Online Learning Modules: Understanding Brain Injury and the Intersection with Challenging Behaviors - “Can’t versus Won’t”

COLORADO
Department of Education

Provided by:

The Exceptional Student Services Unit

Brain Injury Team

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Dually credentialled as a clinical psychologist and school psychologist

<u>Current Experience:</u>

- Author of REAPconcussion.com; co-founder of GetSchooledOnConcussions.com
- Neurocognitive Assessment & Treatment, Aasha Brain Clinic

<u>Past Experience:</u>

- 20 years at Cherry Creek Schools as a school psychologist; Coordinator of the Mental Health Team, Brain Injury Team, and Manifestation Determinations
- 11+ years as a consultant to Colorado Department of Education
- Former Adjunct professor @ UCD School Psychology Program
- Pediatric Psychologist at Seattle and Denver Children's Hospitals and Director of the Center for Concussion, Rocky Mountain Hospital for Children

Types of Acquired Brain Injury

An **Acquired Brain Injury** (ABI) covers ALL post-birth injuries to the brain – including both non-traumatic such as anoxic (lack of oxygen to the brain), or toxic (introduction of toxins or chemicals to the brain) and traumatic (external blows to the head from an outside source). Regardless of the cause of the brain injury, consequences of brain injury may be similar, and the interventions may be the same.

Traumatic Brain Injury

A Traumatic Brain Injury (TBI) is a type of acquired brain injury that is a result of an external blow to the head, an acceleration/deceleration injury, or a blast injury.

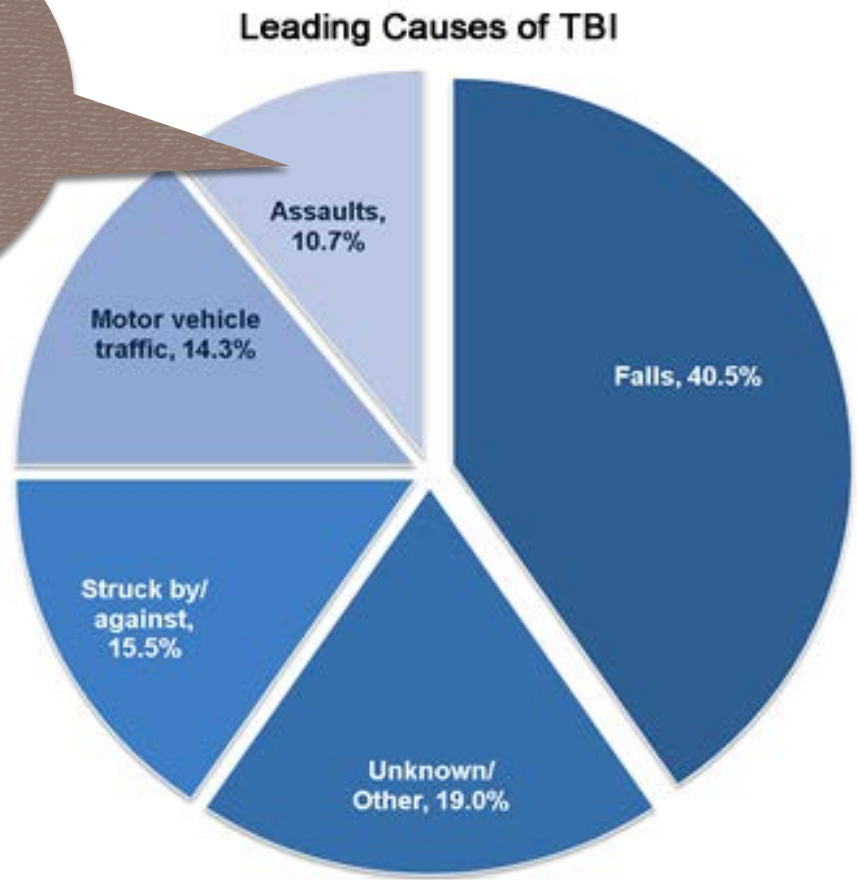
Non-Traumatic Brain Injury

A Non-Traumatic Brain Injury includes all post-birth injuries that do not fall under the definition of a TBI and can include events such as strokes, toxins, and lack of oxygen to the brain

Acquired (Post-Birth) Brain Injury

Traumatic – External Force

It is estimated that 1,000-1,500 children the US sustain Abusive Head Trauma each year.

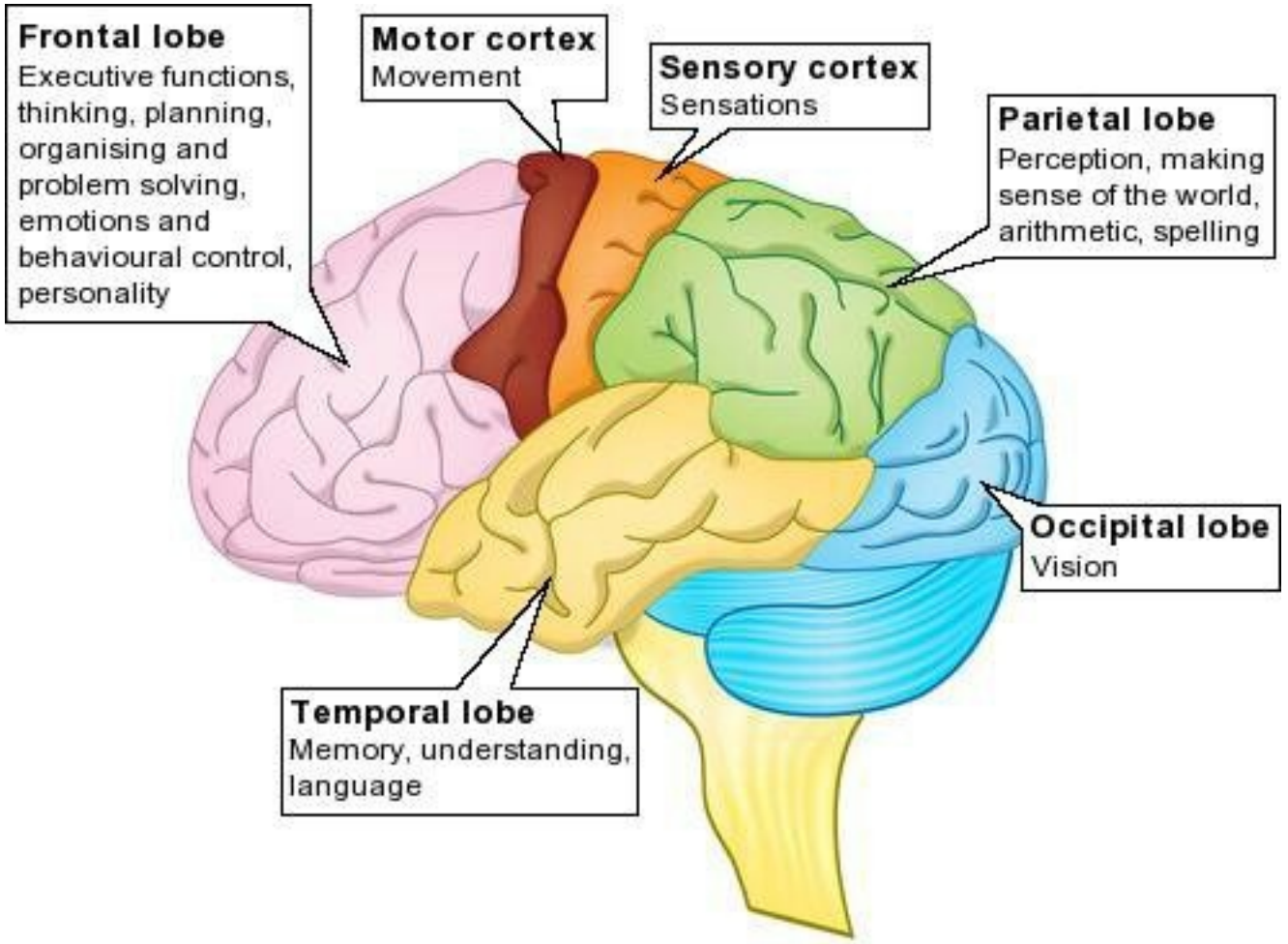


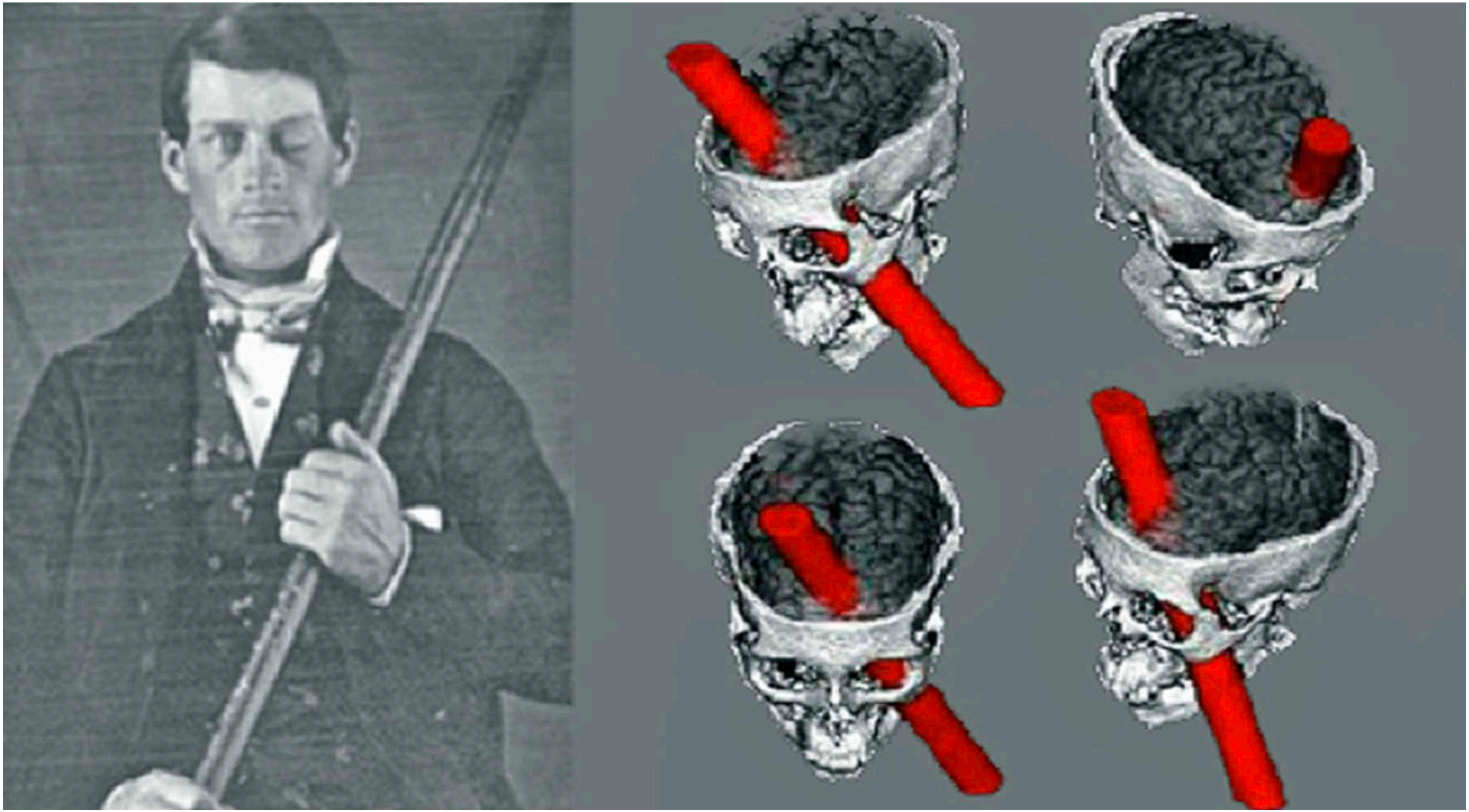
Non-Traumatic – Internal Event

- Illness (e.g., high fever)
- Infections (e.g., meningitis, encephalitis)
- Anoxic injuries (lack of oxygen; e.g., airway obstruction, near drowning)
- Stroke or vascular events (lack of blood flow)
- Brain tumors, malformations
- Poisoning (e.g., ingestion, inhalation) – Substances?
- Metabolic disorders (e.g., insulin shock)

Centers for Disease Control and Prevention Traumatic Brain Injury and Concussion Statistics 2006-2014 https://www.cdc.gov/traumaticbraininjury/data/index.html
https://www.ncbi.nlm.nih.gov/books/NBK499836

Lobes of the Brain





Types of Traumatic Brain Injuries

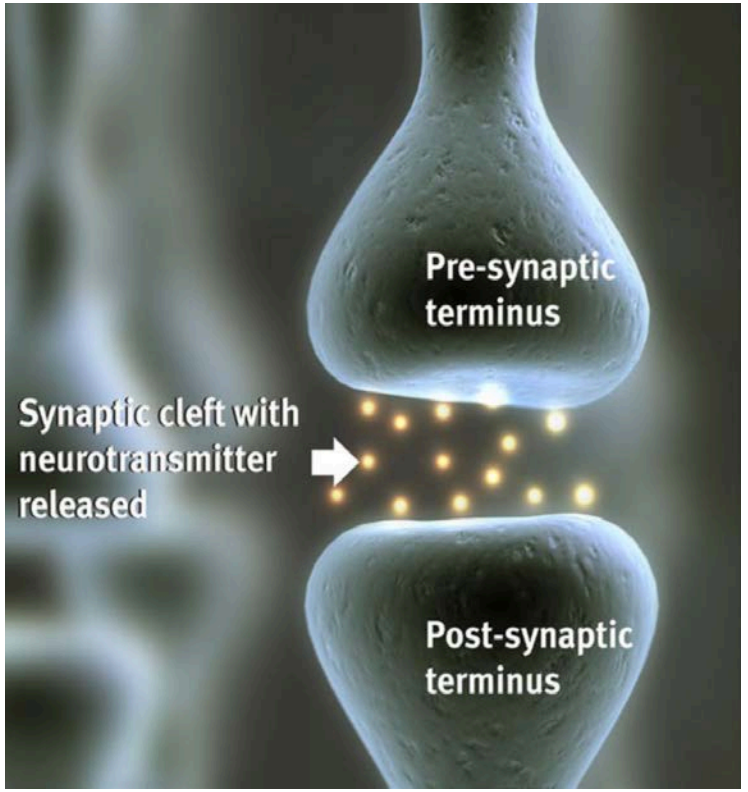
- Mild TBI (LOC <30 min; PTA< 24 hours) => also commonly called a concussion (on average= 80-85%)
- Moderate TBI (LOC >30 min <24 hours; PTA 24 hours-7days) (on average = 13%)
- Severe TBI (LOC > 24 hours; PTA more than 7 days) (on average = 2%)

The severity of the injury does not solely determine the impact on functioning

Axonal Shearing and biochemical dysfunction

- Damage to individual nerve cells (neurons) and/or loss of connections among neurons which can lead to a breakdown of overall communication among neurons in the brain
- This damage contributes to the Metabolic Imbalance

Therefore, many brain injuries are not able to be detected on an MRI or CT scan



http://www.riken.jp/en/research/rikenresearch/highlights/4818

Problem with software, not hardware

Symptoms = Functional problems

Physical:
- Headache
- Dizziness
- Nausea
- Light Sensitivity
- Noise Sensitivity

Cognitive:
- Difficulty concentrating
- Difficulty remembering
- Slow Processing Speed
- Cognitive Fogginess

Emotional:
- More emotional
- Sad
- Anxious
- Angry

Sleep:
- Fatigue
- Drowsiness
- Sleeping too much
- Can't fall or maintain sleep

What are the downstream consequences?

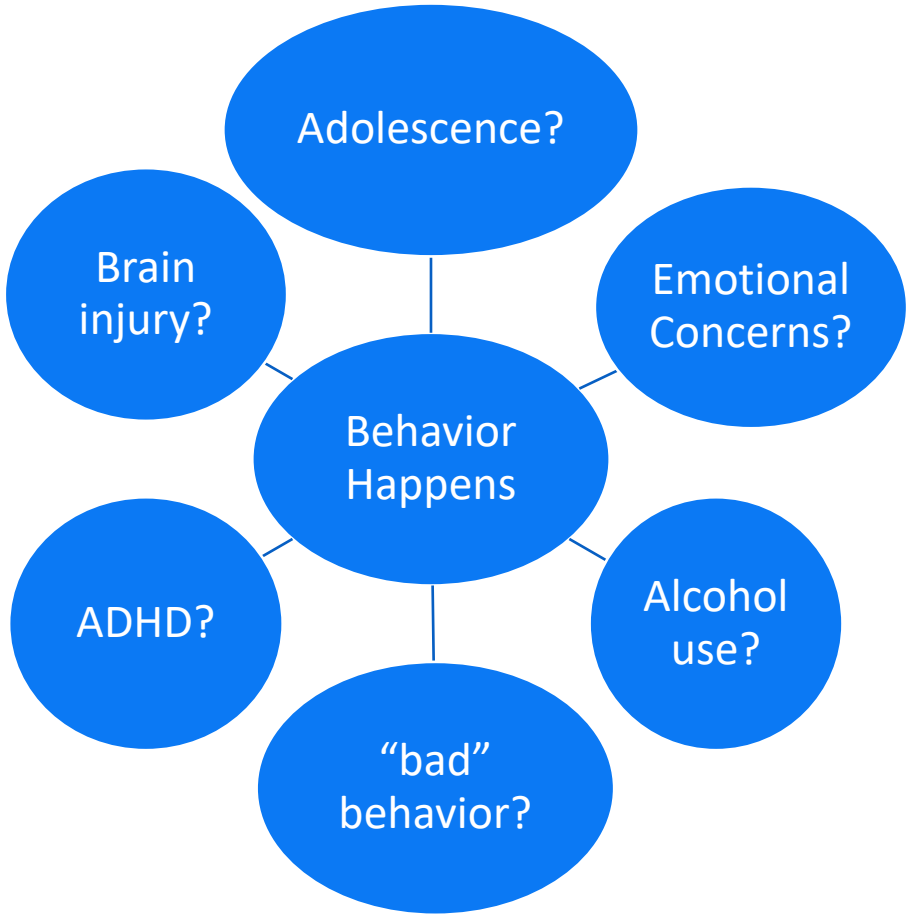
Children's Healthcare of Atlanta; Julie Haarbauer-Krupa, PhD & CDC TBI in Prisons and Jails: An Unrecognized Problem

Executive Function:

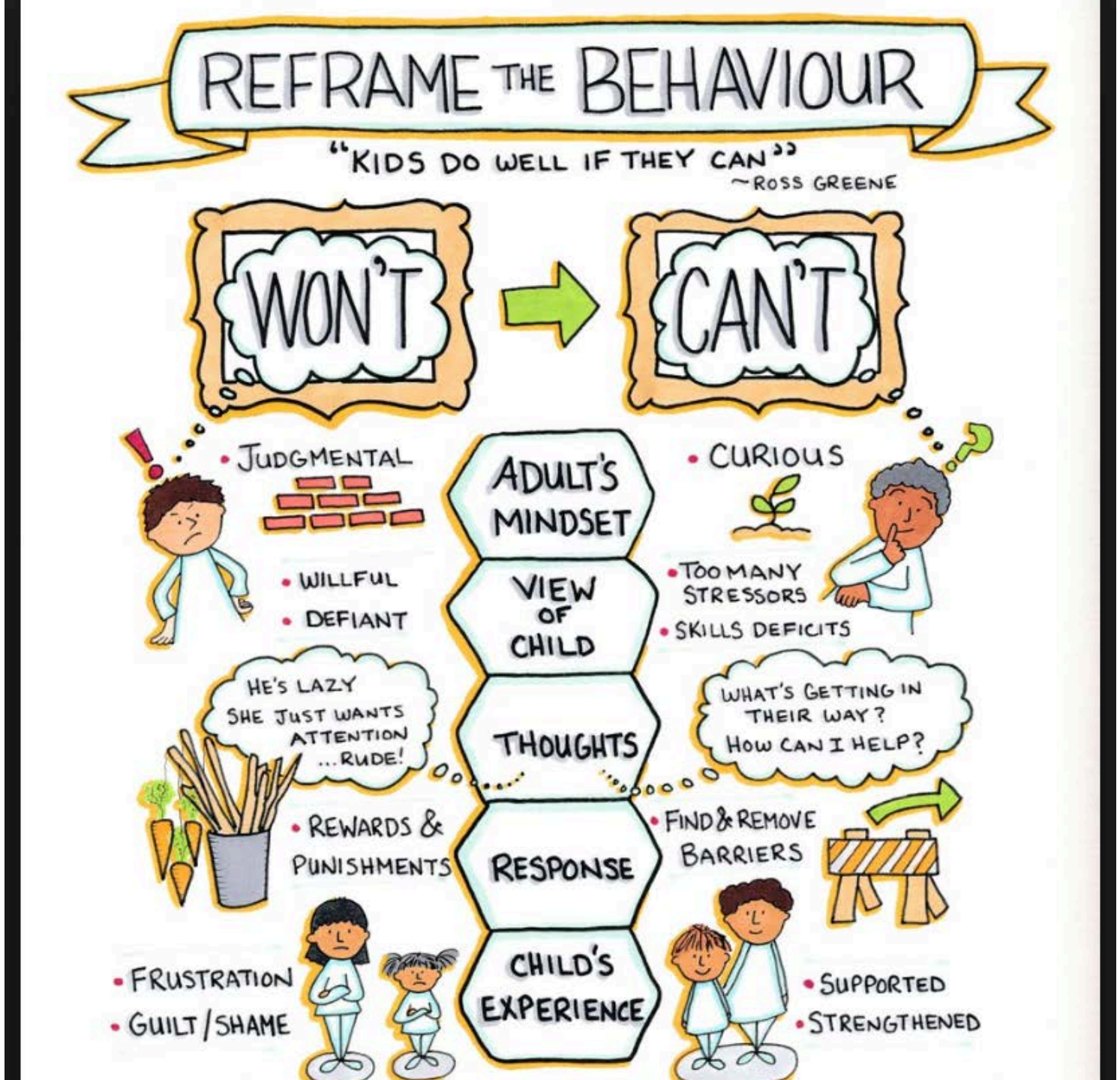
"The teenage brain is like a Ferrari: it's sleek, shiny, sexy, and fast, and it corners really well. But it also has really crappy brakes."

Dawson/Guare-May 2012

A behavior happens – what is the cause?



Why does it matter?



Can’t versus Won’t

Skill versus Will

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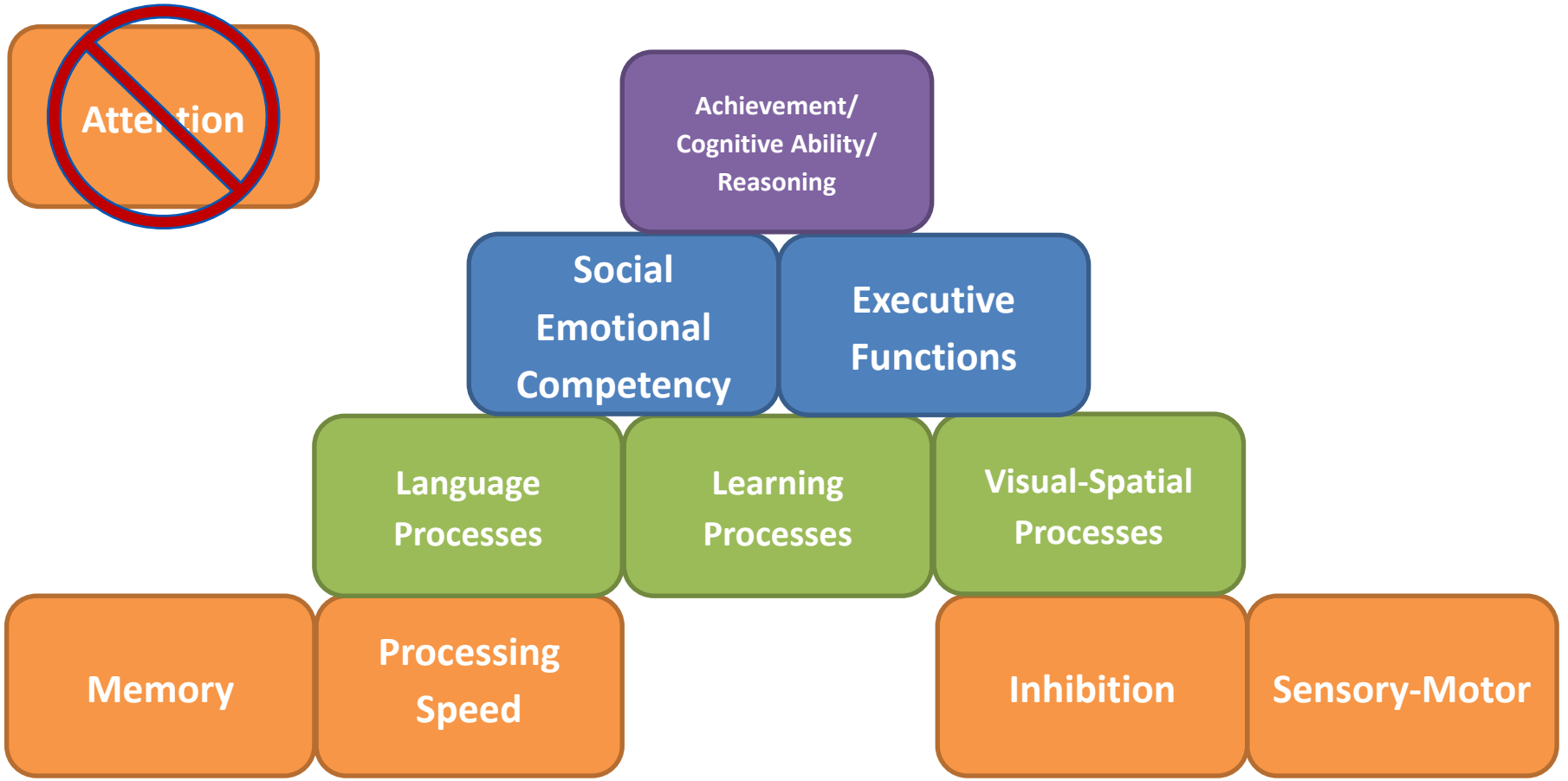

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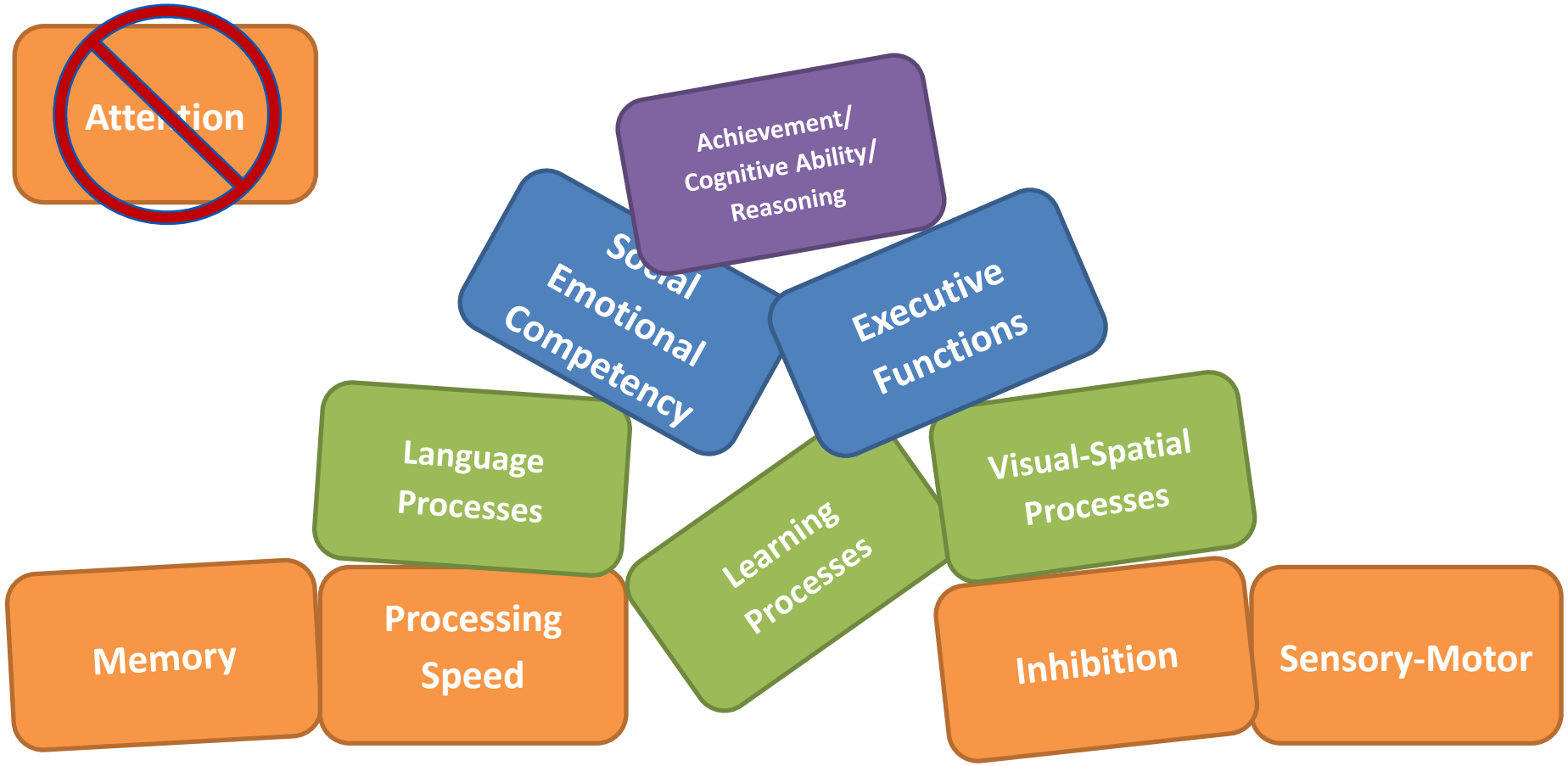

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Executive DYSfunction:

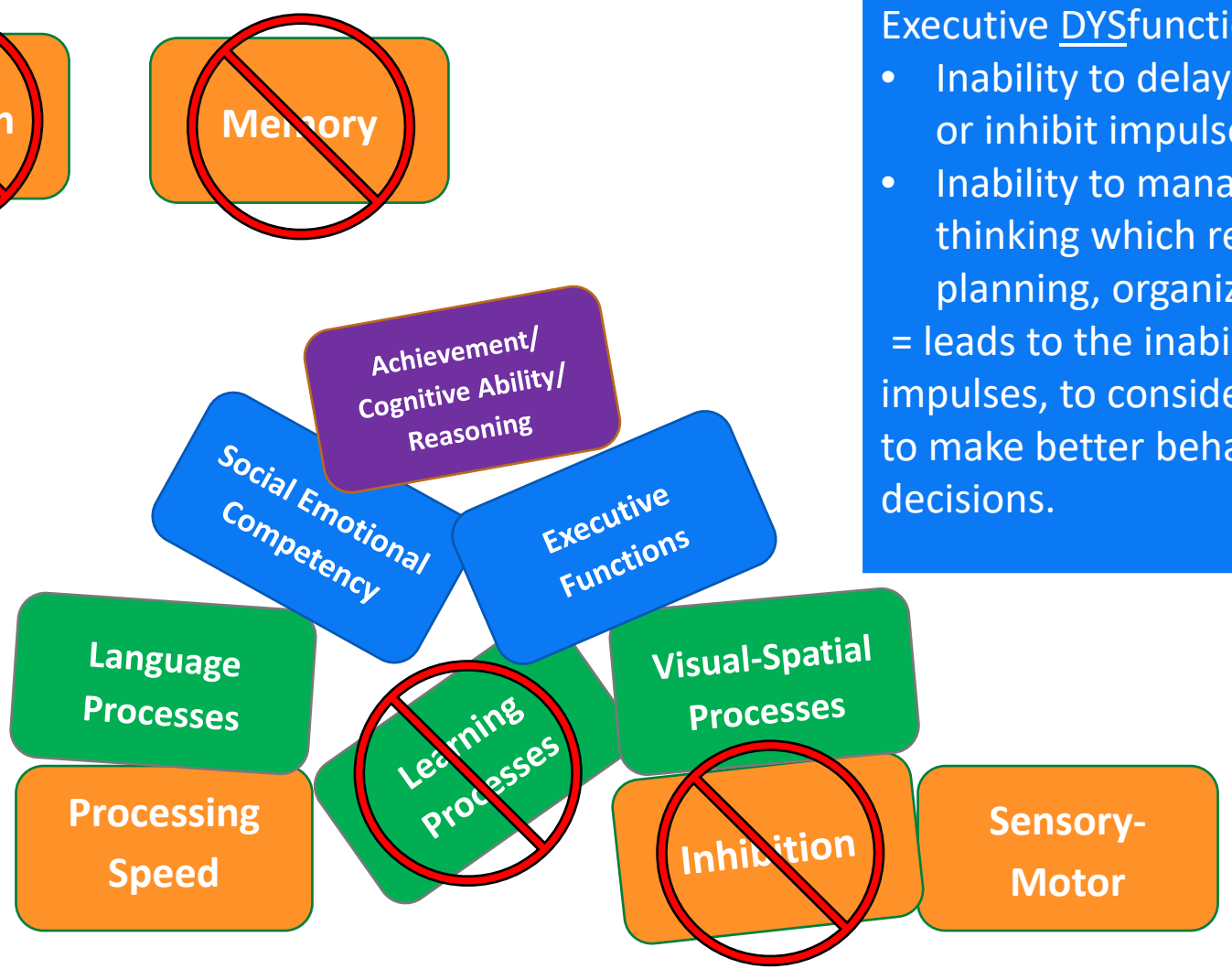
- Inability to delay gratification (wait) or inhibit impulses
- Inability to manage time – no future thinking which results in poor planning, organization or initiation …

= leads to the inability to delay impulses, to consider other options and to make better behavioral or social decisions.

Social INcompetence:

- Lack of ATTENTION to feedback in environment
- Poor MEMORY
- Poor LEARNING …

= leads to repetitive mistakes



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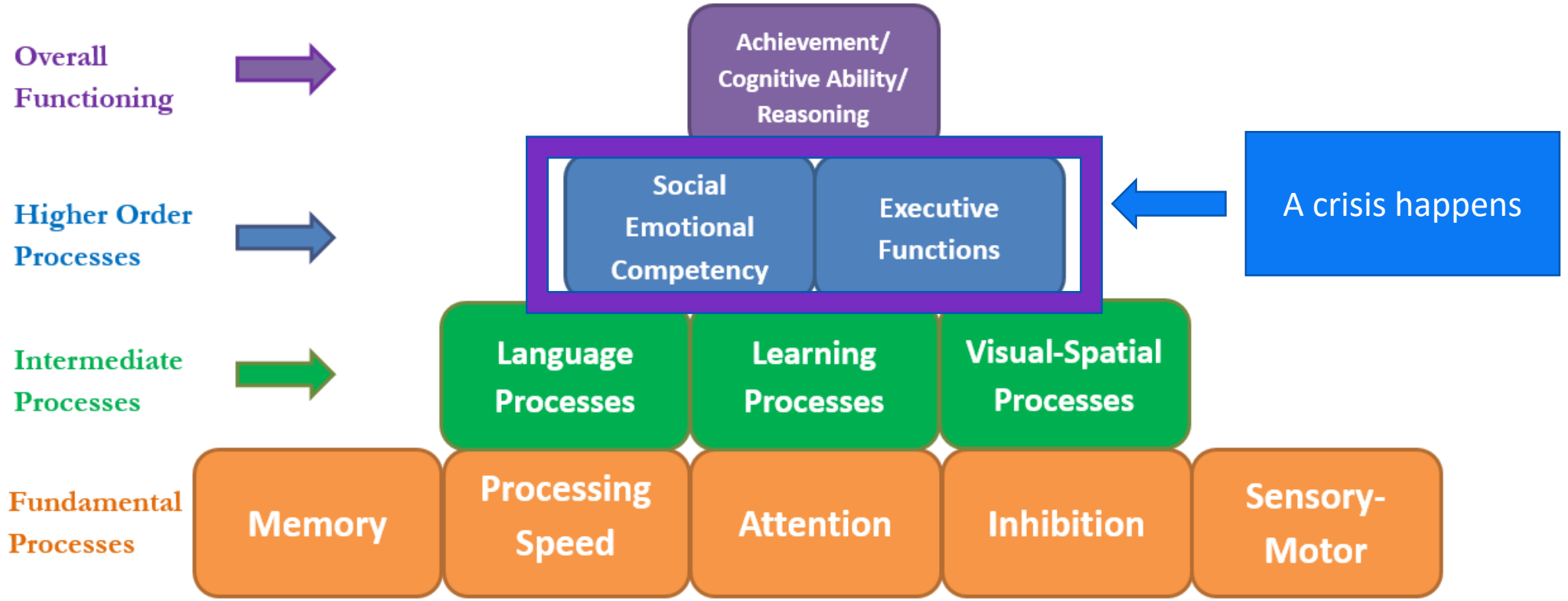
What Does This Mean?



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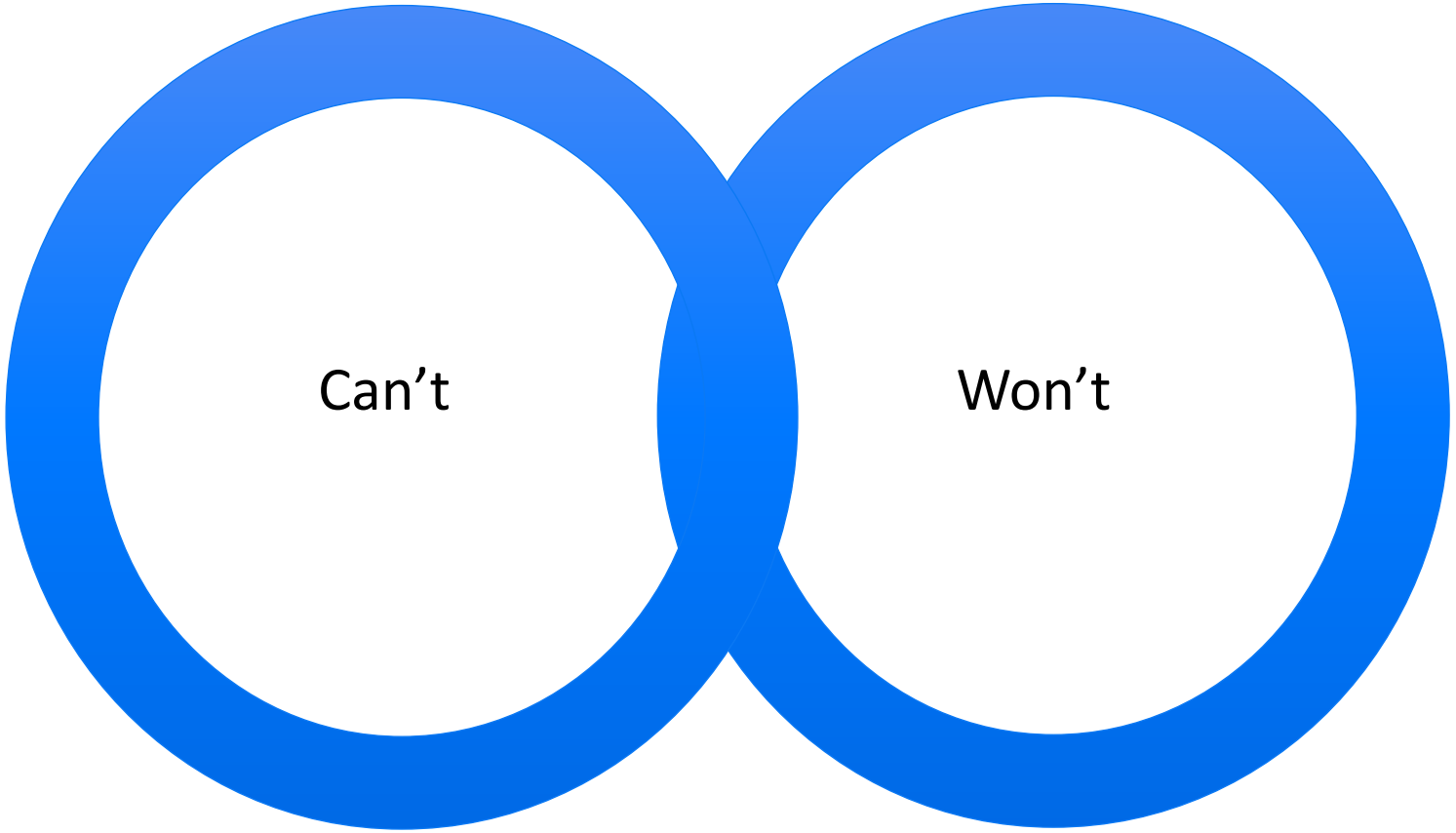
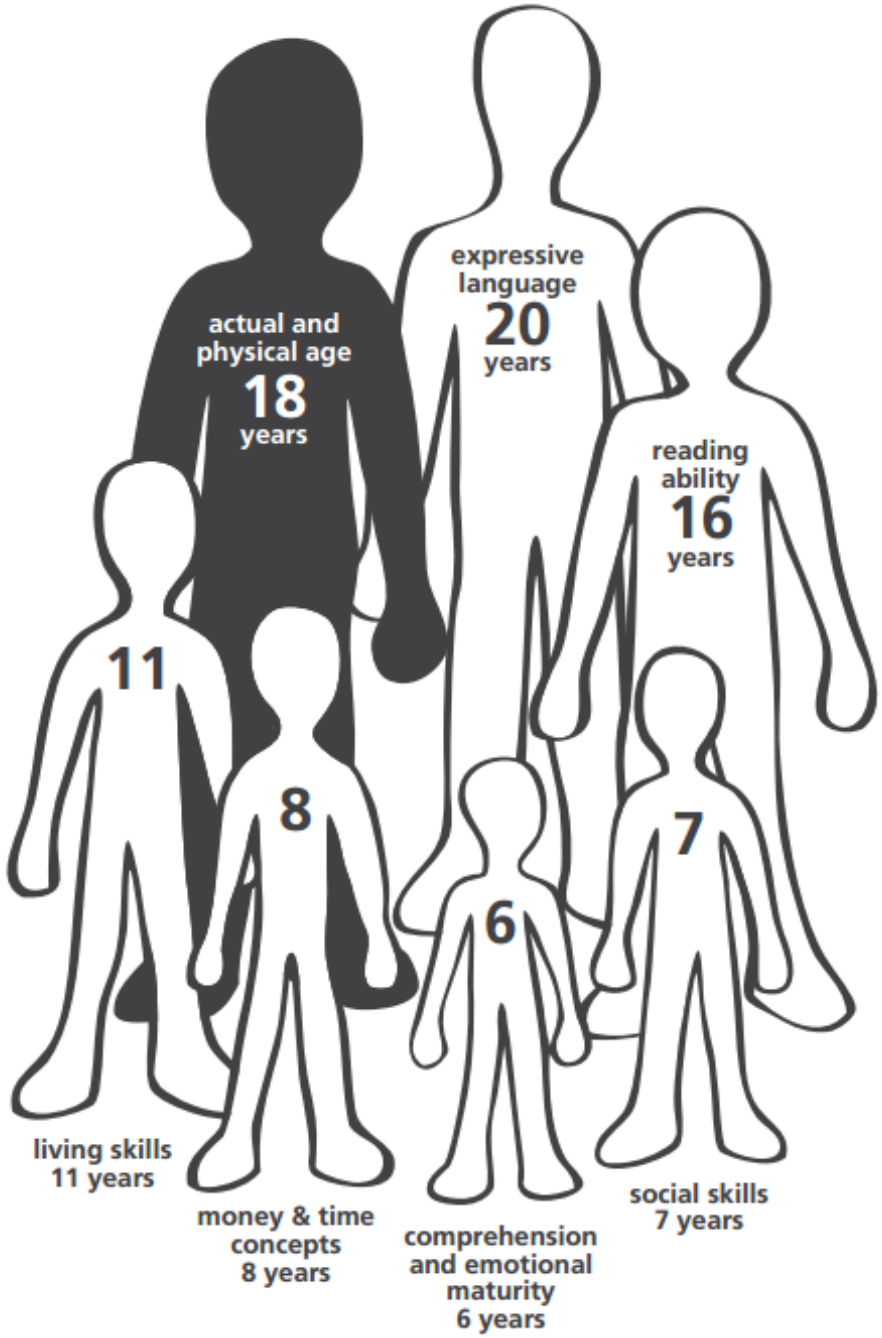
Is it Can’t or is it Won’t?

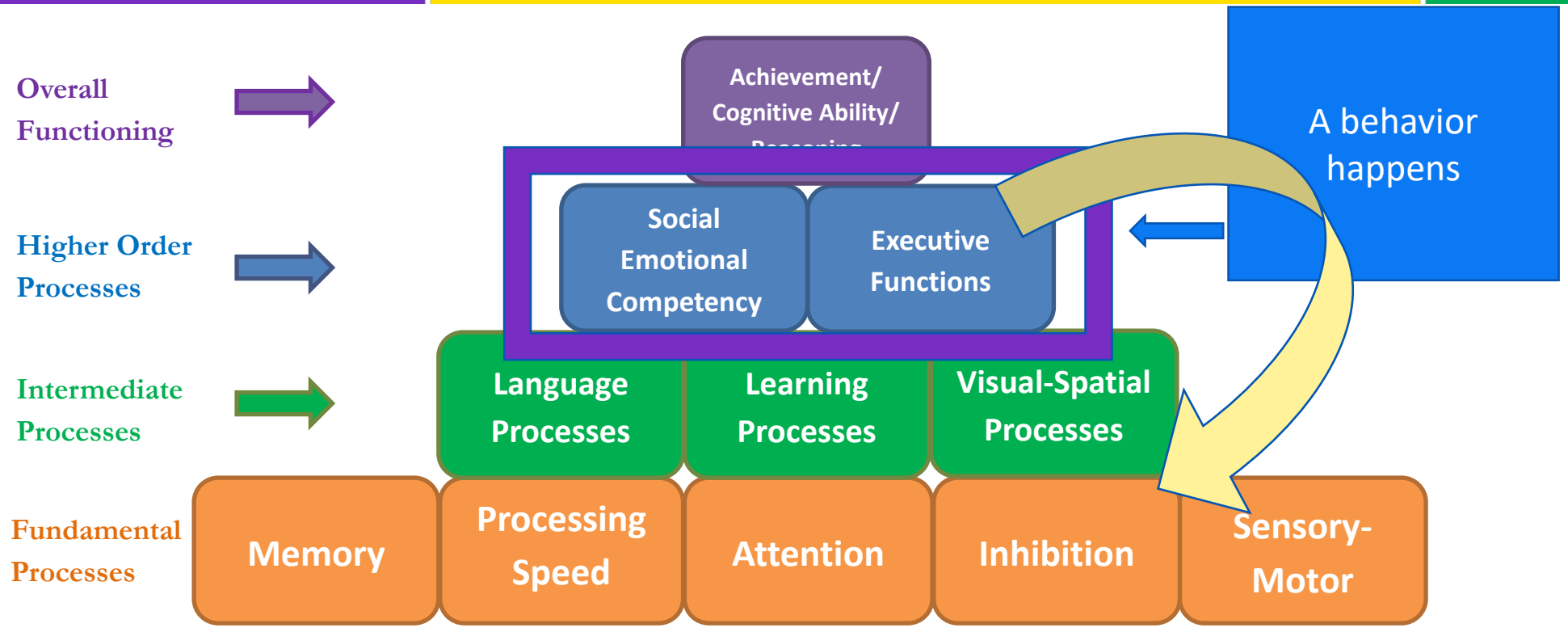


Unevenness



Source: Jodee Kulp
http://www.betterendings.org

Drill it Down



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Collaborative Problem Solving - CPS

https://thinkkids.org/

People Do Well If They Can: the belief that if a person *could* do well, they *would* do well. In other words, if the person had the skills to exhibit adaptive behavior, he/she wouldn't be exhibiting challenging behavior.

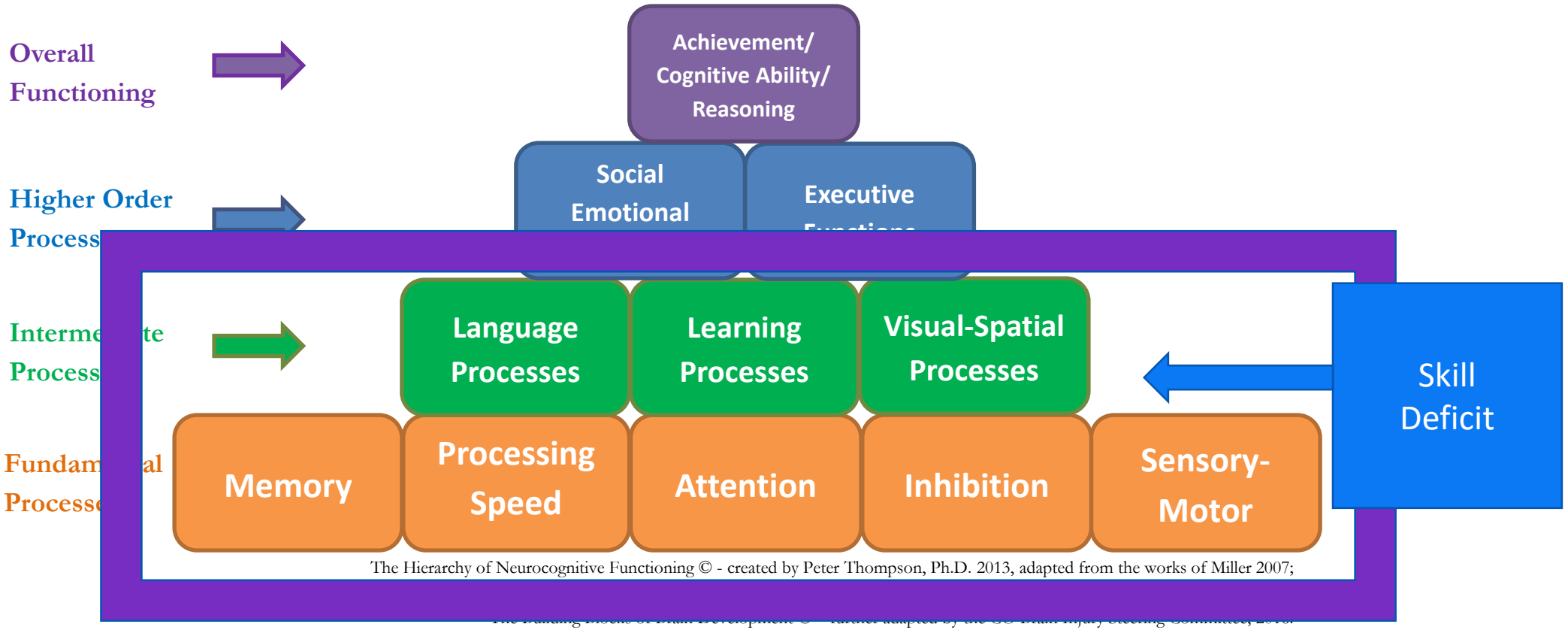
What's Your Explanation?

Your explanation has major implications for how you'll help. If you believe a person's behavior is challenging because of lagging skills, then rewarding and punishing may not be the ideal approach. Solving those problems and teaching those skills would make better sense.

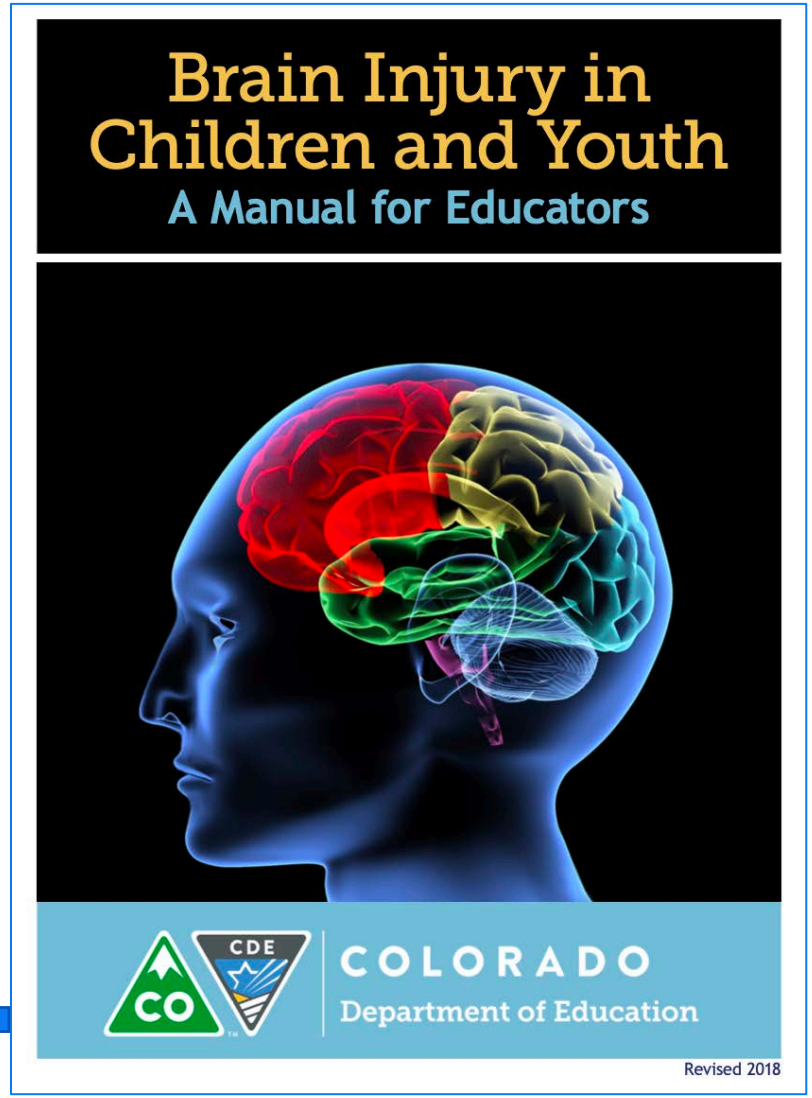
What do you know (or suspect) about your student?

- Toxic stress?
- Mental health issues?
- FASD?
- Traumatic Brain Injury or Non-Traumatic Brain Injury? Assault? In a gang?
- Risky Behavior? Motor vehicle accident? Motorcycle accident? Falls?
- A victim of domestic violence? The abuser? The victim of child abuse?
- Substance Use?

Could a behavior be a Can't instead of a Won't?



COKidswithbraininjury.com



https://www.cde.state.co.us/cdesped/tbi_manual_braininjury

How do you drill it down?

Neurocognitive Evaluation Form (NEF)

Instructions: The rater is asked to rank the student on several areas of functioning as compared to the student's **same aged** peers and/or classmates. A ranking of **Green** is considered an ability commonly observed in most (70%) students of similar age to the student and is not an area of primary concern for the student. A ranking of Yellow is an observed ability area that the student struggles, but the student can perform the task intermittently. A ranking of **Red** is a rarely observed or never observed ability area and signals a major area of concern. **Areas ranked Red or Yellow are domains that may be targeted for further assessment.**

Date:_____ **Rater's Name/Title:**_____

Student's Name:_____ **Student's Age and Grade:**_____

Class Observed:_____ **Time of Day and Day of Week:**_____

Less positive More Positive

ATTENTION 3 SUBTYPES					
SELECTIVE/FOCUSED	Significantly Below Average	Slightly Below Average	Average	Slightly Above Average	Significantly Above Average
Focuses on teacher					
Attends to detail of task					
Orients to speaker/staff					
Focuses without daydreaming					
Looks at board					

Can’ t remember expectations: Memory

Is off-task while reviewing expectations: Attention

Doesn't feel rules are fair and expresses feelings inappropriately Expressive /Pragmatic Language

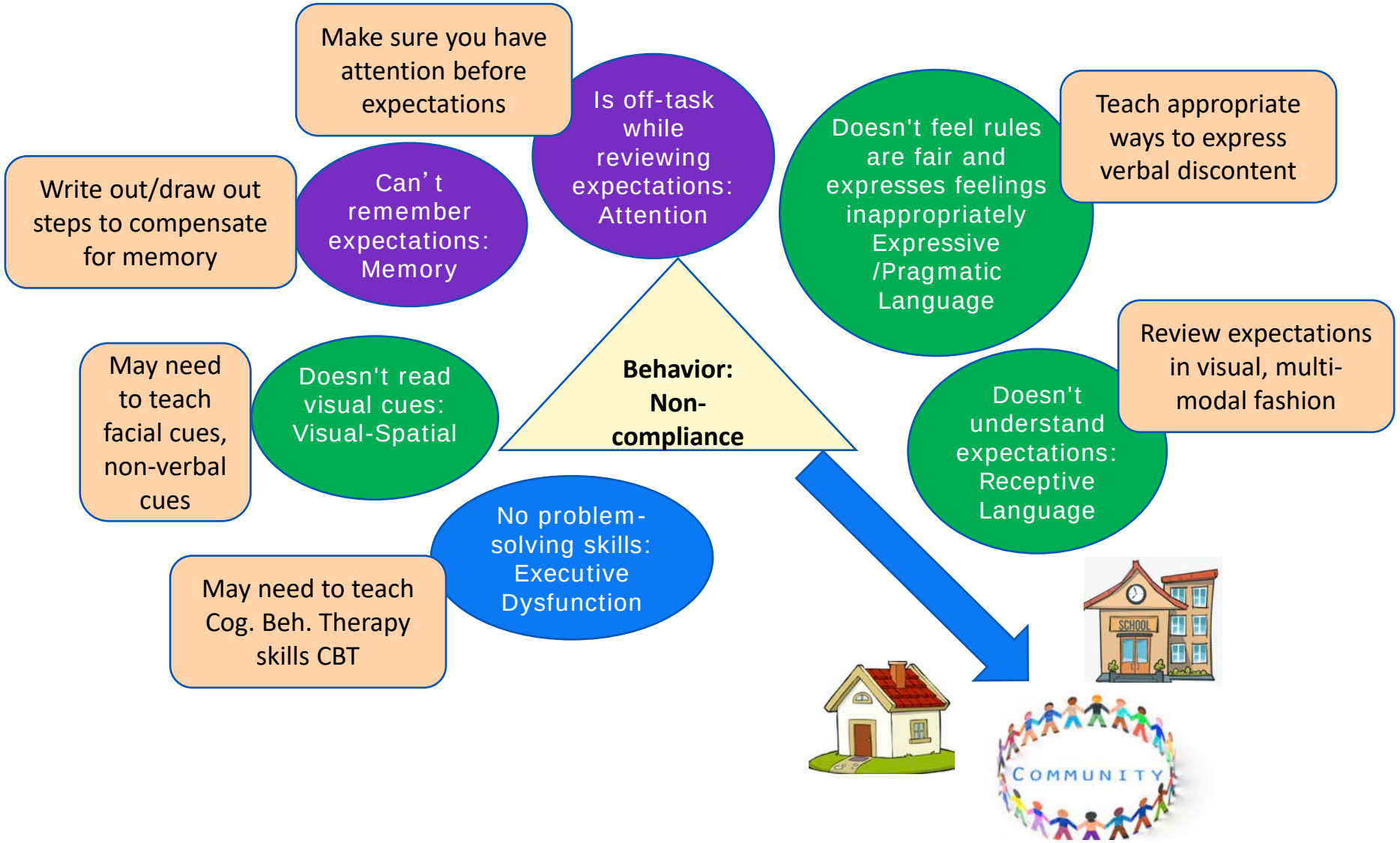
Doesn't read visual cues: Visual-Spatial

Behavior: Non-compliance

Doesn't understand expectations: Receptive Language

No problem-solving skills: Executive Dysfunction

Adapted from McAvoy, 2011



Adapted from McAvoy, 2011

The A B C's – study behavior for a few days

Antecedent

What happens right before the behavior?

Behavior

In Math class, mid-morning…

Johnny puts his head on desk

Refuses to do work

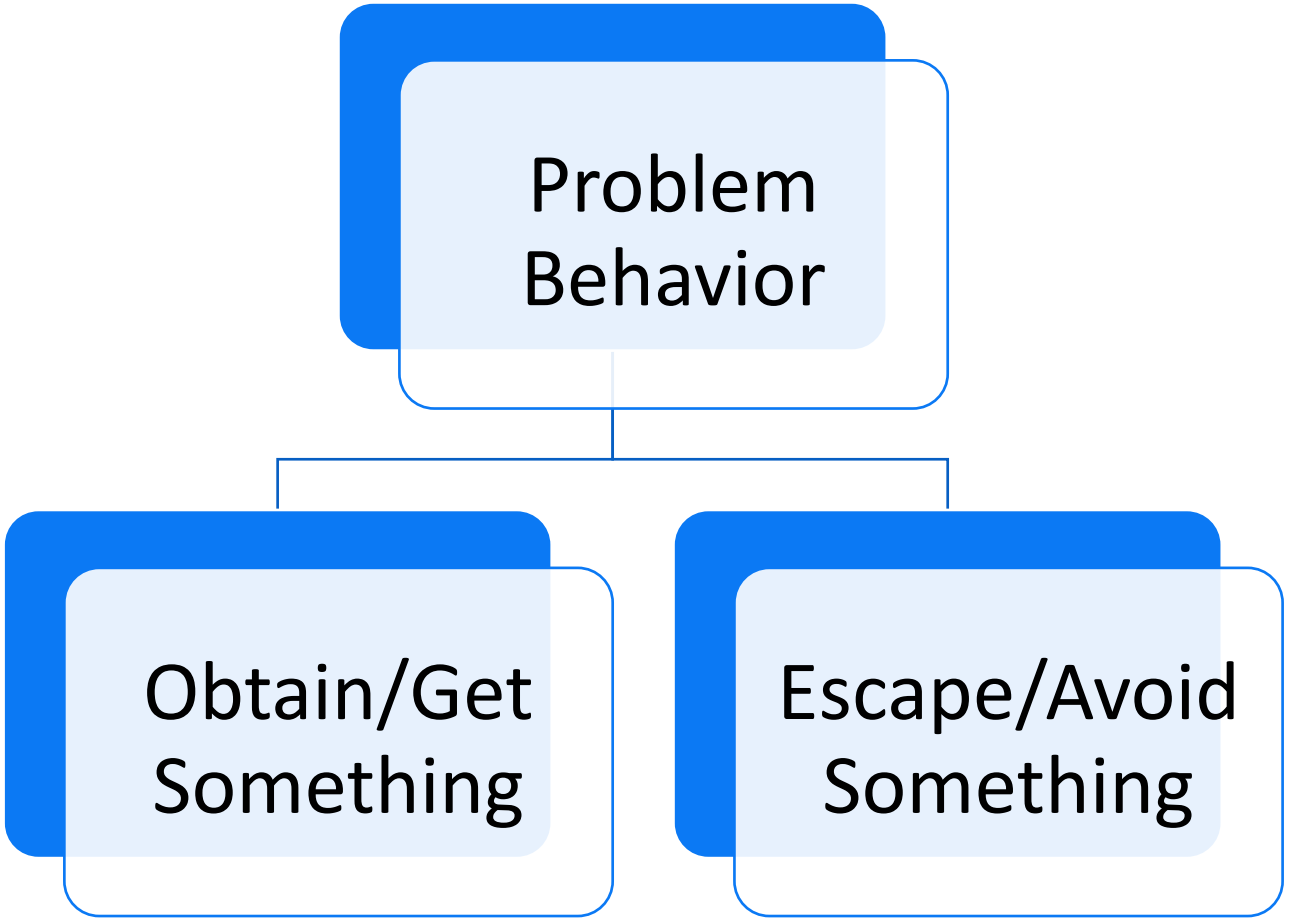
Starts to yell, throw papers

Para removes him to hallway

Consequence

What happens right after the behavior?

Functional Behavioral Assessment (FBA)



Limited perspective … Presupposes “Will”

To Obtain

- Johnny gains attention
- Johnny gains social currency with peers by getting out of class
- Johnny controls teacher’s attention

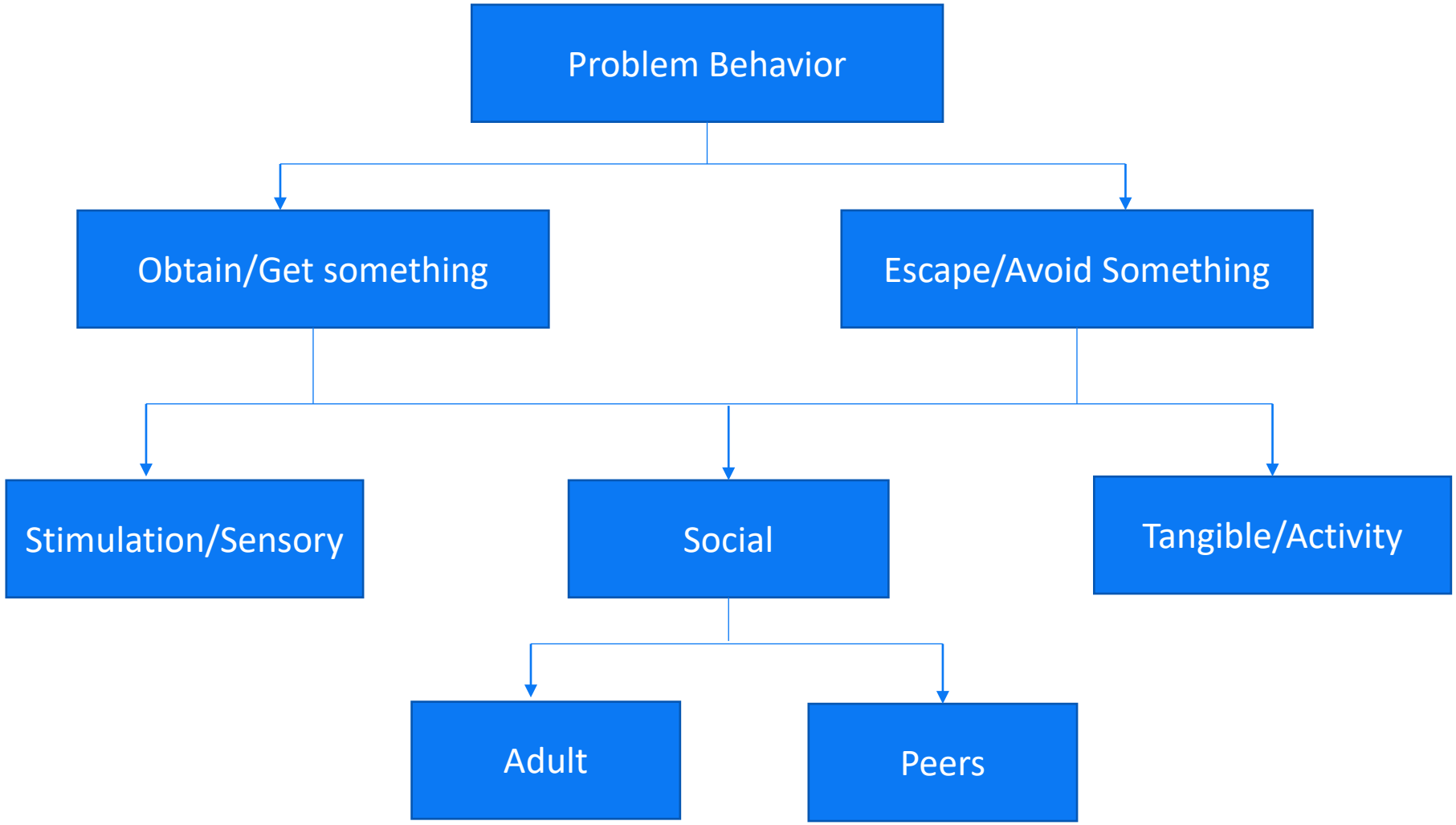
Behavior

- In math class, mid-morning
- Johnny puts his head on desk
- Refuses to do work
- Starts to yell, throw papers
- Para removes him to hallway

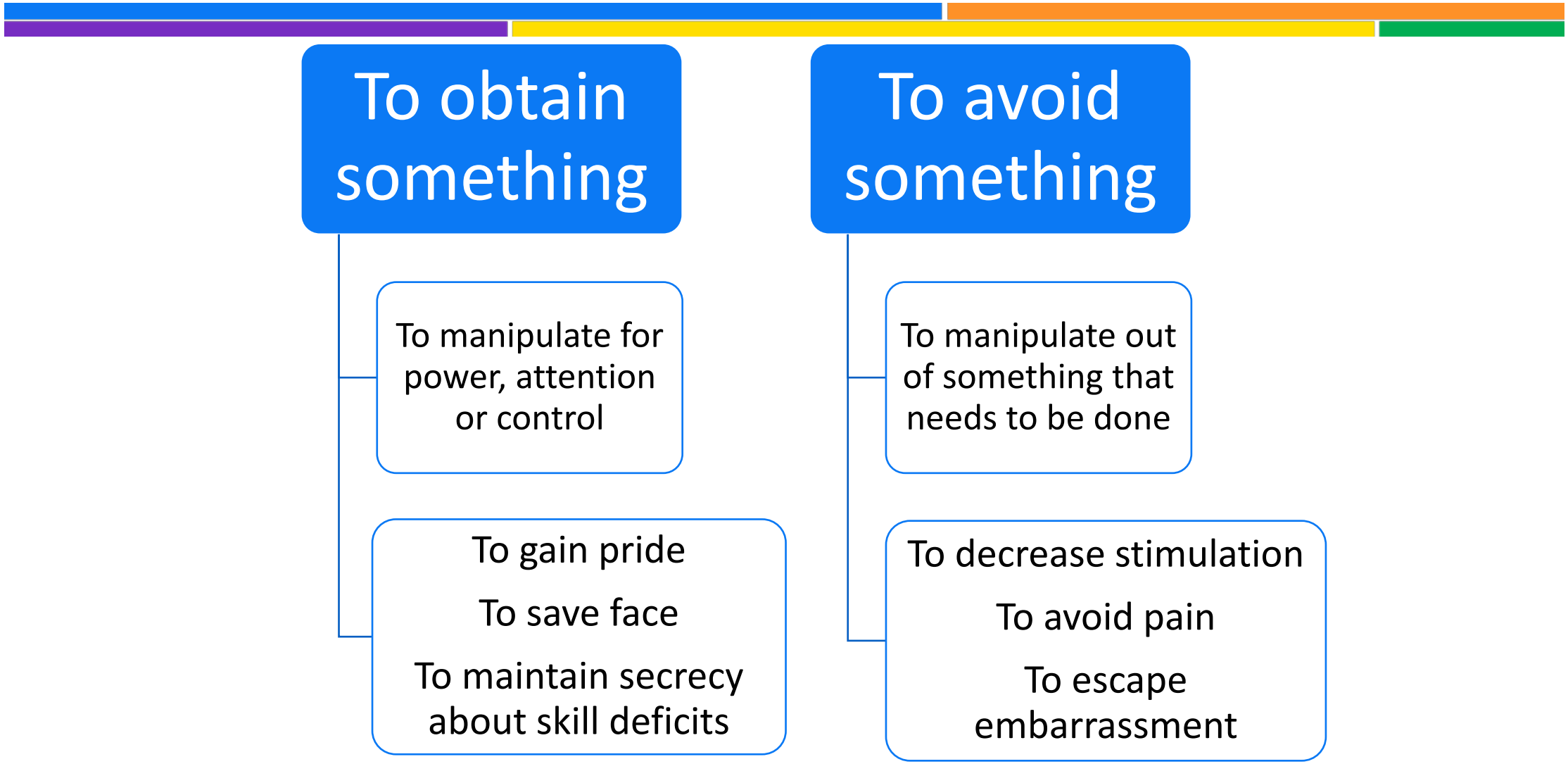
To Avoid

- Johnny gets out of doing math work

Applying the Building Blocks to FBA's:



What if it's not what it seems? A behavior problem? What it it's a "skill" deficit?



Hypothesis of Function on Behavior

Is Johnny tired (mental fatigue)?

Does he understand the directions to the work (receptive language deficit)?

Was he paying attention when it was taught (attention deficit)?

Did he learn the lesson but could not convert it into meaningful content (new learning/working memory deficit)?

Does he have the language necessary to let the teacher know he does not know how to start/do the work (expressive language)?

Behavior

In math class, mid-morning

Johnny puts his head on desk

Refuses to do work

Starts to yell, throw papers

Needs to be removed to hallway

Outcome

Johnny's is "saving face/pride"

Johnny's expressing frustration b/c he is lost in math

Johnny's creating a diversion because he's embarrassed that he is lost in math

Johnny is removing himself from:

Overstimulation

From failure

From embarrassment

Applying the Building Blocks into BIP's (Behavior Intervention Plan)… What's your best hypothesis?

Attention

Receptive Language

Replacement behavior	Who/When	Progress Monitor
We want Johnny to do work in math when asked so we will teach him to: ▶ Listen carefully to the teacher during instructions.		
For attention: teach skills that sharpen his ability to focus.	For attention: Special education teacher and paraprofessional teach Stop/Relax/Think (SRT) skills to promote better focus: 3 times per week.	For attention: Track Johnny's ability to use the SRT skills to pay better attention to directions.
For receptive language: check for comprehension of instructions before starting work.	For receptive language: Paraprofessional can discreetly check in with Johnny before starting the task. Have Johnny repeat the instructions as he understood them and correct distortions in his understanding. Teach this skill: Daily. (An environmental accommodation may be that the teacher and paraprofessional do some pre-teaching of the math material.)	For receptive language: Track Johnny's ability to appropriately utilize the check-in from paraprofessional.
▶ Teach Johnny to raise his hand and ask for clarification. Johnny needs to experience reward by being successful academically and socially in the math class. He needs to experience reward by staying in math class.	Teacher and paraprofessional teach Johnny to raise his hand and appropriately ask for clarification via role play. Teach this skill: 3 times per week.	Track number of times Johnny can appropriately raise his hand and ask for clarification. Track the decline in number of times that Johnny refuses to do work and is removed from the classroom.

Brain Injury in Children and Youth

A Manual for Educators

COLORADO
Department of Education

Revised 2018

Attention

- Difficulties shifting attention from an earlier event or topic or transitioning from one activity to another.
- Takes poor notes.
- Does not follow classroom discussions/lectures.
- Makes comments that are off topic or not related to the situation.
- Difficulties staying in one place and sitting still.
- Talks excessively, blurts out or talks about inappropriate or irrelevant topics.
- Interrupts conversations.
- Difficulties with taking turns.
- Low frustration tolerance.
- Does not object to the teacher, staff or speaker.

Attention and Concentration: Strategies for Intervention

- Specifically teach and practice what it looks like to pay attention. What is our body language? What are our eyes doing? Our mouths?
- Provide clear expectations for what the student is expected to accomplish during the activity.
- Schedule most important work during times when the child has displayed the greatest concentration.
- Position student nearest to location of instruction and away from distractions (e.g. doors, windows, high traffic areas, and other off-task children).
- Seat next to positive peers with age-appropriate attention abilities to help with redirection and understanding of instructions.
- Clear desk and area of everything except for what is needed for task at hand.
- Reduce background noise by experimenting with ear plugs, ear muffs/headphones, or introducing background sound such as white noise or a music device with soft music.
- Eliminate interruptions as much as possible. Once students are focused on a task, it is very difficult to get them restarted if interrupted.
- Allow student to complete work or tests in alternate settings where there are fewer distractions.
- Make sure to gain the student's attention when giving directions or cue when information is particularly important. Prompt the student with statements such as "I am going to tell you something very important and when I am done you will repeat it back to me."
- Use verbal and visual cues to refocus student as well as frequent checks for understanding.
- Provide opportunities for the student to take breaks throughout the day.
- Alternate classroom activities to provide movement and hands-on learning opportunities after periods of sitting, listening and working at their desks. Increase interest with new, stimulating activities. Alternate preferred and non-preferred tasks.
- Connect new learning to prior knowledge or with areas of interest.
- Break assignments into smaller and shorter steps. Present information in short and concise segments.

Receptive Language

Social Pragmatics

- Difficulty understanding and negotiating social rules.
- Difficulty in greeting others, taking turns in conversation and maintaining topics.
- Sarcasm, figures of speech, jokes and humor can be confusing, misunderstood or used inappropriately.
- Struggles with reading facial cues and body language.
- Uses inappropriate eye contact and tone of voice.
- Difficulty with proprioception (knowing body in space) and proximity (personal space).
- May say too little or too much, overuse certain phrases, or demonstrate repetitiveness in speech or communicative gestures.
- Can be socially withdrawn or seen as a "follower".
- Difficulty remaining on topic.
- May appear over-emotional and over-reactive or flat and without emotional affect.
- Have little insight or awareness of how their behaviors are inappropriate or impact others.
- Difficulty in building and maintaining friendships. Doesn't seem to fit into social groups in less structured settings (recess, lunch, school hallways, etc.).
- Difficulty working in small groups in class.

Language: Strategies for Intervention

Receptive

- Give directions slowly and one at a time, using short simple sentences.
- Have child repeat or paraphrase instructions.
- Reinforce verbal concepts with visual cues; use simple graphic organizers.
- Identify targeted vocabulary and integrate throughout classroom lesson.
- Reading to the child and discussing the text provides language models and exposure to a variety of aspects of language.
- Teach listening comprehension strategies to help expand understanding of social and academic language situations.
- Teach students to advocate and ask for clarification, repetition or for information to be presented more slowly.
- Provide guided notes or outlines to fill in keywords.
- Start with concrete concepts and then introduce related abstract concepts.
- Avoid using sarcasm and figures of speech; explain the meaning of abstract or figurative language.
- Allow wait time for processing what is being said and to form own responses.
- Cue the student that what you are about to say has importance.
- Teach language memory strategies such as chunking, visual imagery and verbal rehearsal.
- Break down complex ideas into concrete examples.

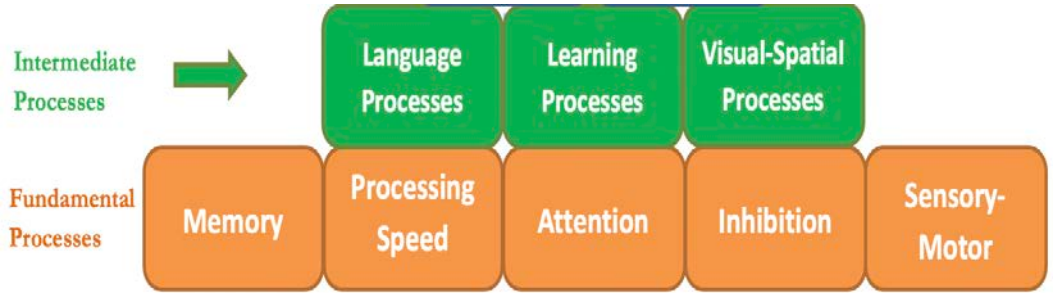
Expressive

- Teach the student to rehearse silently before replying.
- Ask open ended questions and ask for elaborations.
- Allow child to dictate thoughts prior to writing; provide feedback and modeling regarding grammar form or word choice.
- Provide word banks if word finding is difficult.
- Model and encourage participation in natural conversations.
- Provide picture cues to support memory for details and sequencing information when telling or retelling a story or event.

Behavior Intervention Plan:

The Behavior Intervention Plan (BIP) is the road map to changing the behavior. While the behavior is functional for Johnny in the short run it will not serve him well over time. If Johnny's behavior continues, he will struggle to learn math, fail to keep pace with his peers, strain relationships with his teachers and begin (or perpetuate) a negative perception of himself.

- Identify the problem behavior (the behavior that is dysfunctional for the adult but exquisitely adaptive for the student)
- Understand the skill deficit underlying the behavior



- Decide upon a replacement behavior (the desirable behavior for the adult)
- A plan to teach the replacement behavior including:
  - who/where/when
- A timeframe to assess the success of the plan
- A way to objectively assess the success of the plan

Behavior Intervention Plan (BIP) versus a Behavior Contract

BIP **TEACH**	**Contract** **REWARDS/CONSEQUENCES**
A plan to teach to a skill deficit to increase desired behaviors, to increase success and competence You cannot assume our students with specific needs have the skills necessary to show you the behavior. TEACH it first (BIP), then reward it with a behavior contract	Once a desired behavior is taught, it can be strengthened with strong rewards (stickers or feelings of pride and competence) or removal of negatives (teacher/parent stops yelling or loss of the feelings of failure and incompetence)

A person cannot produce a behavior, no matter how big the carrot or stick, that has not yet been taught!

Setting Events:

Setting events refers to internal factors that can affect a student's attention, motivation, mood, or comfort that ultimately disrupts their ability to learn or behave. The events are often unknown to the student occurring on a subconscious, unrecognizable level. As a result, these types of events often remain unknown to the adults observing the student's external behavior as well.

Examples:

- Hunger
- Fatigue
- Medication reactions
- Pain
- Trauma

- Seizures
- Gastrointestinal Problems
- Metabolic Problems
- Allergies
- Anxiety

- Sensory Overload
- Sensory Underload
- Dizziness
- Ruminative/obsessive thoughts

What if your hypothesis is wrong? Try again!

Replacement Behavior	Who/When	Progress Monitor
Johnny is exhausted by 10:15 AM (mental fatigue). What if this is not a skill deficit but a physical symptom that needs to be addressed with an environmental adjustment **Mental Fatigue**	In anticipation of fatigue, Johnny is asked to rest in bean bag chair at 10:00 am, right before math class	• Note the length of time Johnny remains in Math class • Note number of times Johnny can stay for the entire Math class

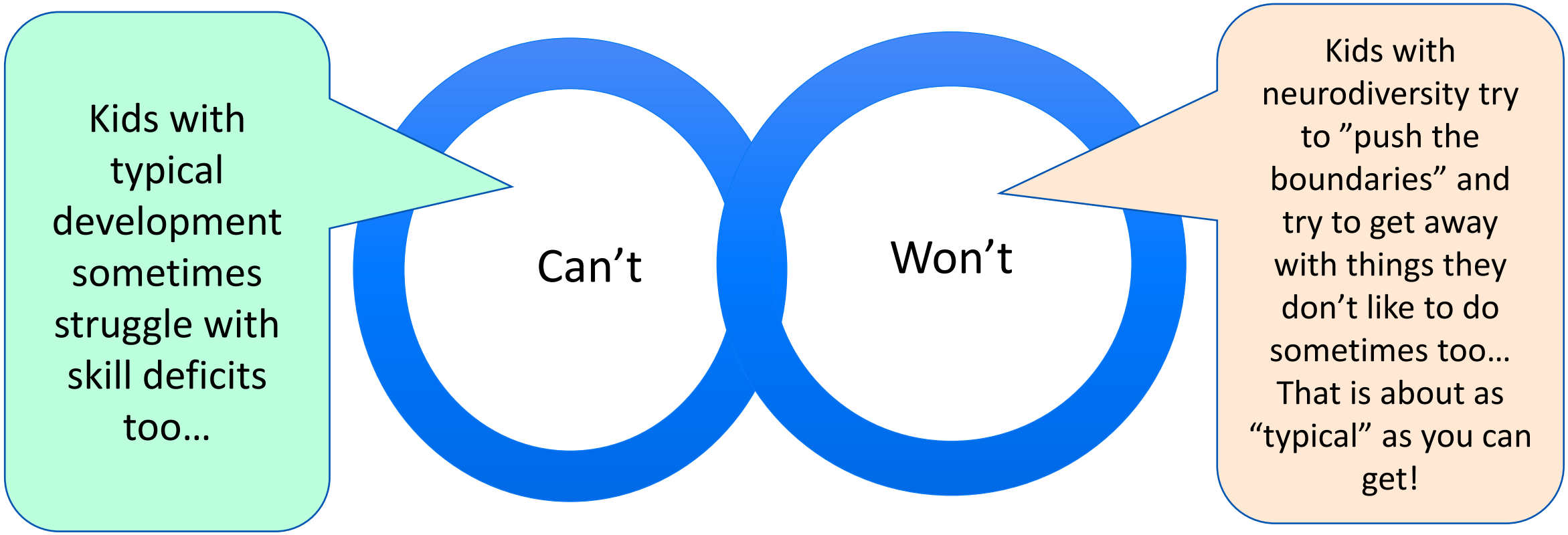
Behavior Management

Thus, behavior management techniques can be classified into two categories:
(1) consequent strategies, which are used after a behavior occurs in an effort to prevent the continuation and recurrence of a behavior or to reinforce a behavior --- this presupposes “will” and results in a behavior contract

(2) antecedent strategies, which are used before a behavior occurs in an effort to prevent or elicit a behavior, and --- this takes into account a skill deficit, setting events and results in a BIP.

Although both can be effective … in their own way, when applied at the right times.

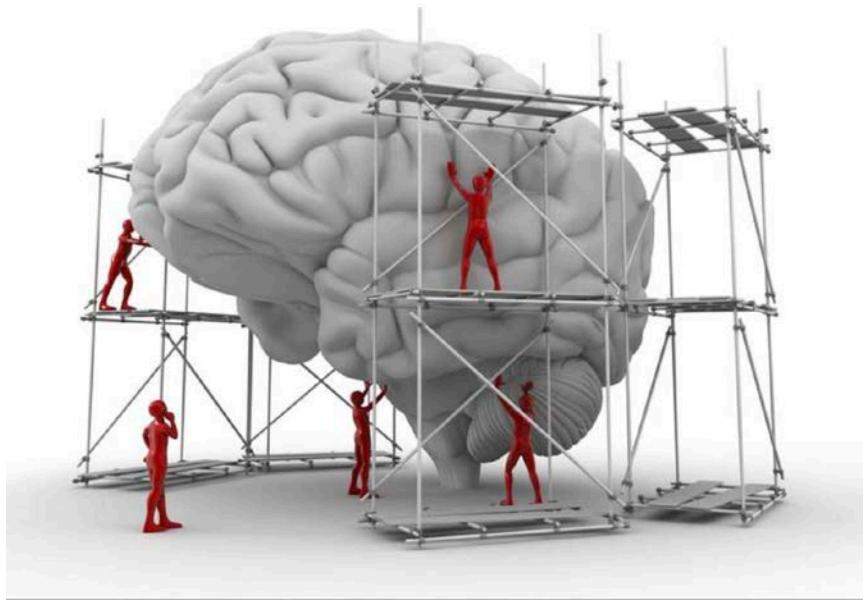
Crisis Prevention instead of Crisis Management



Let’s assume all our students with various needs (brain injury, ADHD, trauma, on the spectrum, FASD, mental health, learning disabilities) and with “typical” needs WILL succeed if they CAN succeed…

And let’s take every opportunity to TEACH students behaviors we need them to know even if we think they are already old enough to know and produce those behaviors

Questions?



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CO Brain Injury Resources

- CO Department of Education – Exceptional Student Services Unit:
  - Brain Injury in Children & Youth: A Manual for Educators http://www.cde.state.co.us/cdesped/sd-tbi
  - Building Blocks of Brain Development - www.cde.state.co.us/cdesped/sd-tbi_buildingblocks
- Colorado Kids Brain Injury Resource Network: Includes an online, user friendly, clickable version of the Building Blocks of Brain Development with the Assessment component - http://cokidswithbraininjury.com/educators-and-professionals/brain-injury-matrix-guide/
- Article: Neuroeducational Evaluations – The School-Based Answer to Pediatric Neuropsychological Assessments (2017. Crawford, N., Hotchkiss, H., McAvoy, K.)
- Website for Parents and Professionals: www.COKidswithbraininjury.com
- Brain Check Survey: http://www.lobi.chhs.colostate.edu/index.aspx

BrainSTEPS CO

Strategies Teaching Educators, Parents, & Students

A BRAIN INJURY SCHOOL RE-ENTRY CONSULTING PROGRAM

- Brain Injury School Consulting Program
- In many Districts/BOCES across the state
- Inter-disciplinary Consultation Team
- Trained in brain injury and The Building Blocks of Brain Development©
- Funded in partnership by:

COLORADO Department of Education | CDHS | MINDSOURCE BRAIN INJURY NETWORK

For more information go to: http://www.cde.state.co.us/cdesped/brainsteps

Brain Injury Alliance COLORADO

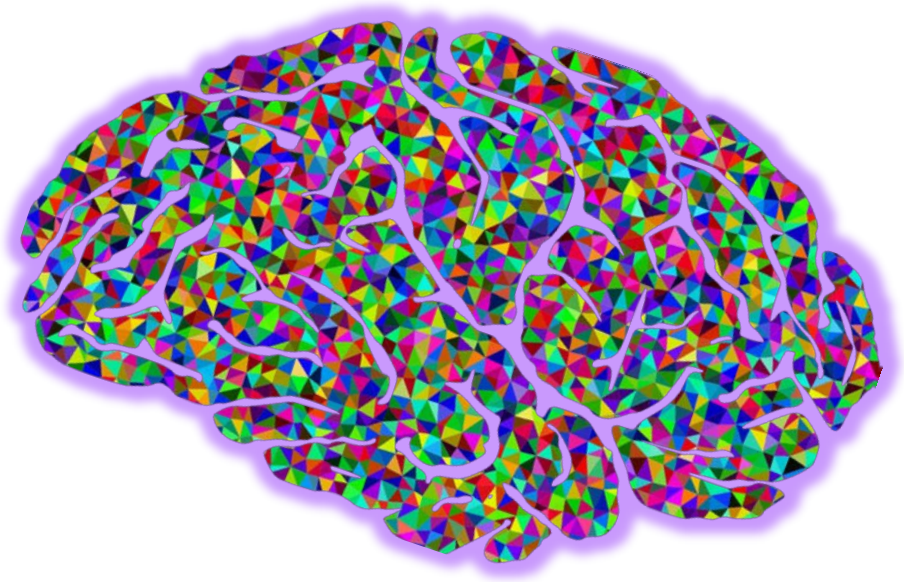
MINDSOURCE BRAIN INJURY NETWORK

Services

- ❖ Education Consultation
- ❖ Resource navigation
- ❖ Outreach and education
- ❖ Juvenile/criminal justice
- ❖ Self-management & skill building
- ❖ Classes and workshops
- ❖ Recreation and social programs
- ❖ And more – when in doubt, refer to us!
- ❖ ALL AGES CAN ACCESS THIS FREE SUPPORT!

Brain Injury Resources

- Center on the Developing Child – Harvard University https://developingchild.harvard.edu/
- Centers for Disease Control: https://www.cdc.gov/traumaticbraininjury
- Brainline Kids: http://www.brainline.org/landing_pages/features/blkids.html
- Other Authors & Trainers:
  - Dr. Laura Anthony - https://www.unstuckontarget.com
  - Dr. Peg Dawson and Dr. Richard Guare - https://www.smartbutscatteredkids.com
  - Dr. Ross Greene - https://drrossgreene.com
  - Sarah Ward - https://efpractice.com



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