

Executive Functions:

Essential Information for Parents and Caregivers

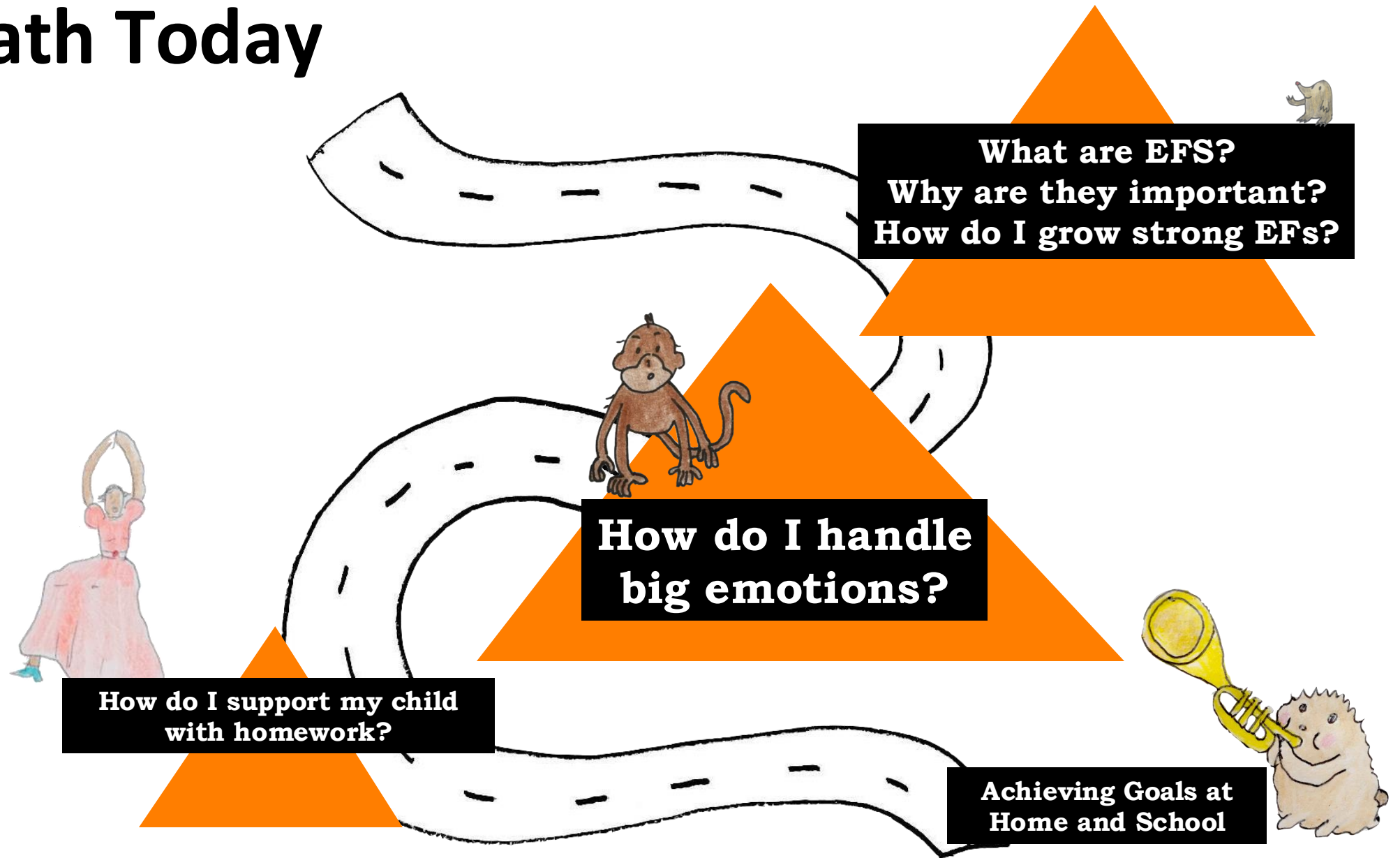


May, 2025

Laurie Faith, OCT, PhD, @LCFaith

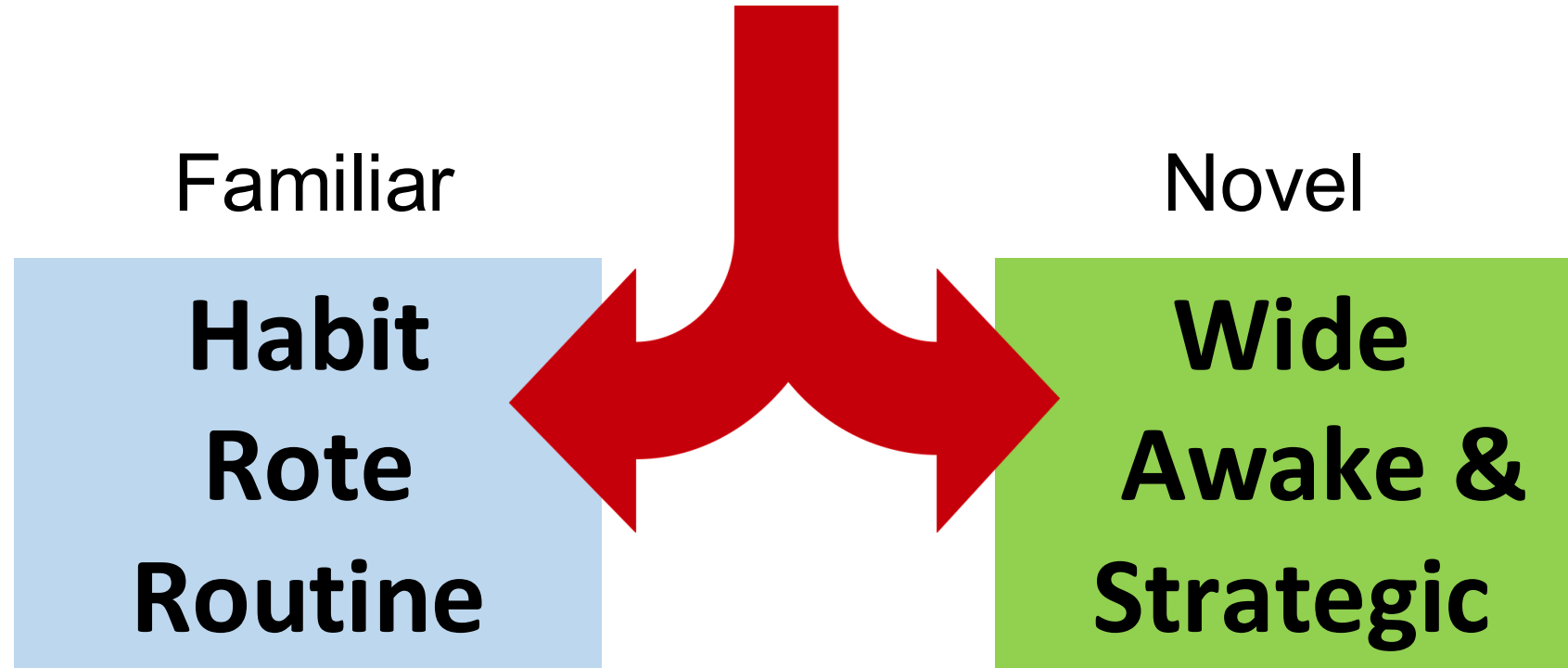
www.activatedlearning.org

Our Path Today



Art courtesy of
Kay Liang and Katie Healy

Goals at Home & School



Share a goal that you accomplish using habits, routine, or rote skills.

Core EFs

Cognitive Flexibility

The ability to think about something in multiple ways.

- Adapt to your friend's idea.
- Show flexibility in ideas, activity, and strategy.

Working Memory

The ability to hold information in mind and manipulate it.

- Think about what you want AND what is appropriate.
- Think about setting AND plot.

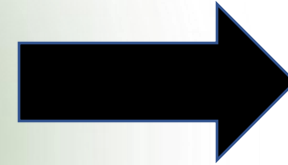
Inhibitory Control

The ability to control impulses and the way one responds to interference.

- Wait your turn.
- Shut off worries.
- Resist iPhone.

Being wide awake and strategic challenges EFs

Response Inhibition
Working Memory
Flexibility



Emotional Control
Sustained Attention
Task Initiation
Planning and Prioritizing
Organizing
Time Management
Goal-Directed Persistence
Metacognition

Yellow

Spatial Span



Instructions

Quit Test

Sound On

Time Remaining:

00:00

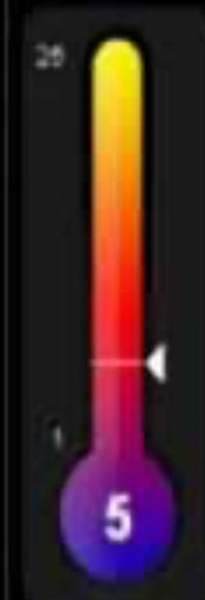
LIVES LEFT:



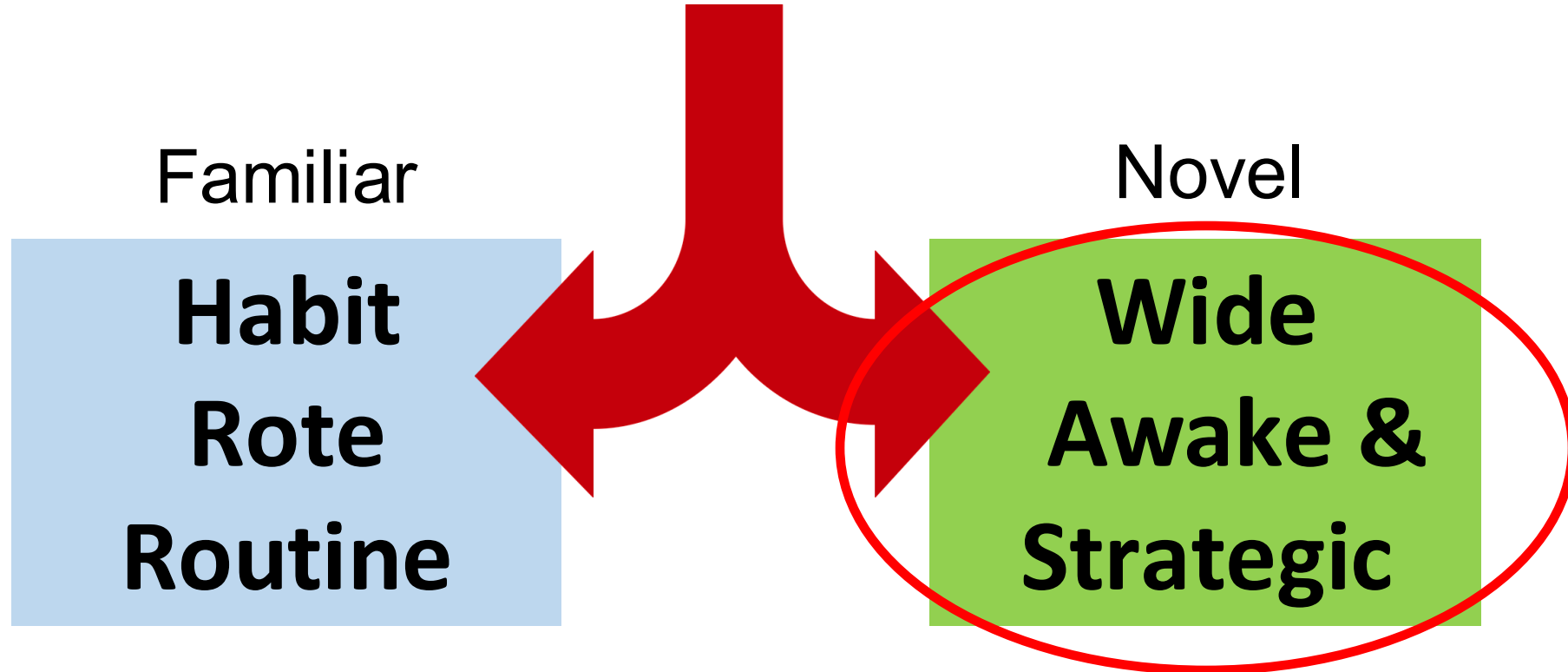
CURRENT
SCORE:

5

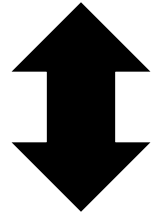
DIFFICULTY
METER:



We need EFs to chase **NOVEL** high value goals!



Being Wide Awake and
Strategic &
Chasing Novel Goals



Executive Function



academic success
healthy relationships
mental and physical health
appropriate social
engagement
healthy boundaries
safe choices



Visu-Petra, L., Cheie, L., Benga, O., & Miclea, M. (2011). Cognitive control goes to school: The impact of executive functions on academic performance. *Procedia - Social and Behavioral Sciences*, 11, 240-244. Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development*, 78(2), 647-663; Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychological Science*, 16(2), 939-944; Gioia, G. A., & Isquith, P. K. (2004). Ecological assessment of executive function in traumatic brain injury. *Developmental Neuropsychology*, 25, 135-158; Ozonoff, S., & Jensen, J. (1999). Brief report: Specific executive function profiles in three neurodevelopmental disorders. *Autism and Developmental Disorders*, 29, 171-177; Fryer, S., Tapert, S. F., Mattson, S. N., Paulus, M. P., Spadoni, A. D., & Riley, E. P. (2007). Prenatal alcohol exposure affects frontal-striatal BOLD response during inhibitory control. *Alcoholism, Clinical and Experimental Research*, 31(18), 1415-1424; Elliott, R. (2003). Executive functions and their disorders: Imaging in clinical neuroscience. *British Medical Bulletin*, 65(1), 49-59; Stein, J. A., & Krishnan, K. (2007). Nonverbal learning disabilities and executive function: the challenges of effective assessment and teaching. In L. Meltzer (Ed.), *Executive Function in Education: From Theory to Practice* (pp. 106-132). New York: Guilford Press; Vogelaar, B., Bakker, M., Hoogeveen, L., & Resing, W. C. M. (2017). Dynamic testing of gifted and average-ability children's analogy problem solving: Does executive functioning play a role? *Psychology in the Schools*, 54(8), 837-851; Swing, E. L., Gentile, D. A., Anderson, C. A., & Walsh, D. A. (2010). Television and video game exposure and the development of attention problems. *Pediatrics*, 126(2), 214-221; Southern Education Foundation. (2015). A new majority: Low income students now a majority in the nation's public schools. Retrieved from <http://www.southerneducation.org/getattachment/4ac62e27-5260-47a5-9d02-14896ec3a531/A-New-Majority-2015-Update-Low-Income-Students-Now.aspx>; Bethell, C., Newacheck, P., Hawes, E., & Halfon, N. (2014). Adverse childhood experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33(12), 2016-2115; Burke, N., Hellman, J., Scott, B., Weems, C., & Carrion, V. (2011). The impact of adverse childhood experiences on an urban pediatric population. *Child abuse & neglect*, 35(6), 408-413; Hostinar, C., Stellern, S., Schaefer, C., Carlson, S., & Gunnar, M. (2012). Associations between early life adversity and executive function in children adopted internationally from orphanages. *Proceedings of the National Academy of Sciences of the United States of America*, 109(Suppl 2), 17208-17212; Shonkoff, J., & Garner, A. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics*, 129(1), e232-e246; Shonkoff, J., & Phillips, D. (2000). *From Neurons to Neighborhoods*. Washington, DC: National Academy Press; Moffitt, T., Arseneault, L., Belsky, D., Dickson, N., Hancox, R., Harrington, H., . . . Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences*, 108(7), 2693-2698.

How to Help a Child Build Strong EFs?

Practice

- *Challenges* that require focus, concentration, timing & responsiveness
- Achievable but truly challenging

+ Nurture the Spirit

Ways to nurture/honor/encourage the spirit of the person who is practicing:

- Challenges that are meaningful, authentic, engaging, joyful, social, and offer some choice/agency
- Encouragement, purpose, choice, connection, confidence, familiarity, comfort, safety, genuine respect
- Rest, calming, sleep, nutrition, exercise, health

+ Scaffold the Demands

Ways to offload *some* of the EF demands:

- Help to talk about, anticipate, and prepare for the future task
- Routines and habits
- Visual supports (e.g., anchor charts)
- Reminders & check-ins
- Assistive tech
- Other accommodations

NSP

So, if we want them to..

Use strong
response Inhibition,
working memory, and
flexibility

to be

Wide
Awake &
Strategic

Achieve Goals at
Home and School



We have to provide frequent NSPs.
Nurturing, scaffolding, opportunities to ppractice.

Doing hard work
at school
is a great opportunity to
build EF

Barriers { Strategies

- Stay in my head.
- Mixing up skills
- organizing appropriate strategies
- attention
- complicated rules.
- Move to next thing (feeling).
- overwhelmed - other classes.
- set appropriate time
 - 20 min.
- Highlight for future you.
- Video.
- Color code notes
- Rewrite it all
- Courage.
- Pick out one thing
- Start w longest time
- Snack
- List
- of



Each has the potential to build EFs or NOT

- Putting on shoes
- Basketball practice
- Doing homework
- Cleaning the kitchen
- Helping to take care of siblings
- Expensive summer camp
- Discussing how your day went
- Involvement in cultural activities
- Walk with Grandpa

+ Nurture/Honor/Encourage

Ways to nurture/honor/encourage the spirit of the person who is practicing

- Challenges that are meaningful, engaging, joyful, social, and offer some choice/agency
- Encouragement, purpose, choice, connection, confidence, familiarity, comfort, safety, genuine respect
- Rest, calming
- Sleep, nutrition, exercise, health

+ Scaffold

Ways to offload *some* of the EF demands

- Help to talk about, anticipate, and prepare for the future task
- Routines and habits
- Visual supports (e.g., anchor charts)
- Reminders & check-ins
- Assistive tech
- Other accommodations



Tell an NSP story for one of these... or choose your own.

But... What if we get big emotions?



How to Regulate Emotion

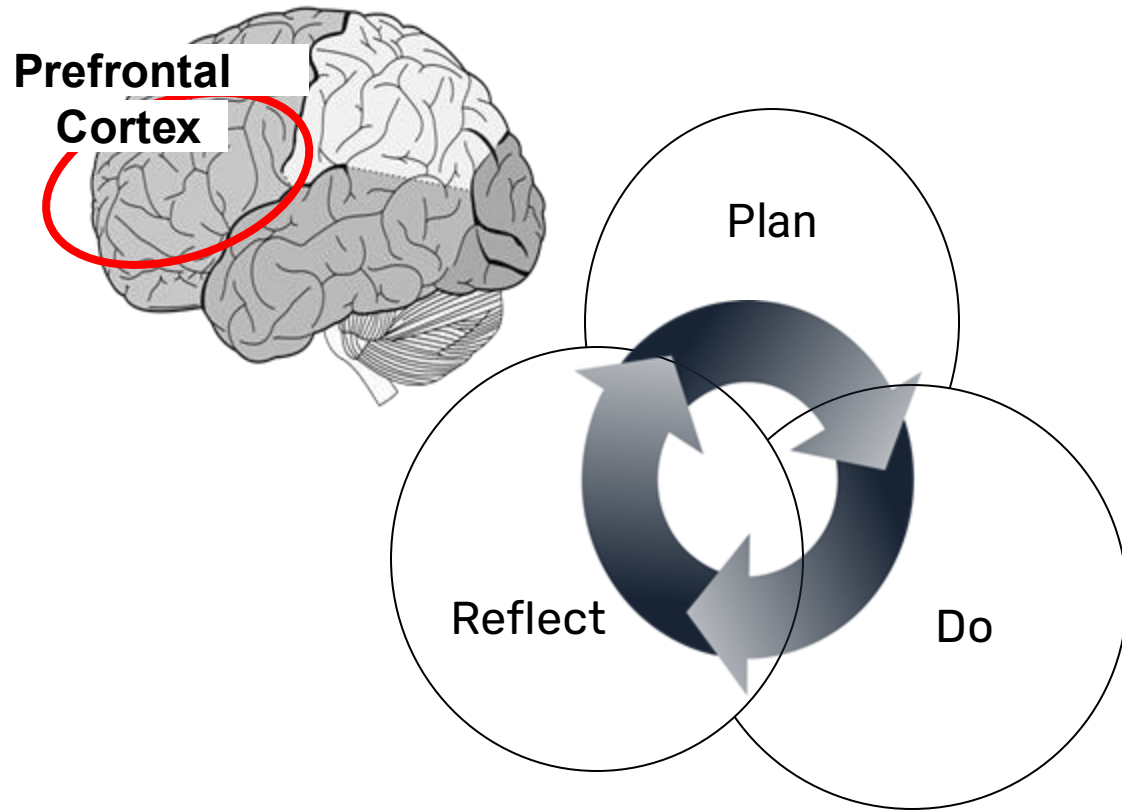
Modify Situation
Redirect Attention
Shift Appraisal



Modulate Response

Stress and Big Emotions

Self-Regulated Learning / Intentional
Behavior / Choices / Self-Control



Teens are Extra

Stronger Connection to Peers

- social pain = physical pain
- social rewards = money
- teens feel lonelier
- not necessarily addicted to phone...
addicted to their friends
- we may feel social pain from our teen's rejection!

Drive Toward Novel Experiences and Independence

- need to learn things for themselves
- 100% of teens touch the “so hot” dish

Self-Identity

- supported by strong emotional responses that teach them about themselves
- roller coaster of “I HATE that” and “I LOVE that”

Emotionally-Driven Learning

- they respond with strong emotions to peer responses (pressure)
- reward sensitive areas of emotional brain are very sensitive for teens
- adult presence strongly moderates the emotional response to peer response

Emotion Validation

Receive emotions without trying to change, suppress, re-appraise, and without control attempts.

Help to normalize the experience.

Express empathy.

Invalidating

Overreaction, rejection, criticism, and neglect.

Convey to the individual that his or her experiences are inaccurate, misunderstood, or inappropriate.

Validation V. Invalidation

- Reduces stress, pain, anxiety, and depression.
- Leads to better mood/feelings.
- Promote further disclosure.
- Improves emotion regulation skills.
- Increases learning and motivation.
- Increases trust of self and others.

VS

- Reduces trust in self and others
- Leads to worse mood/feelings.
- Can lead to aggression.

Hayes, S. C., Strosahl, K. D., and Wilson, K. G. (1999). *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change*. New York, NY: Guilford Press.

Lynch, T. R., Chapman, A. L., Rosenthal, M. Z., Kuo, J. R., & Linehan, M. M. (2006). *Journal of Clinical Psychology*.

Kohl, A., Rief, W., and Glombiewski, J. A. (2012). How effective are acceptance strategies? A meta-analytic review of experimental results. *J. Behav. Ther. Exp. Psychiatry* 43, 988–1001. doi: 10.1016/j.jbtep.2012.03.004

Feliu-Soler, A., Montesinos, F., Gutiérrez-Martínez, O., Scott, W., McCracken, L. M., and Luciano, J. V. (2018). Current status of acceptance and commitment therapy for chronic pain: a narrative review. *J. Pain Res.* 11:2145. doi: 10.2147/JPR.S144631

Twohig, M. P., and Levin, M. E. (2017). Acceptance and commitment therapy as a treatment for anxiety and depression: a review. *Psychiatric Clin.* 40, 751–770. doi: 10.1016/j.psc.2017.08.009

Selby, E. A., & Joiner, T. E., Jr. (2009). Cascades of emotion: The emergence of borderline personality disorder from emotional and behavioral dysregulation. *Review of General Psychology*, 13, 219–229. 10.1037/a0015687

Herr, N. R., Jones, A. C., Cohn, D. M., & Weber, D. M. (2015). The impact of validation and invalidation on aggression in individuals with emotion regulation difficulties. *Personality Disorders: Theory, Research, and Treatment*, 6(4), 310–314. doi:http://dx.doi.org/10.1037/per0000129

How to Do Validation



- Use body language to show that you are listening.
- Respond to mood and energy level.
- Repeat words to check understanding and to help elaboration of feelings.
- Acknowledge personal history and how it may contribute.

How to Say Validating Things



- “I can see how you would feel that way”
- “Of course - that feeling makes sense”
- “Knowing how hard x is for you, I can see why you feel this way!”
- “That must be really hard”
- “That sounds so (frustrating)”
- “Tell me more about that”

How to Coach Homework

1. Ask your child to **SET A GOAL**.
 - Small, measurable, achievable, realistic, and time-bound (SMART).
2. Ask your child to think of **ONE OBSTACLE** to achieving the goal.
 - What might stop them from getting it done, for *realsies*?
3. Ask your child to make a **PLAN TO OVERCOME** the obstacle.
 - Step back and give your child some control.
 - Express respect, trust, curiosity, and encouragement.
4. **MEASURE SUCCESS** – did they succeed? Yes or no. Why or why not?
 - Resist saying I told you so. Express curiosity, interest, respect.
 - “That’s so interesting... so what will you try next time?”

Do this on a daily basis **AT THE SAME TIME, IN THE SAME PLACE**. Keep track of how many goals they meet each week. See if they can meet more goals the next week.

Questions