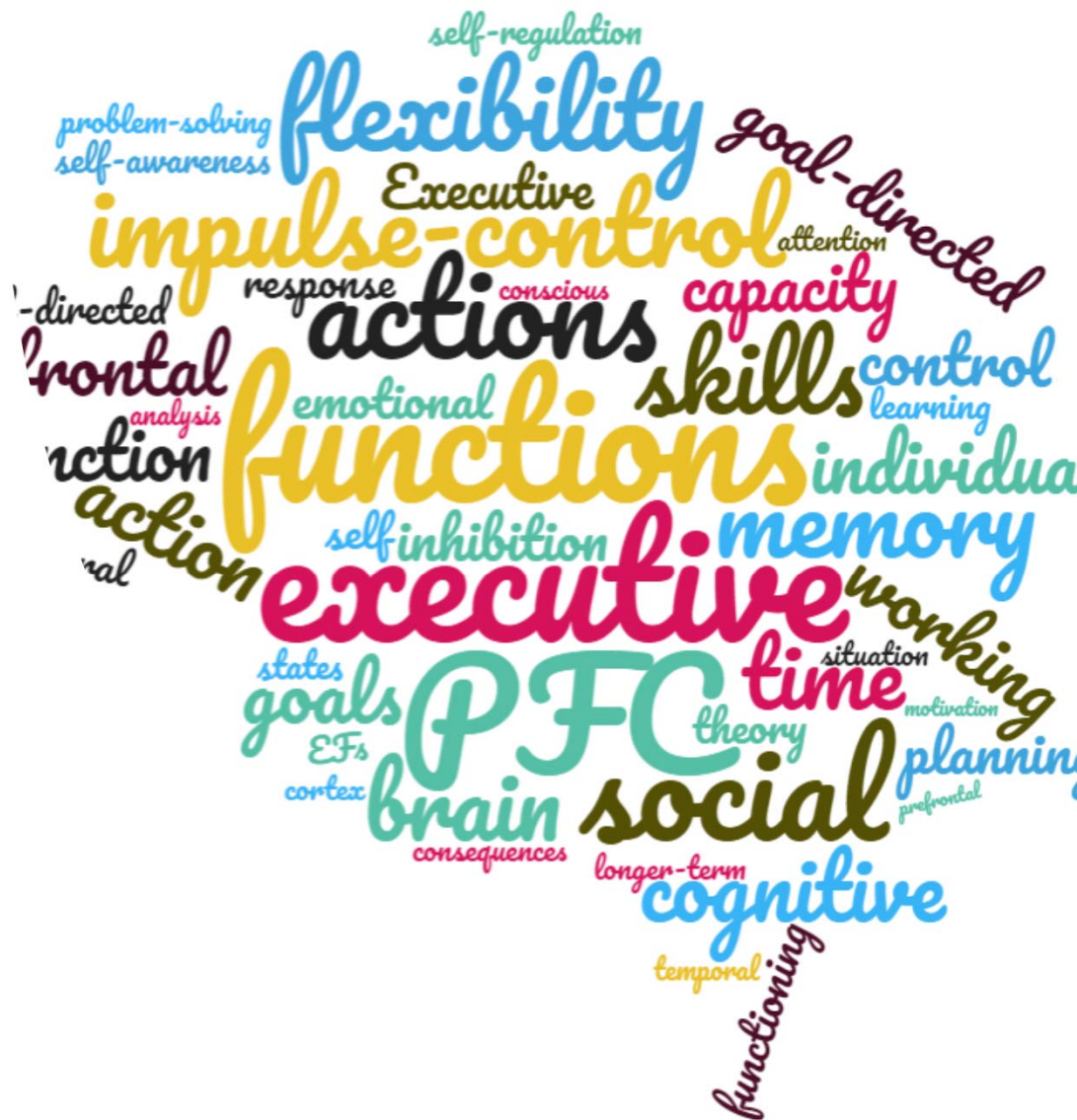


MACMH, 2018

Joseph Falkner, MST/CCC-SLP, CAS

Working with Individuals Who Struggle with Executive Functioning



Introduction

- Please call me Joe
- I am an SLP in Private Practice
- My caseload is made up of children, adolescents, and adults with autism, neurodiversities, and mental health issues
- I specialize in working with individuals with executive functioning disorders



A little more about me:

(or why is an SLP interested in Mental Health)

- Middle of 7 children
 - Parent and siblings with MH issues
- SLP: minor incorporates psychology, counseling, sociology, and teaching
- One of first jobs: locked behavior unit
- Since 2001, I have focused on children, adolescents and young adults with neurodiversities



And Now, I want to find out a little bit about you...

- Profession

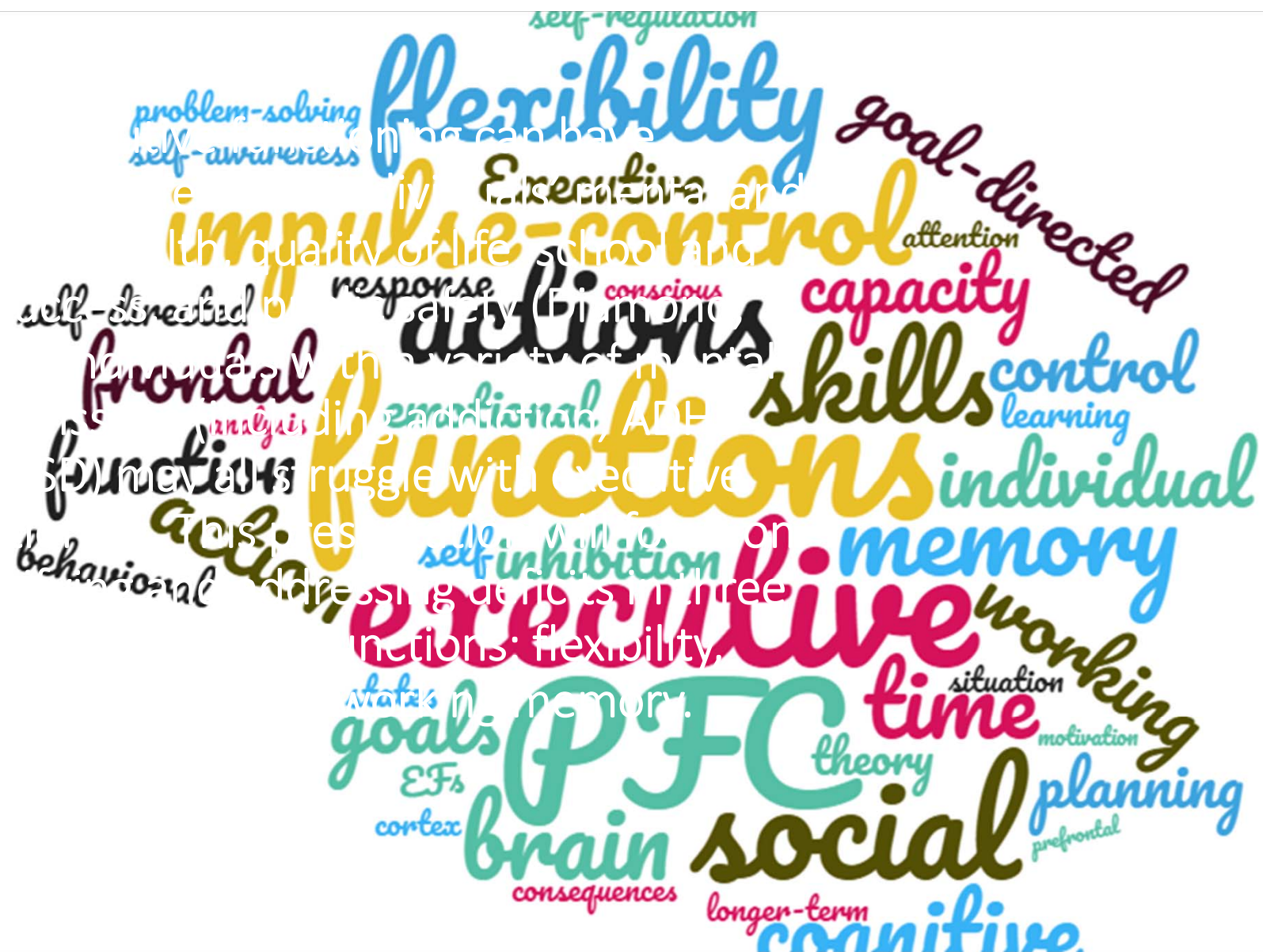
- Mental Health Professional
- Psychiatrist or Pediatrician
- Parent or Caregiver
- Teacher
- Corrections Worker
- Other



And Now, I want to find out a little bit about you...

- How knowledgeable do you feel about the topic of executive functions in individuals with mental health difficulties
- How comfortable are you designing programs for and working with individuals with executive function needs who have mental health difficulties?





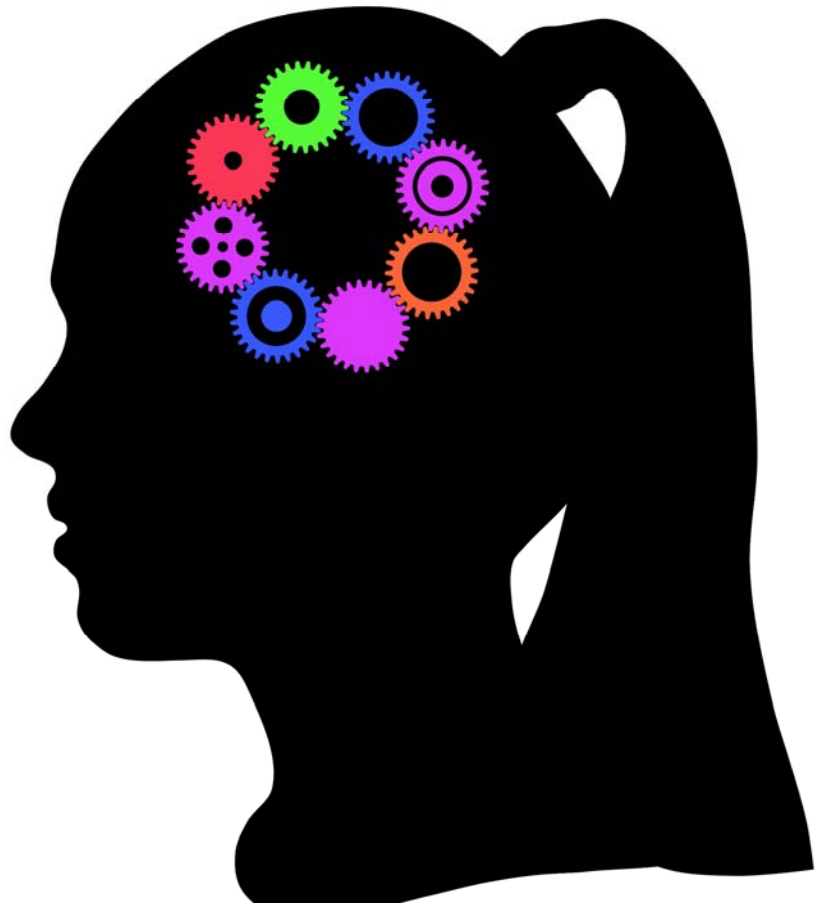


Choose Your Own Adventure: Which Presentation Should We Do Today?

What is EF?

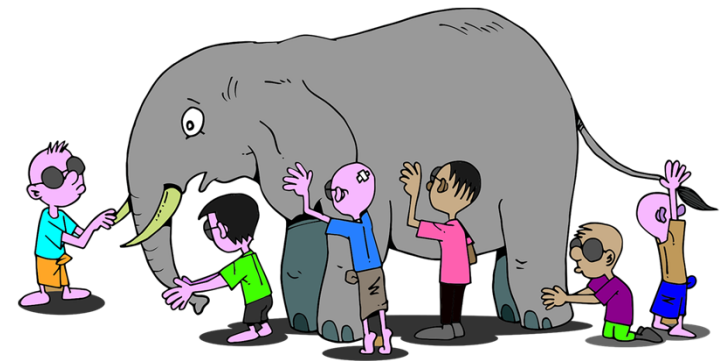
“Executive function encompasses a set of higher-order cognitive processes involved in regulating attention, thoughts, and actions.”

(Wiebe & Karbach, 2018)



The 3 Key (or Simple) EF Skills Are:

- Impulse control
- Flexibility
- Working memory



Executive Functioning Hierarchy

(Jones, Bailey, Barnes, & Partee, 2016)

Arousal/
Stress

Key Term

- Executive Function

Simple Skills

- Response Inhibition
- Flexibility
- Working Memory

Complex Skills

- Proximal Skills: Planning, Problem-Solving, Error Monitoring, Mental Organization
- Distal Skills: Setting Goals, Decision Making, Reflection, Creativity

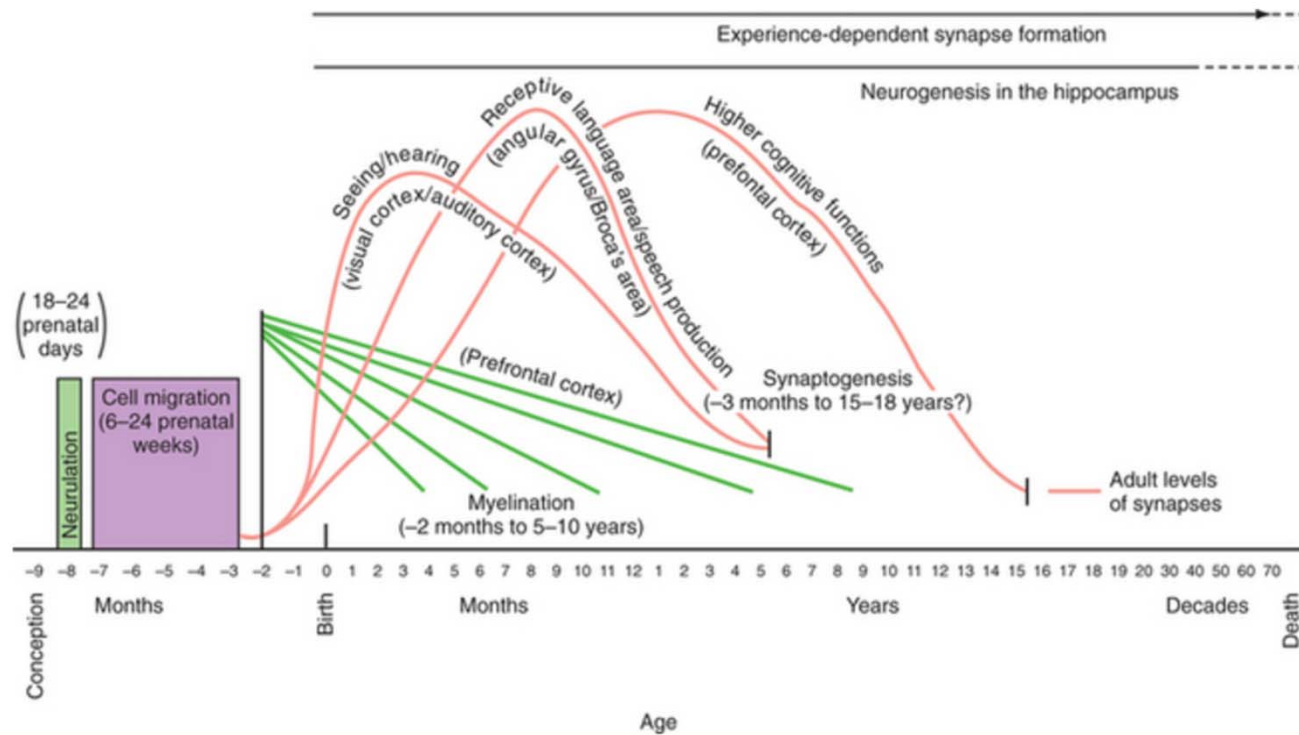
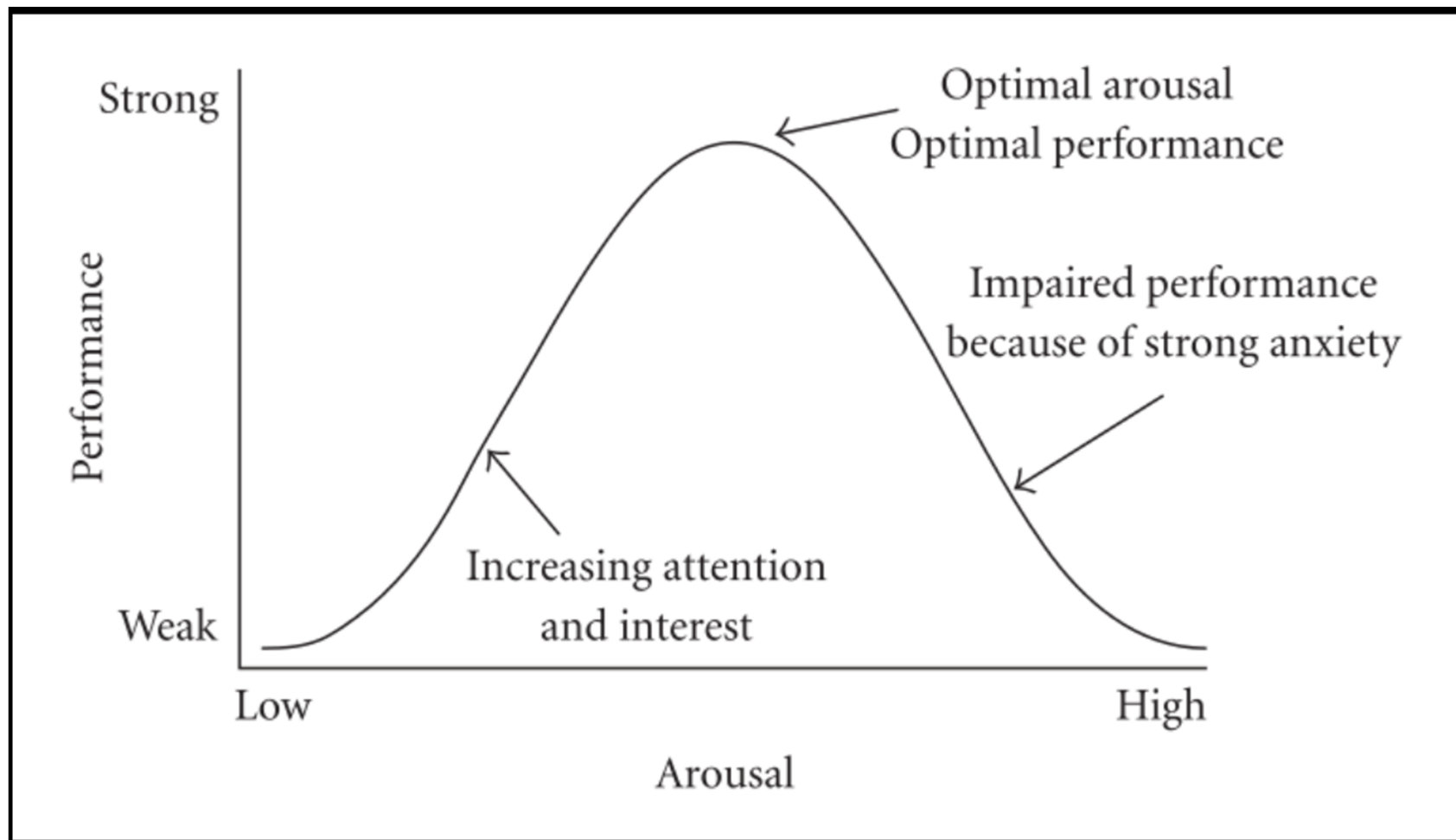


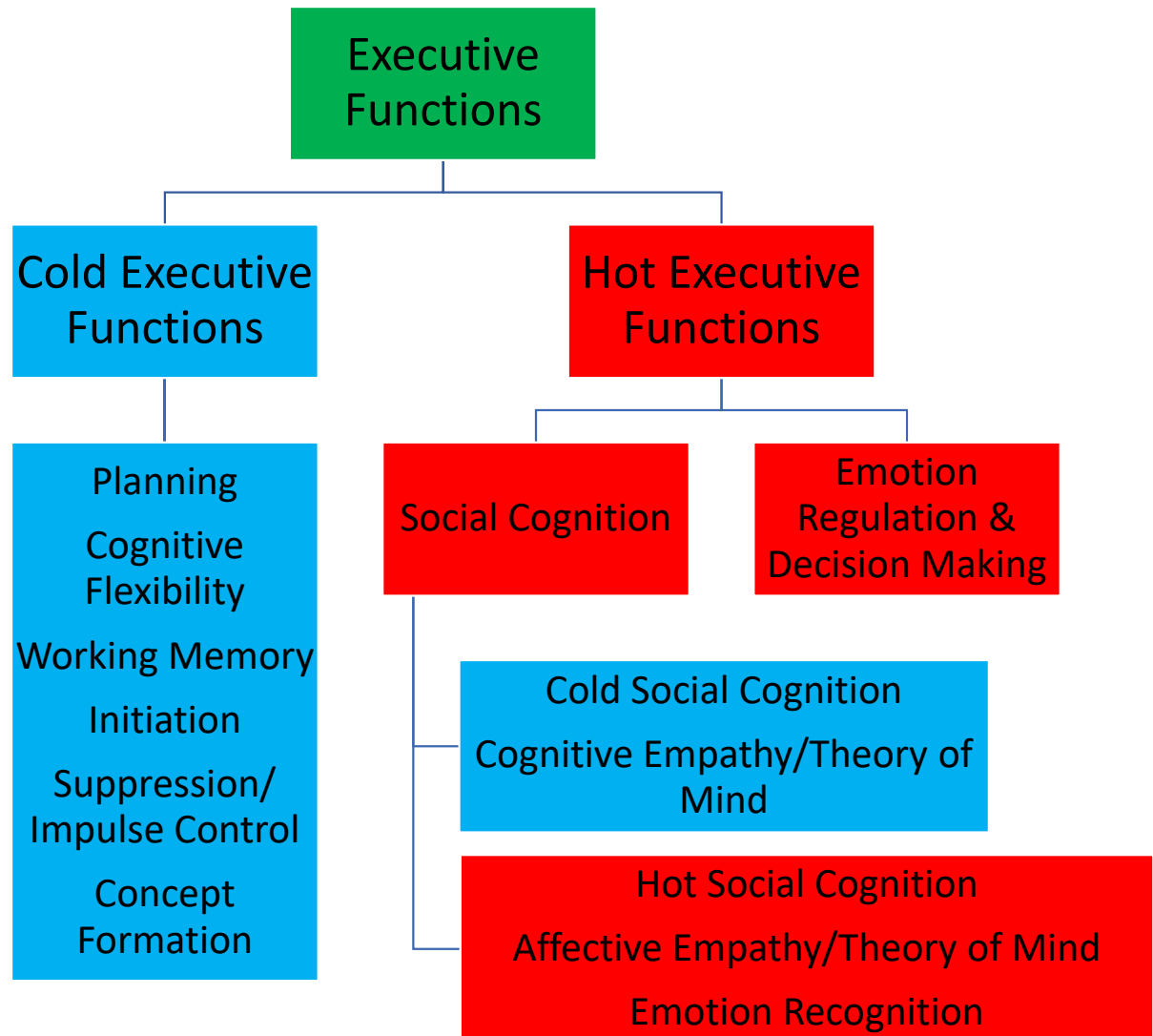
Figure 40-1 A depiction of the processes of brain development, including intrauterine neuronal patterning, neurogenesis, cortical migration, gliogenesis, myelination, and experience-dependent synapse modification.

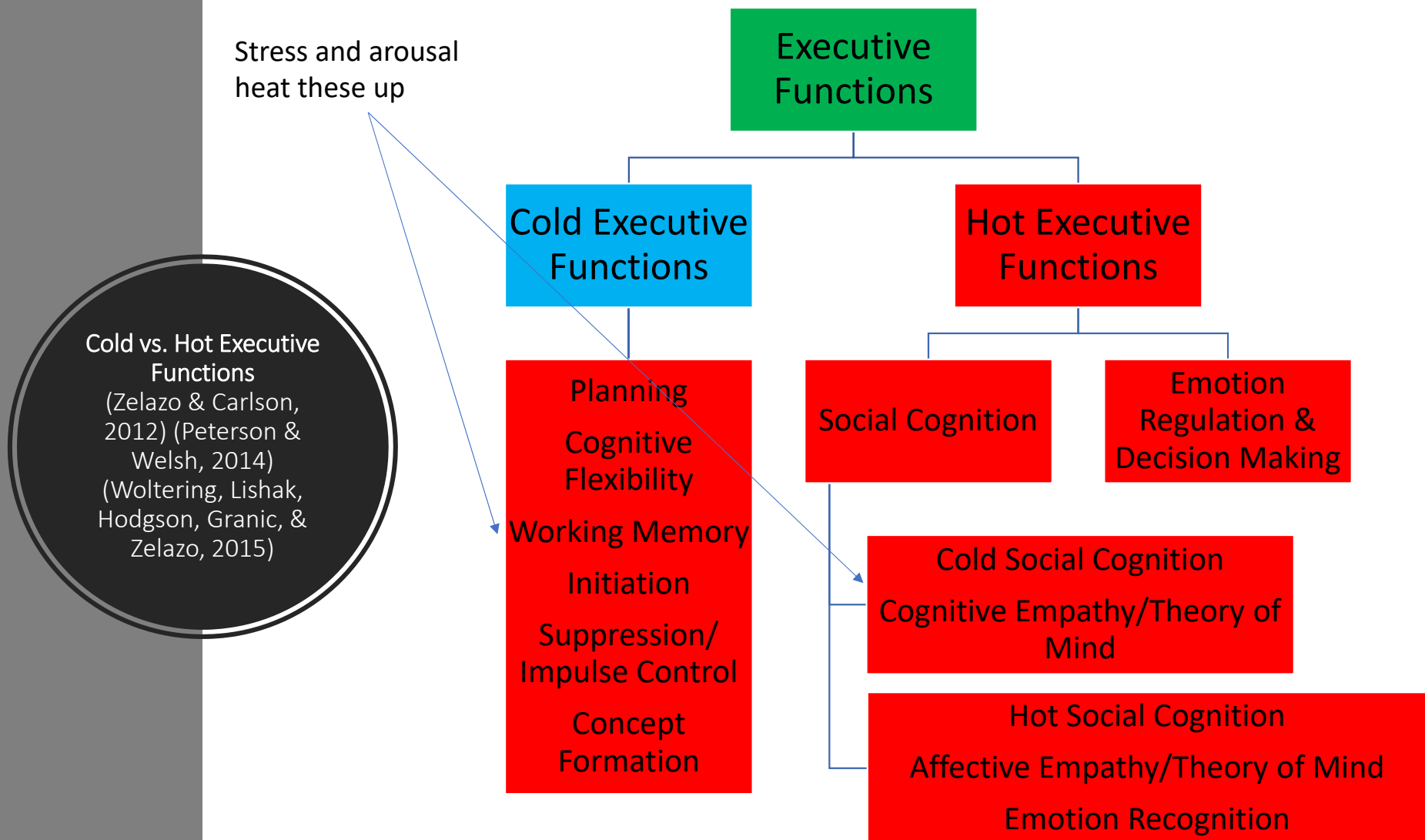
(Thompson & Nelson, 2001)



Cold vs. Hot Executive Functions

(Zelazo & Carlson, 2012) (Peterson & Welsh, 2014)
(Woltering, Lishak, Hodgson, Granic, & Zelazo, 2015)







Impulse Control



Impulse Control—Developmental Context

(Forgan & Richey, 2015)

4-5 years

"Can delay eating a treat; ... can keep an arbitrary rule in mind and follow it to produce a response that differs from their natural instinct" (Center on the Developing Child, 2014, p. 9)

6-9 years

Are more internal in thinking and more adept at controlling momentary impulses

10-12 years

Become more flexible in thinking and able to switch between a central focus like driving and peripheral stimuli that may need attention, such as pedestrians (Center on the Developing Child, 2014)

Impulse Control—Developmental Context

(Blakemore & Robbins, 2012) (Best & Miller, 2010)

Teens

- Increase in risk taking behavior
- Increased responsiveness to peer pressure
- Increases in “response inhibition” on “cold” EF tasks
- Prefrontal cortex and connections to other cortical and subcortical structures involved in inhibition going through significant development

20's

- Decreased risk taking behavior
- Better able to inhibit immediate gratification for more long term goals
- Increased connections between emotion centers of brain and prefrontal cortex
- Increased awareness when making an inhibition error

Signs and Symptoms of Impulse Control Difficulties— School-Age Behaviors

(Axelrod, et al., 2012) (Hutaff & Henry, 2013)

- Acting on auto-pilot without reflection
- Makes careless mistakes: both verbal and written
- Displays hyperactivity
- Restlessness—acts wild/”out of control”
- Difficulty waiting —delayed gratification is difficult
- Interrupts others
- Needs immediate feedback
- Is a risk-taker or daredevil
- Is class clown
- Appear disorganized
- Perseveration

Signs and Symptoms of Impulse Control Difficulties— School-Age Behaviors

(Axelrod, et al., 2012) (Hutaff & Henry, 2013)

- Dives right into tasks or actions without pausing, reflecting, developing a strategy or game plan
 - Attempting problem solving without planning
 - Starting & stopping tasks repeatedly
- Issues with directions:
 - Not reading directions
 - Misreading directions
 - Misinterpreting directions
- Misinterprets Text

Signs and Symptoms of Impulse Control Difficulties—School-Age Behaviors

(Axelrod, et al., 2012)

- Invading others personal space/Touching things and/or people
- Excessive talking
- Interrupting conversations
- Interrupts and disrupts group activities

Signs and Symptoms of Impulse Control Difficulties—Adolescents and Adults

- Distracted driving
- Road rage
- Substance use and abuse
- Gambling
- Internet and gaming addiction
- Risk-taking behaviors
- Angry interactions with significant others
- Workplace issues
- Money/financial issues—difficulty delaying gratification



Flexibility—Developmental Context

(Forgan & Richey, 2015)

2-5 years

- Can shift actions based on changing rules (e.g. run on the play-ground but not inside)
- Begins to understand turn-taking
- Emerging understanding of time
- Emotions can still be very intense
- Difficulty separating "real" from "imaginary"
- May develop fears

3 years

- "Can direct and re-direct their attention to make deliberate choices," mental flexibility (Center on the Developing Child, 2011, p. 4).

5 years

- Can play cooperatively with several children

Flexibility—Developmental Context

(Forgan & Richey, 2015)

6-9 years

- Self-control continues to improve
- Internal thinking or self-talk develops
- Becomes better able to control negative feelings
- Develops awareness of consequences of their actions
- Begins to understand difference between "needs" and "wants"
- More sophisticated understanding of time
- Still egocentric but beginning to understand perspectives of others
- Peer competition in sports and the classroom comes to the forefront

Flexibility — Developmental Context

(Forgan & Richey, 2015)

10-12
years

- Becomes more flexible according to changing rules
- Better able to separate actions and feelings and control negative feelings (Teeter, 1998)
- Able to take more responsibility for their actions
- Wants independence but still needs guidance
- Importance of peer acceptance increasing

Flexibility — Developmental Context

Teens

Increased exploration of “self”

Increased goal flexibility

Continued increases in ability to take the perspective of others

Ability to carry out more tasks at a single time

Increases in “hot” executive function development

20's

More stable sense of self

More defined “set” of goals for life

Increased resilience to life's stressors

Signs and Symptoms of Difficulties with Flexibility

(Axelrod, et al., 2012)

- Difficulty making transitions
- Difficulty starting a new task before the first task is complete
- Difficulty switching gears
- Perseverative behaviors
 - Gives the same answers to different questions
 - Perseverative questioning
 - Perseverating on a topic, idea or activity
- Difficulty switching to a new topic or new subject
- Inflexibility
- Difficulty with problem solving and conflict resolution
- Failure to comply with task instructions

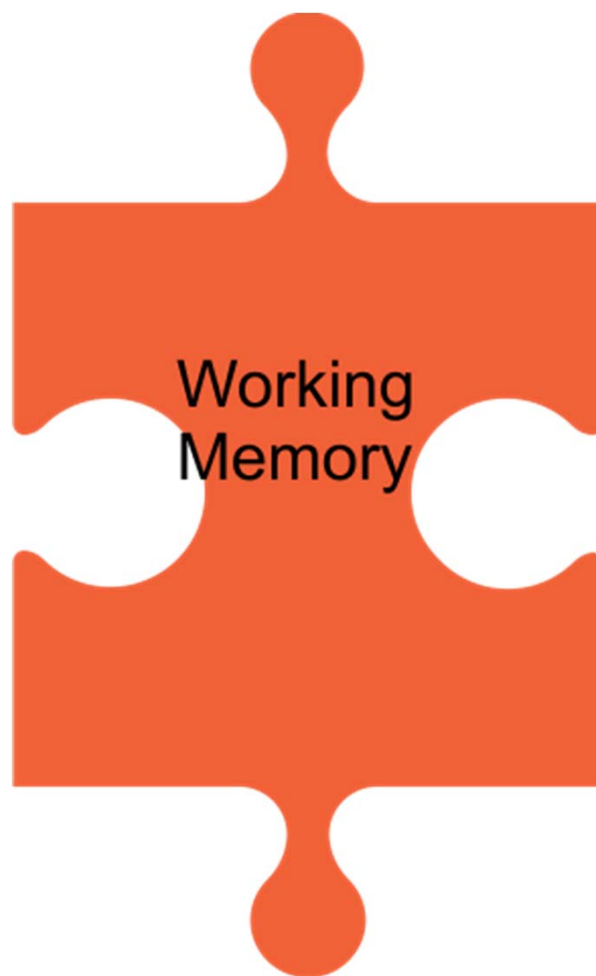
Signs and Symptoms of Difficulties with Flexibility

(Axelrod, et al., 2012)

- Repeating the same behavior after the task has changed
- Difficulty moving on from an emotional response to a situation
- Difficulty applying different strategies to problems as they arise
- Difficulty attending to differences between two different problems
- Driven by routine and consistency
 - Needing the same seat at table
 - Wearing the same clothes or same color clothes each day
 - Eating the same foods; difficulty with foods touching one another
 - Unable to tolerate changes in schedule
 - Difficulty transitioning - one activity to another, etc.

Signs and Symptoms of Difficulty with Flexibility

- Highly emotional—becomes stuck in emotional response
- Ruminative—will repetitively go over a particular thought or problem without coming to a conclusion
 - Worry is involved in rumination
- Unable to adapt to changes or life events



Working Memory —Developmental Context

(Forgan & Richey, 2015)

3 years	Can keep two rules in mind and act on them
3.5 years	Can use past knowledge to help them remember (Wellman, Somerville, & Haake, 1979)
5 years	Begin to recall location of items, such as in a memory game or by finding items in a room
7 years	Can begin to use simple memory strategies, like organization of material, but usually need prompting (Teeter, 1998)
10-11 years	May use organizational strategies when instructed to remember information without prompting (Chance & Fischman, 1987) Begin using rehearsal strategies, such as grouping items together or repeating them in a certain sequence
12 years	Use more spontaneous elaboration and strategies independently

Signs and Symptoms of Difficulties with Working Memory--School Age Behavior

(Axelrod, et al., 2012)

- Individual gets confused when too much information is presented
- Has trouble remembering things (i.e., phone numbers)
- Individual may lose track of what they are doing
- Individual may forget what they need to retrieve when on an errand
- May frequently switch tasks or fail to complete tasks
- Difficulty remaining attentive and focused for appropriate length of time
- Difficulty following directions
- Classroom Related
 - Difficulty sequencing math word problems
 - Extreme difficulty solving problems mentally (i.e., mental math)
 - Poor reading comprehension
 - Difficulty summarizing
 - Inconsistent performance
 - Difficulty keeping up with classroom lessons

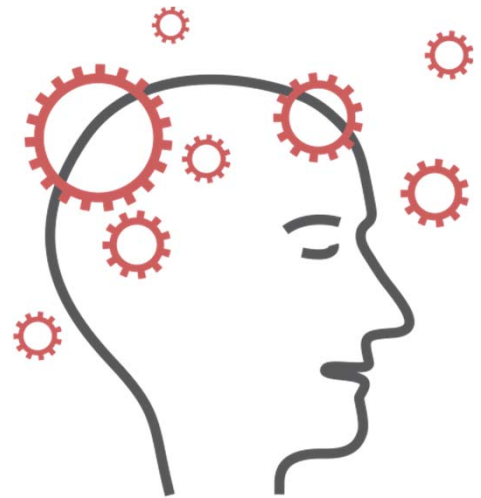
Signs and Symptoms of Difficulties with Working Memory-School Age Behaviors

(Axelrod, et al., 2012)

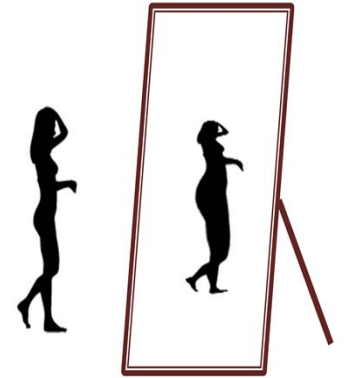
- Difficulty keeping up with information to complete a task
 - may look like poor attention
 - misses important pieces of information
 - gets confused when too much information is presented at once or too quickly (i.e. information overload)
 - poor note taking from lectures
- Extreme difficulty solving problems mentally (i.e. mental math)
- Difficulty keeping up with and maintaining conversation
- Frequently asking questions
- Difficulty sequencing

Signs and Symptoms Difficulty with Working Memory—Adulthood

- Forgetful of, or misses, appointments
- Misses deadlines
- Overdue bills
- Misses components of projects/work tasks
- Requires repeated explanations to be able to complete tasks
- Does not complete basic hygiene routines
- Does not complete home living routines



Mental Health (Diamond, 2013)

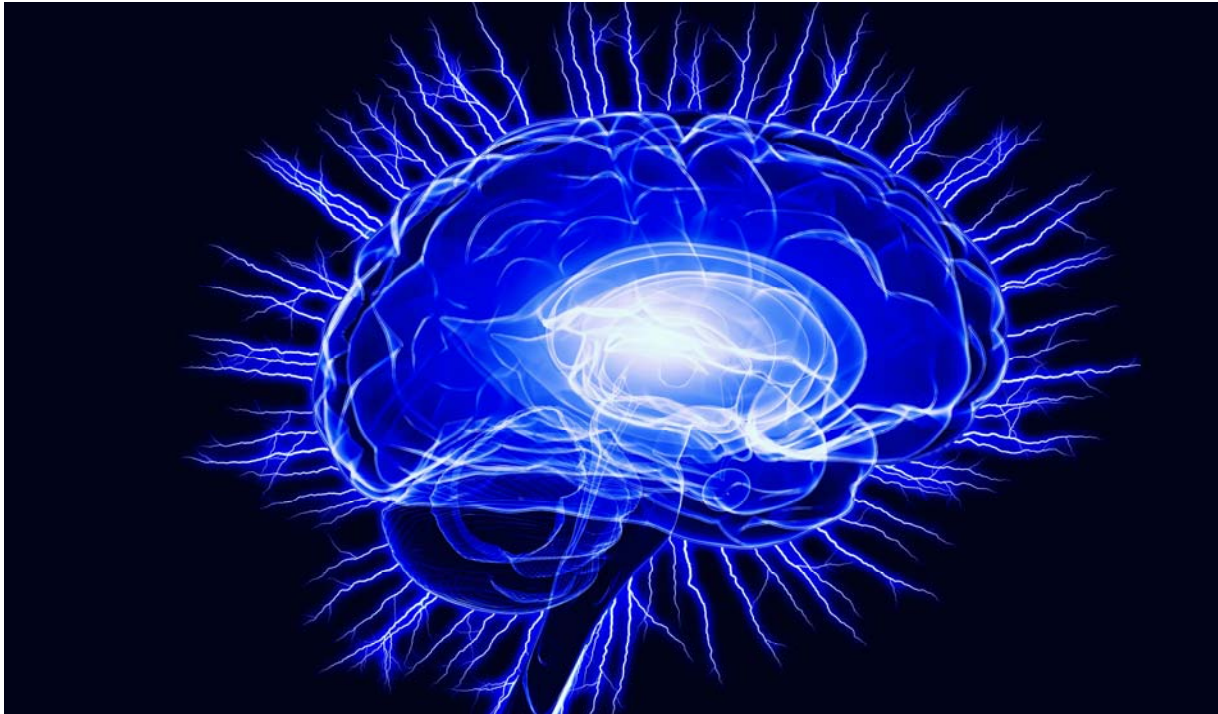


Mental Health

(Diamond, 2013)



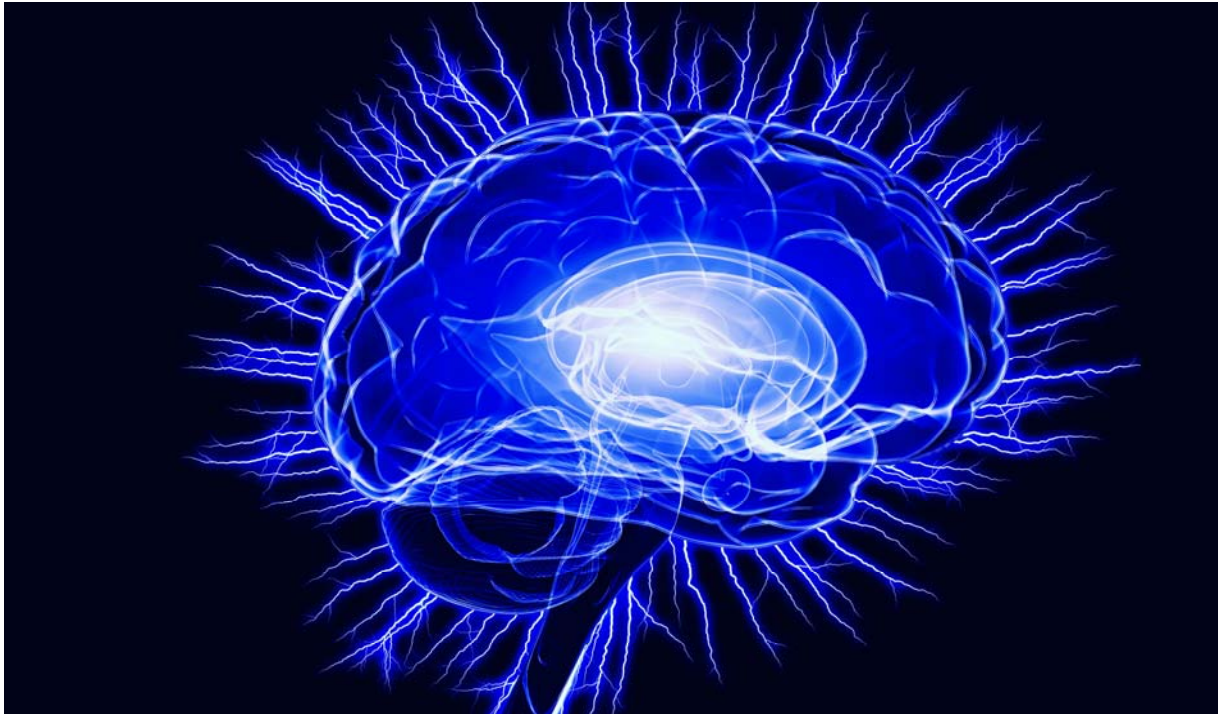
Issues Effecting Development



Principles of Neuroplasticity

(Kleim & Jones, 2008)

- **Use it or Lose it**
- **Use it and Improve it**
- **Fire together, Wire together**
- **Specificity**
- **Repetition Matters**



Principles of Neuroplasticity

(Kleim & Jones, 2008)

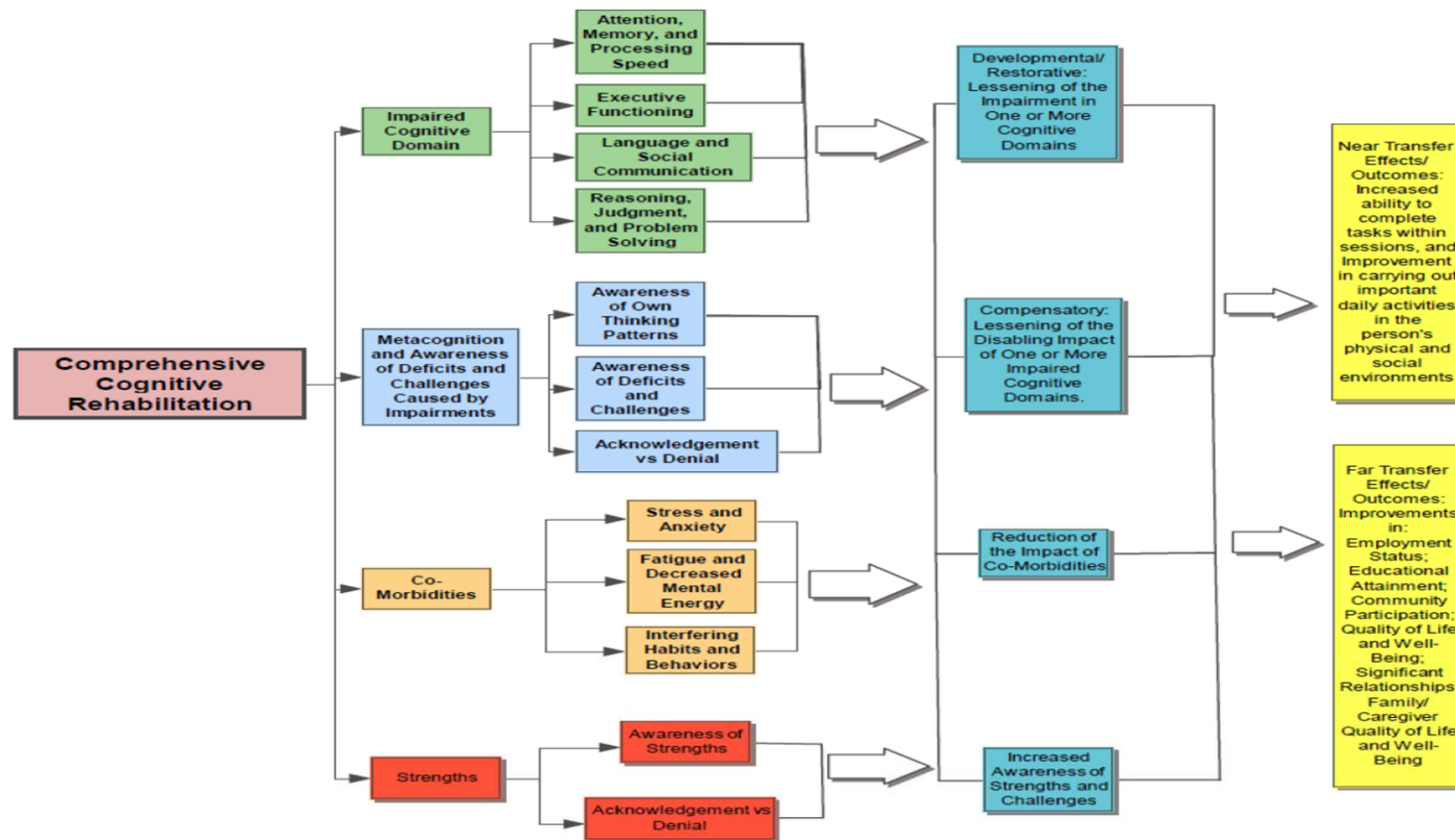
- **Intensity Matters**
- **Timing Matters**
- **Salience Matters**
- **Transference Matters**
- **Interference Matters**

Educational Model

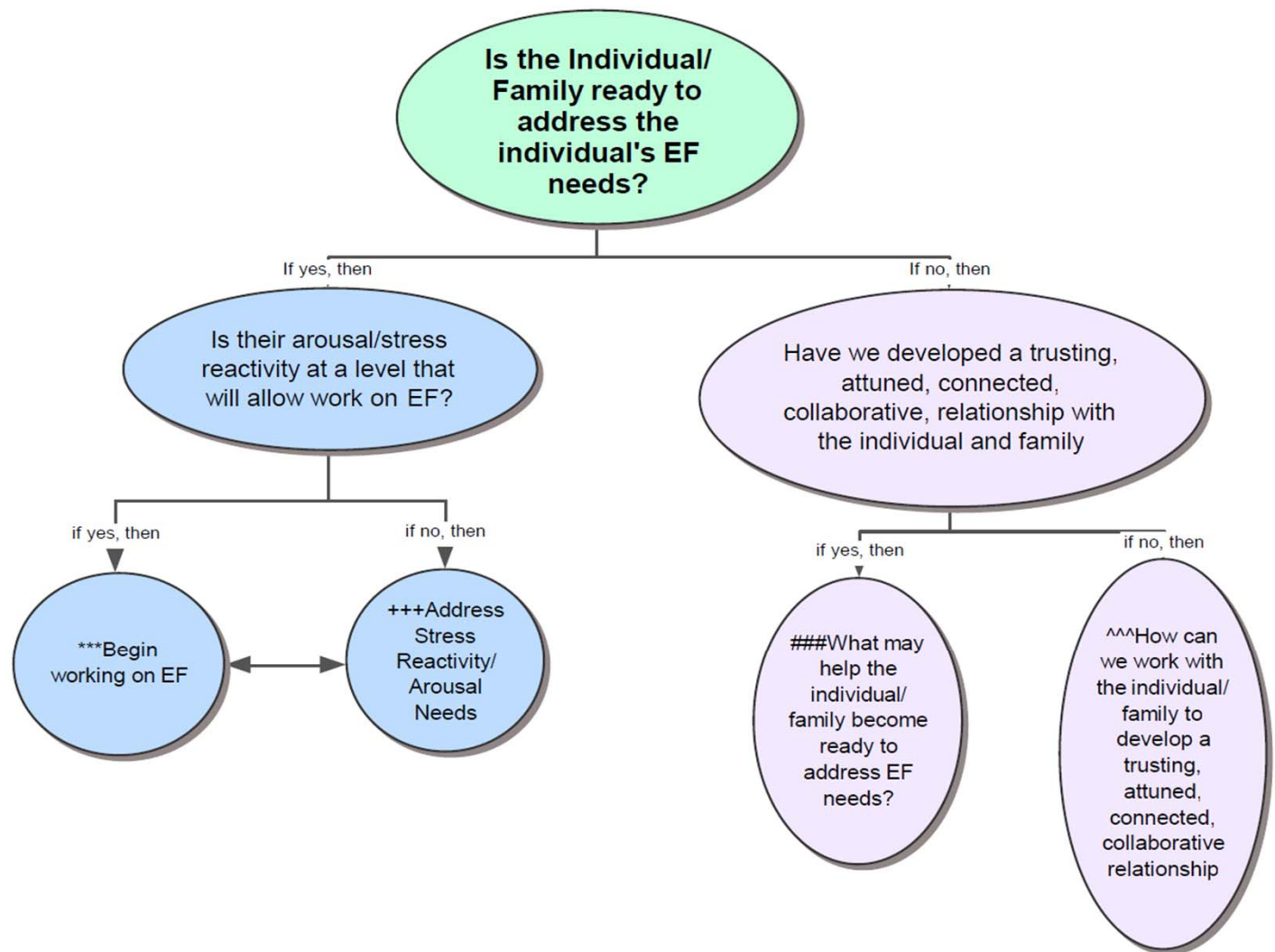
Addressing Executive Functioning Needs



adapted from: Barkley, 2012; Haskins, et al., 2014; Dawson & Guare, 2010; Dawson & Guare, 2014; McCloskey, 2016; Naar-King & Suarez, 2011

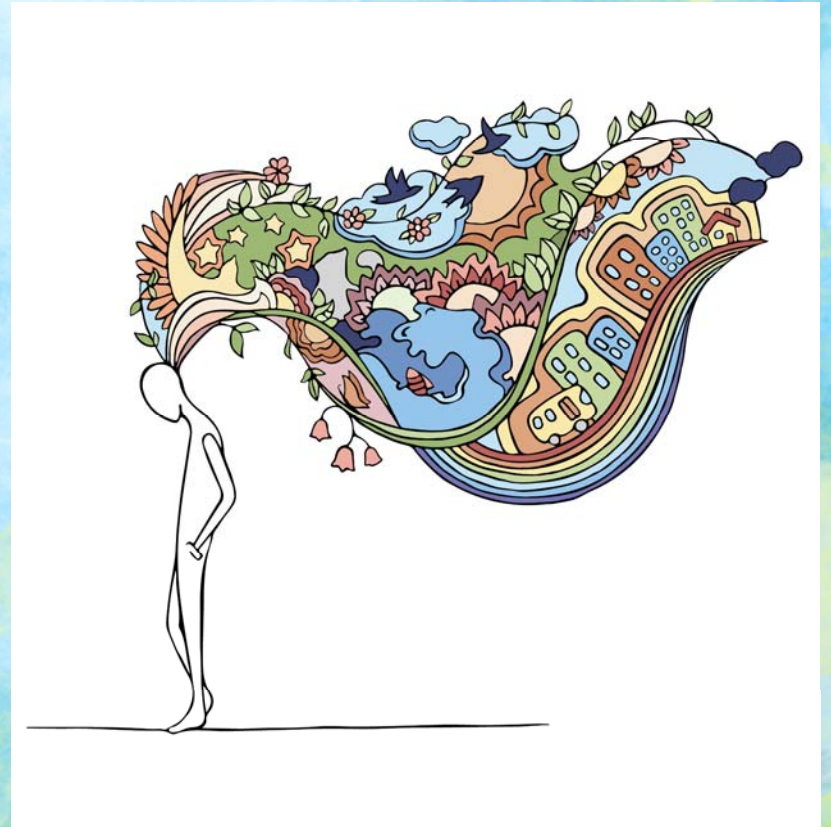


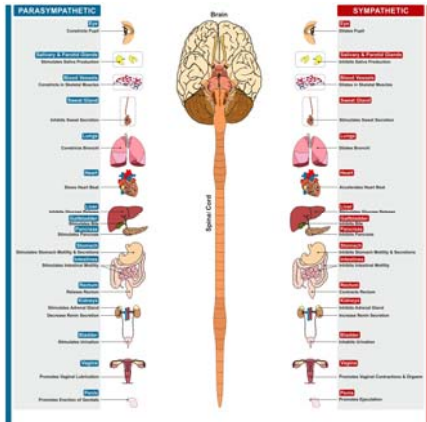
Joseph Falkner, MST/CCC-SLP (c), 2017
adapted from: Ostergren, 2018



Addressing Arousal Issues and Stress Reactivity

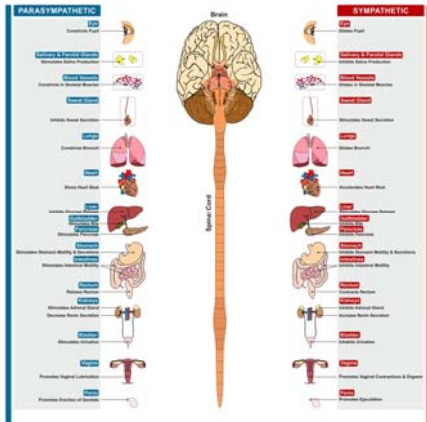
- Polyvagal-Informed Interventions
 - Safe and Sound Protocol
 - Accessing the Healing Power of the Vagus Nerve
 - Trauma-Informed Interventions (i.e., ANS: Precision Regulation)





Safe and Sound Protocol

- Based on the Polyvagal Theory
- Developed by Dr. Stephen Porges
- Designed to impact on:
 - Social and emotional difficulties
 - Auditory sensitivities
 - Anxiety and trauma related challenges
 - Inattention
 - Stressors that impact social engagement
 - Problems with regulating behavioral state



Safe and Sound Protocol

- 5 day intervention, 1 hour per day
- Two Essential Components
 - Safety
 - Specially filtered music
- It is difficult to demonstrate either of these components in a group like this

Addressing Arousal Issues and Stress Reactivity

- Mindfulness Interventions
 - This is an evidence-based practice for cognitive/EF training
 - Both benefits arousal/stress reactivity and cognitive/EF skills



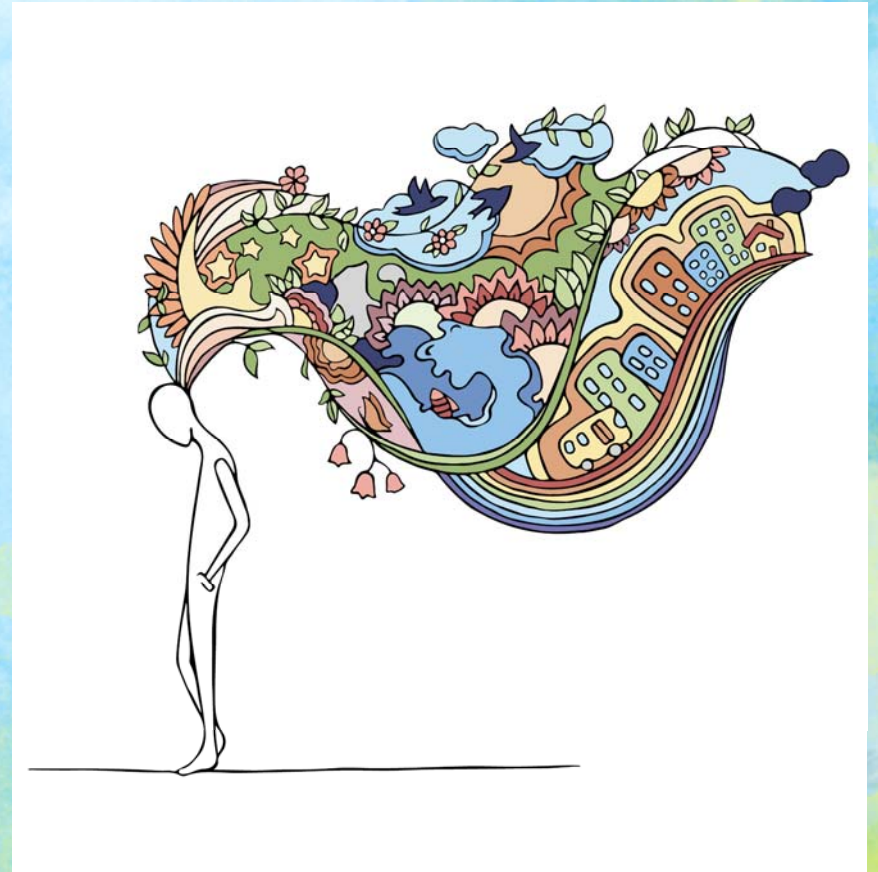
Addressing Arousal Issues and Stress Reactivity

- Mindfulness Interventions
 - There are any number of programs
 - I am certified in MBSR-T



Addressing Arousal Issues and Stress Reactivity

- Movement and Awareness
 - Brain Gym®
 - Yoga
 - Martial Arts





Impulse Control Interventions

- Teaching Metacognitive Strategies
- Internal Self-Management Training (form of Metacognitive Training)
 - Self-Awareness Training
 - Self-Management Training
 - Self-Talk



Impulse Control Interventions

- Teaching Problem Solving (a form of metacognitive strategy training)
 - Awareness
 - Anticipate/Plan
 - Execute/Self-Monitor
 - Self-Evaluation
- Teaching Context Awareness



4/27/2018

Impulse Control Interventions

- Teaching Interoceptive Awareness
 - What is Interoception?
 - What are some ways to teach it?
- Tech/Screen Diets for Non-School/Work

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Flexibility Interventions

- Utilize interventions from impulse control
- Structure (Ory, 2006)
 - **Predictability**
 - **Concrete**
 - Must be based on **positive expectations**
 - Individual must be able to **trust** the **accuracy** and **fidelity** of structure
 - There must be **flexibility** within **structured choices**
 - Allows for **continuity**



Flexibility Interventions

- Dealing with Individuals when they get stuck (both relates to impulse control and flexibility) (Ory, 2006)
 - The Six A's: **A**cknowledge, **A**nticipate and **A**void Problem Behavior, have an **A**ccepting **A**ttitude; **A**ccommodate the person's needs and deficiencies



Flexibility Interventions

- Dealing with Individuals when they get stuck (both relates to impulse control and flexibility) (Ory, 2006)
 - Give the person an “out”
 - “Safe Space”
 - “Prop-Rule-Role”
 - Priming
 - Return to routine or schedule



Flexibility Interventions

- Teach metacognitive strategies
- Activities that may increase flexibility
- Two major kinds of cognitive flexibility training
- Develop flexible use of language
- Developing theory of mind and perspective taking
- Develop resilience and hope



Working Memory Interventions

1

Externalize
motivation/reinforce
ment and memory
functions (Barkley,
2012)

2

Externally
represent or
remove gaps in
time (Barkley,
2012)

3

Reduce
cognitive load

Working Memory Interventions

(Dehn, 2014) (Dehn, 2008)

1

Teaching
Memory
Strategies

2

Elaborative
rehearsal vs.
Rote rehearsal

3

Chunking

Working Memory Interventions

(Dehn, 2014) (Dehn, 2008)

1

Dual Encoding

2

Organizational
Strategies

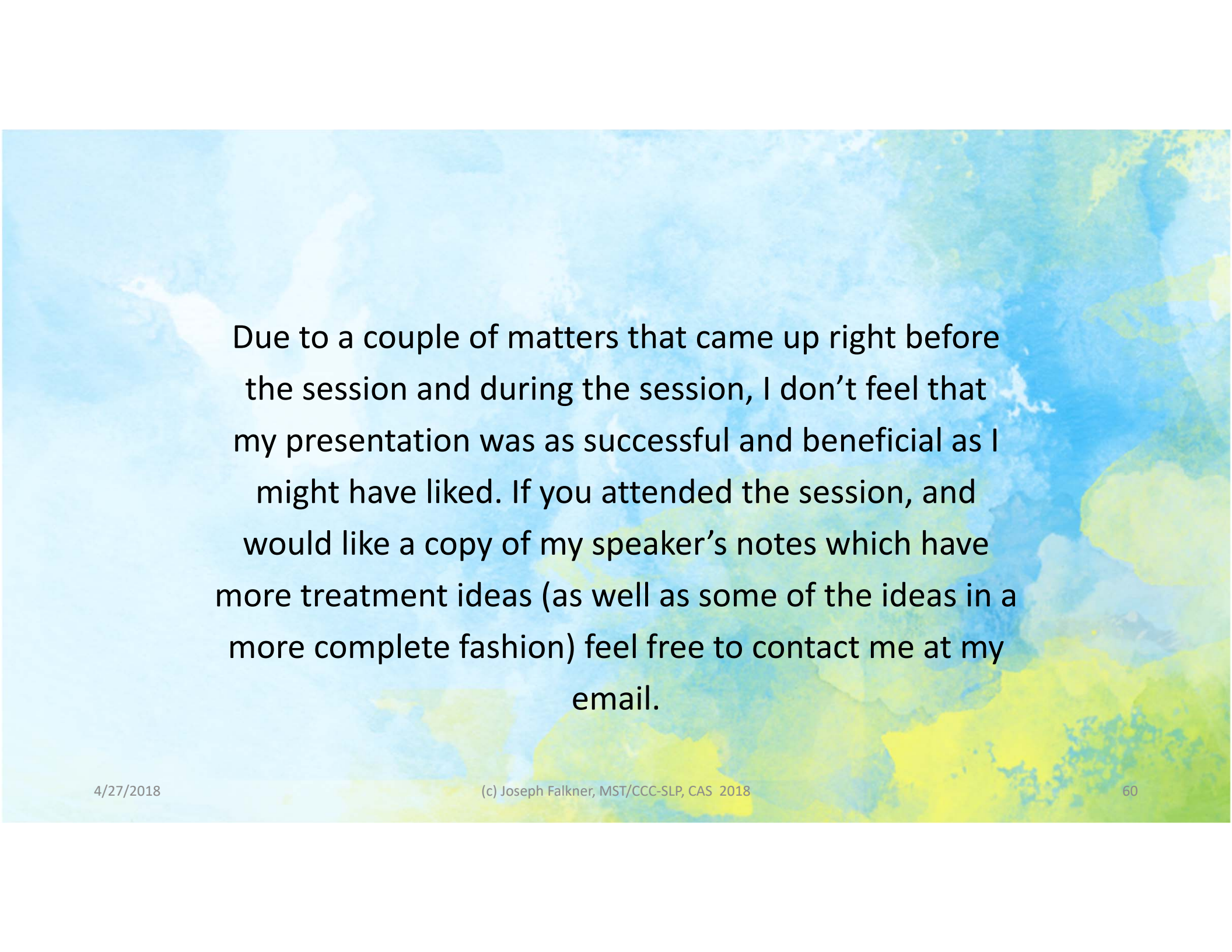
3

Mnemonics

Questions???

- josephfalknerjr@gmail.com
- flexiblemindtherapy.com

- Images from Shutterstock.com and Pixabay.com



Due to a couple of matters that came up right before the session and during the session, I don't feel that my presentation was as successful and beneficial as I might have liked. If you attended the session, and would like a copy of my speaker's notes which have more treatment ideas (as well as some of the ideas in a more complete fashion) feel free to contact me at my email.