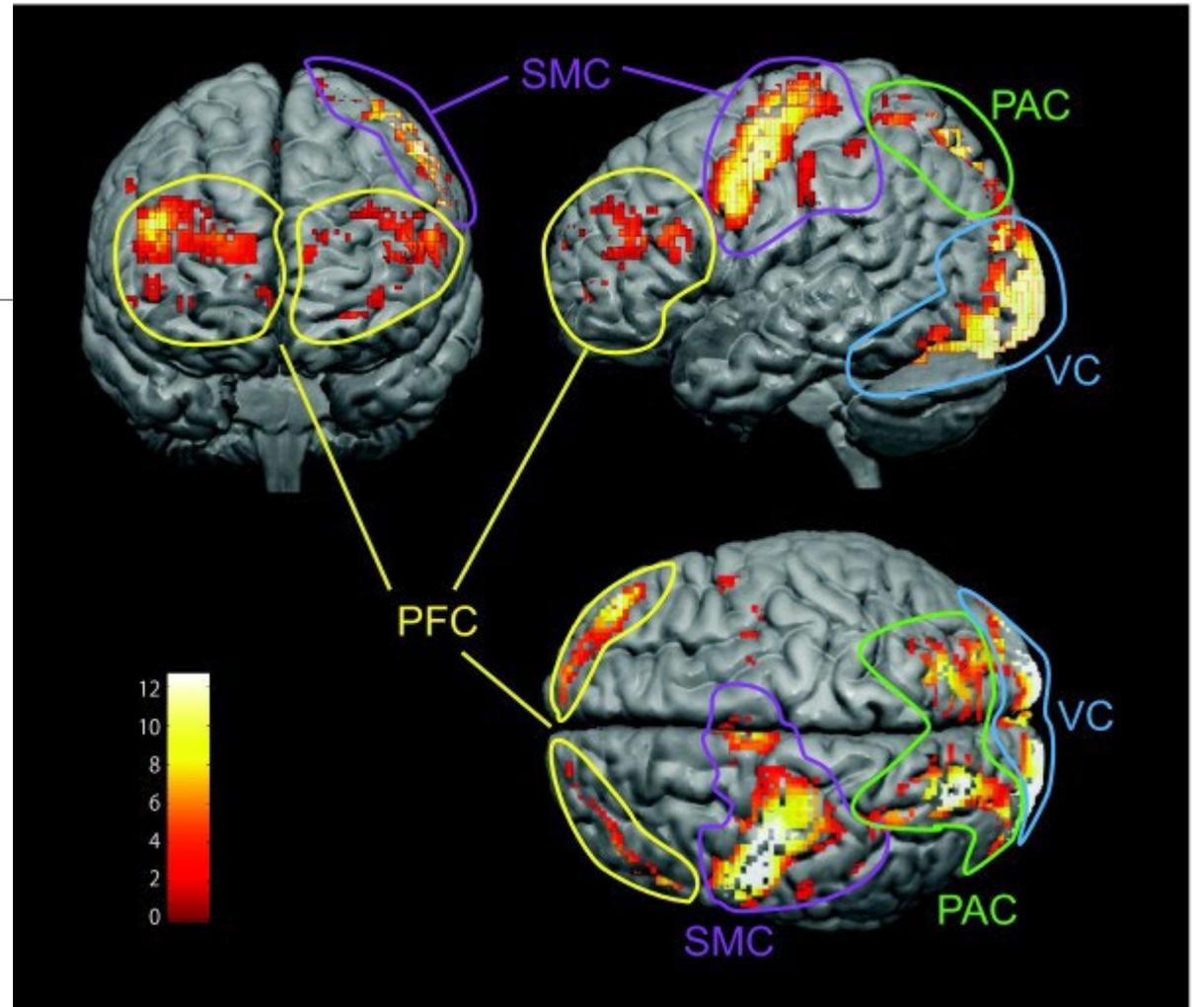


Inside view of the brain



Prefrontal cortex parts:

- Orange: Dorsolateral
- Light blue: Orbitofrontal
- Green: Anterior cingulate
- Purple: Medial
- Yellow: Ventromedial



Tachibana, et al, 2012

De-centralizing EF

Old thinking

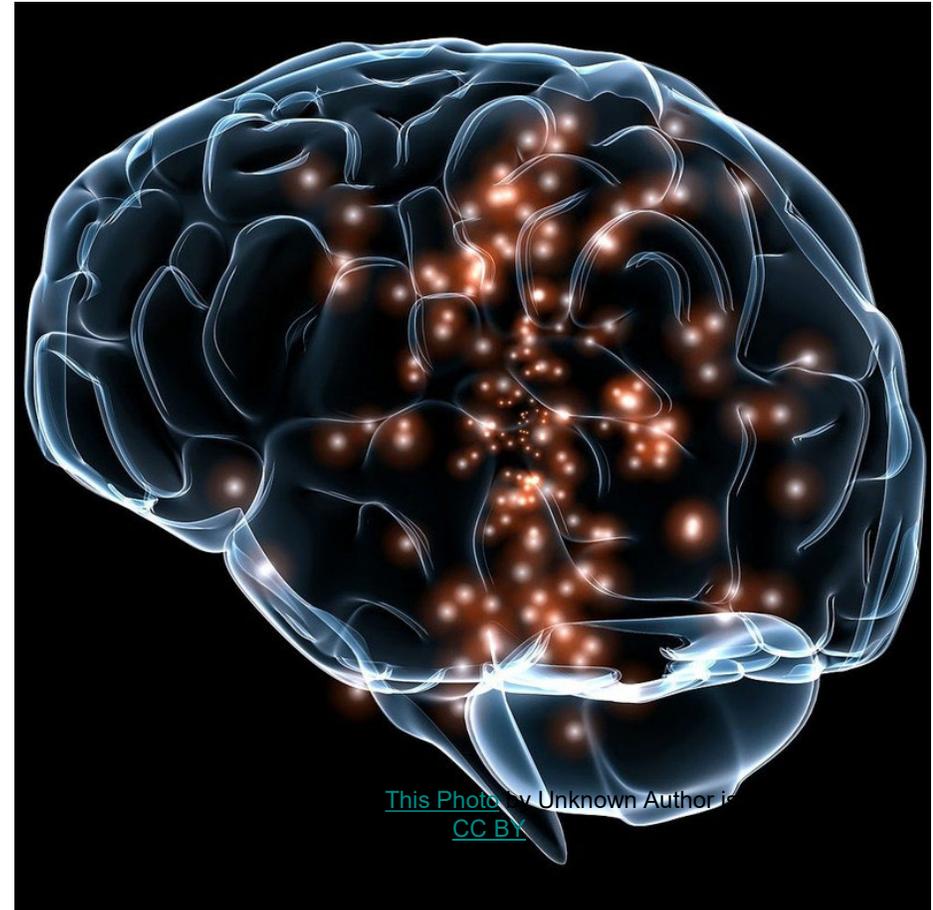


New Thinking



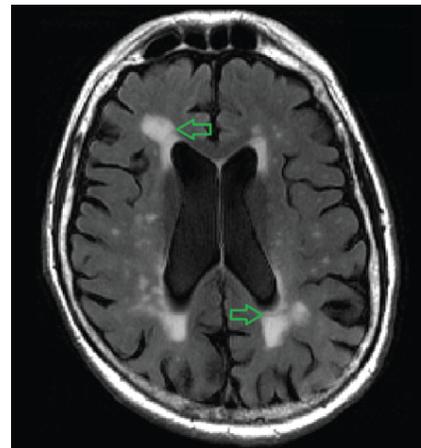
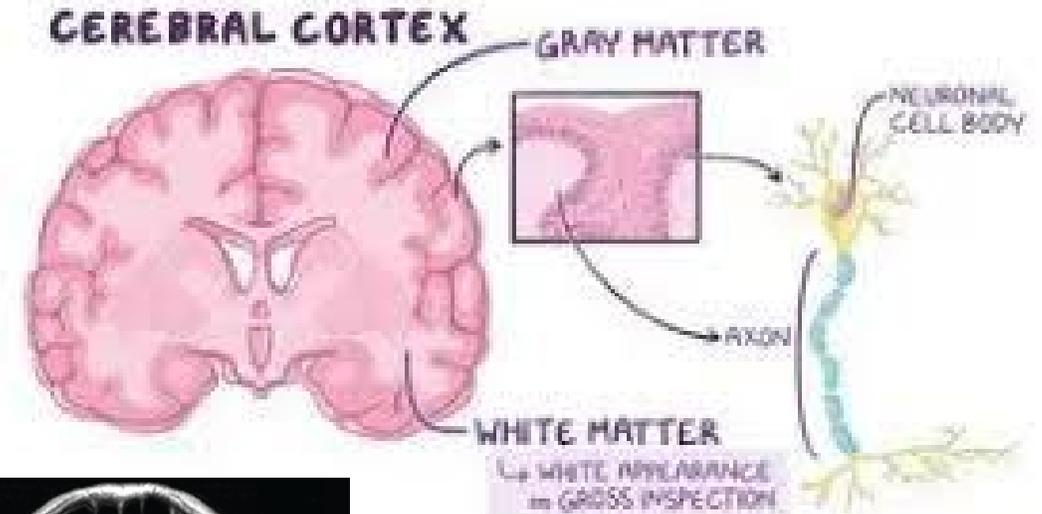
Autoimmune Encephalitis

- ❖ The immune system attacks brain tissue and cells
- ❖ Neurons are unable to communicate effectively
- ❖ May cause sudden confusion such as memory loss, seizures, and behavioral changes.
- ❖ Diagnosed through medical tests.
- ❖ Early treatment improves outcomes. Delayed treatment can be fatal.



White Matter Disease

- ❖ White matter= nerve fibers (axons) in brain
- ❖ Occupies more than half of the brain
- ❖ Connect parts of the brain to each other
- ❖ “Disease” can be caused by damage to areas of the brain, reduced or restricted blood flow, low nutrients, and seen as lesions
- ❖ Some lesions do not cause symptoms; some do.



Filley, et al., 2016)

Ways EF is Affected

- Physical illness or injury
- Neurodevelopmental conditions
- Trauma
- Co-existing Mental Health differences

Impact of EF Deficits

- ❖ Very common in clinical populations
- ❖ Leads to difficulty with planning, focus, organization, regulating emotions, and initiating tasks (especially non-preferred)
- ❖ Can explain why someone with strong skills with speaking and learning, but with ADHD or ASD, often struggles with adaptive functioning.
- ❖ Also explains why someone with broad cognitive impairment will also display deficits in adaptive functioning (IDD)
- ❖ Impedes education, work life, transition to adulthood (adulting tasks)

Universal supports for deficits in EF

My Morning Routine

1. Wake Up  <input type="checkbox"/>	2. Meditate  <input type="checkbox"/>	3. Eat Breakfast  <input type="checkbox"/>
4. Brush Teeth  <input type="checkbox"/>	5. Play with Toys  <input type="checkbox"/>	6. Snack Time  <input type="checkbox"/>
7. Art  <input type="checkbox"/>	8. Lunch  <input type="checkbox"/>	9. Nap Time  <input type="checkbox"/>



References

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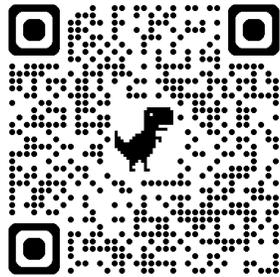
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S. Lanfranchi ▾



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