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# Welcome!

“Teenage hearts are raw and new, fast and fierce, and they do not know their own strength.”

--Catheryn M. Valente,  
*The Girl Who Fell Beneath Fairyland*

As we gather, take a moment to reflect on the above quote. Do you agree/disagree? What are the risks/rewards of having such a teenage heart & mind? Reflecting quietly, on scratch paper, or with a neighbor are all equally good for your brain!

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# Goal

Demystify the teenage brain--limbic system, prefrontal cortex and neuroplasticity.

Reframing adolescence as a time to cultivate vs. a time to “get through”

Discuss practical strategies--transparency, reflection, bridging & balance.

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**BRAIN UNDER CONSTRUCTION**

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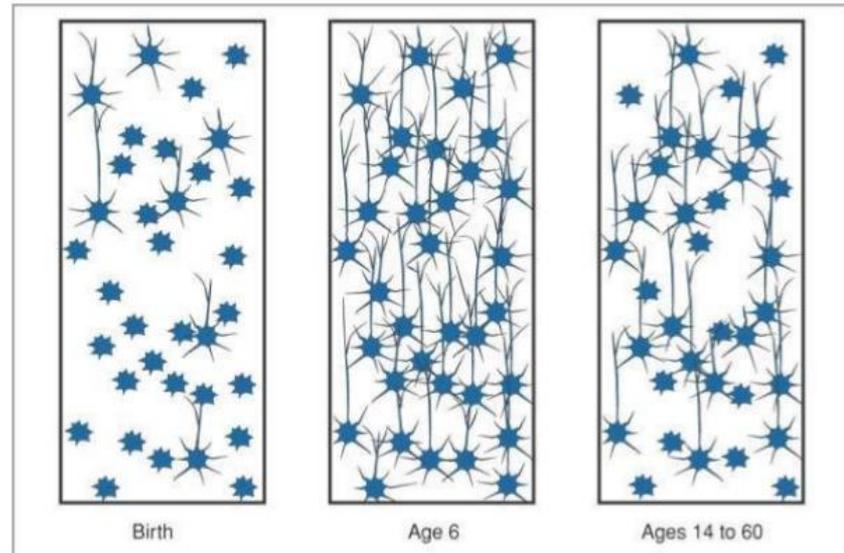
# Efficiency, Specialization, Coordination

Competitive Elimination of synapses in  
adolescence

*Synaptic pruning*

*Myelination*

*Neuroplasticity*



# Three Key Areas

Prefrontal  
Cortex

Basal  
Ganglia

Limbic  
System



<http://concentricleadership.com>

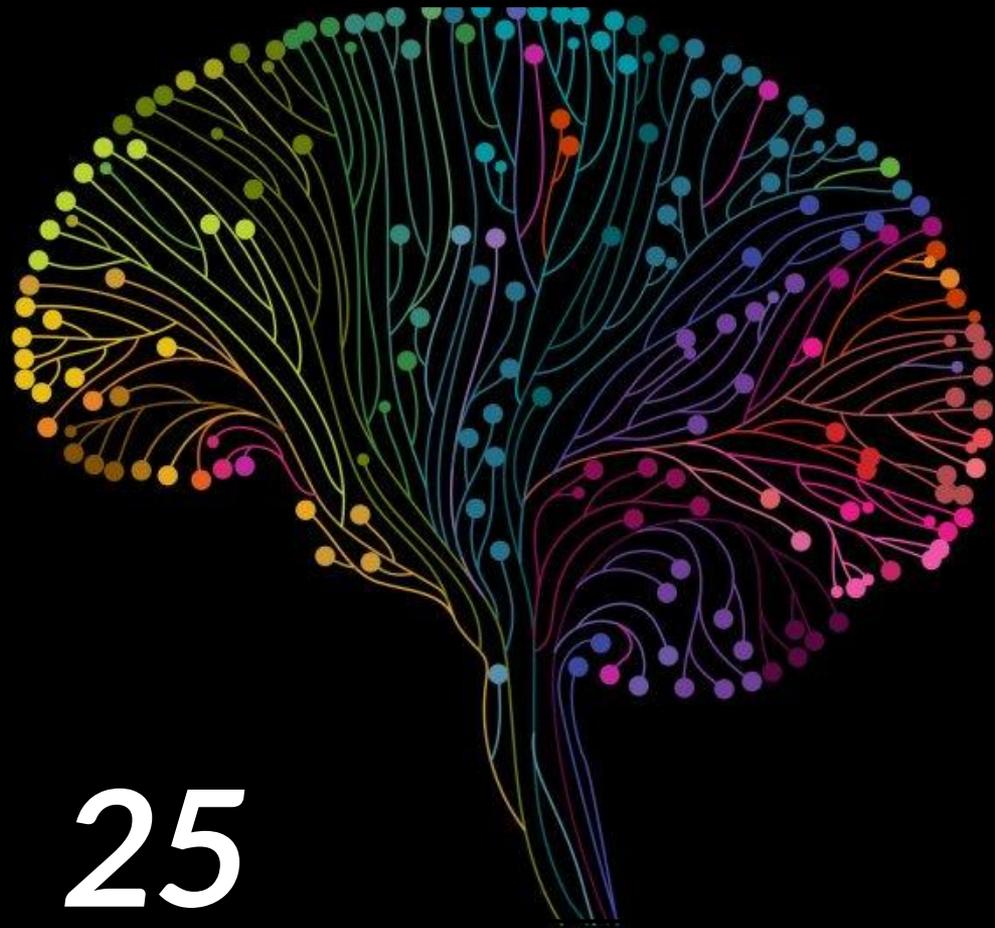


Limbic System controls:

- Risk taking
- Sensation seeking
- Impulsivity
- Emotionality

Prefrontal Cortex controls:

- Planning
  - Decision making
  - Self-control
  - Reflection
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# The Limbic System

“Besides, we were fifteen, and we couldn't get our feelings to match up with our brains. So we went with our feelings..”

--Karen Swallow Prior,  
*Booked: Literature and the Soul of Me*

Whether reflecting on your daughter, yourself, or a fictional character, consider a time when an adolescent went with her feelings. What was the outcome? How would an adult have handled the same situation?

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# The Limbic System



Dopamine, serotonin, HPA  
axis

Impulse inspires action  
without reflection

View is through an emotional  
lens

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# The Prefrontal Cortex

“My mind,” he said, “rebels at stagnation. Give me problems, give me work, give me the most abstruse cryptogram or the most intricate analysis, and I am in my own proper atmosphere.”

--Sir Arthur Conan Doyle,  
*The Sign of Four, A Sherlock Holmes Mystery*

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# The Prefrontal Cortex

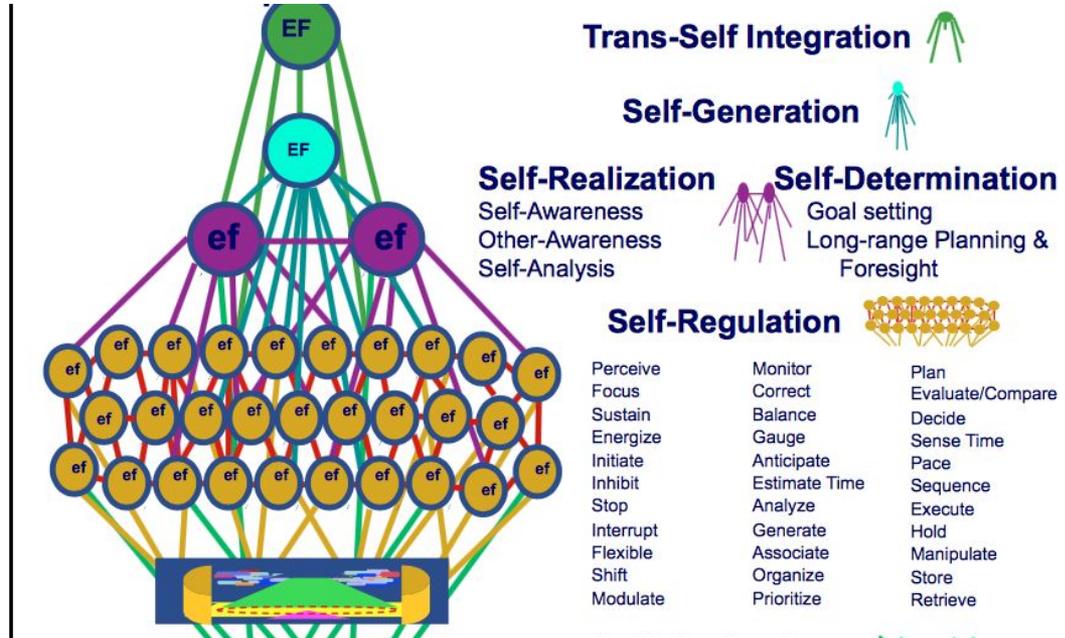
**WHAT** to do.

**WHEN** to do it.

**HOW** to do it.



# McCloskey Model of PFC



# 7 Divisions and Their 33 Departments

<b>Attention</b>	Perceive, Focus, Sustain
<b>Engagement</b>	Energize, Initiate, Inhibit, Stop, Pause, Flexible, Shift
<b>Efficiency</b>	Sense Time, Pace, Sequence, Execute
<b>Memory</b>	Hold, Manipulate, Store, Retrieve
<b>Inquiry</b>	Anticipate, Gauge, Analyze, Estimate Time, Compare
<b>Solution</b>	Generate, Associate, Prioritize, Plan, Organize, Decide
<b>Optimization</b>	Monitor, Modulate, Balance, Correct

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# 5 Practical Strategies



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# Reframing the Adolescent Mind

“Any man, if he were so inclined, could be the sculptor of his own brain.”

--Santiago Ramon y Cajal  
*Advice for a Young Investigator*

With a fully functional limbic system and an emerging PFC, what exciting things might take shape in your daughter's hands? (risk taking, sensation seeking, emotionality, reward-centered motivation)

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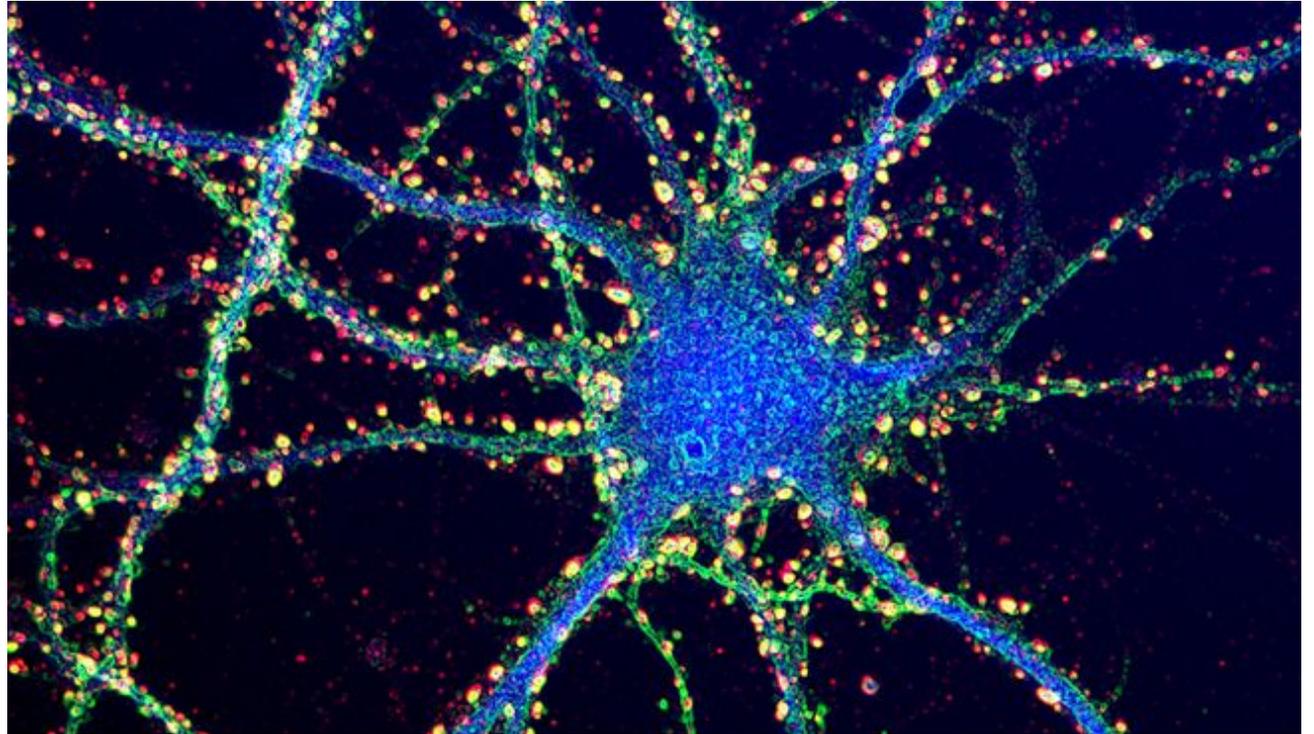
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# Strategy #1: Reframing



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## Strategy #2: Transparency



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## Strategy #3: Reflection

“...Listen to your own thoughts and feelings very carefully, be aware of your observations, and learn to value them. Try to stand still inside all of that and hear your own voice. It's yours and only yours, it's unique and worth your attention...”

--Jennifer Donnelly  
*The Waterfire Saga series*

Consider a time in your teen years or those of your daughter where reflection before or after an action served well.

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# Strategy #3: Reflection



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Journaling

Mindfulness & gratitude

Questioning strategies

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## Strategy #4: Bridging

“Biology gives you a brain. Life gives you a mind.”

--Jeffrey Egenides  
*Middlesex*

Consider a task, experience, activity, etc. (post-age 25) when you knew what to do and when it needed to be done, but didn't quite know how to go about it. What did you do to resolve this dilemma? Consider a time this happened to your daughter. What was her course of action and the result?

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# Strategy #4: Bridging



**Modeling**

**Reflective questioning**

**Return to the example of a time when your daughter may have struggled with the “how”. What reflective questions did you use or might you use next time to help her bridge her PFC gap?**

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# Strategy #5: Balance

## The Healthy Mind Platter



*The Healthy Mind Platter, for Optimal Brain Matter*