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The work of the Mountain Plains MHTTC is supported by grant H79SM081792 from the Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

The background of the slide features a light greenish-grey color with several wooden blocks scattered across it. The blocks are of various sizes and are arranged in a way that suggests they are being played with or are part of a larger structure. The lighting is soft, highlighting the natural grain and texture of the wood.

# TBI + MH: K-12 EDUCATION COMMUNITY

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Brain Injury Educational Consulting Colorado, LLC  
Ft Collins, CO.

## OBJECTIVES

- Discuss what we know about brain injury and mental health biochemistry
- Introduce the Building Blocks of Brain Development in the context of brain injury and mental health
- Use of the skill deficit model to assess and intervene in any type of neurodiversity

# STATISTICS

- From 2006, there has been a 53% increase in the total number of TBI related ED visits, hospitalizations and deaths.
- Males represent 78.8 percent of all reported TBI accidents and females represent 21.2 percent, with higher rates of TBI amongst males (959 per 100,000) than females (811 per 100,000).
- Sports and recreational activities contribute to about 21 percent of all TBIs among American children and adolescents.
- The highest rates of TBI are observed in older adults ( $\geq 75$  years; 2,232 per 100,000 population), very young (0 to 4 years; 1591 per 100,000), and young adults (15 to 24 years; 1081 per 100,000).

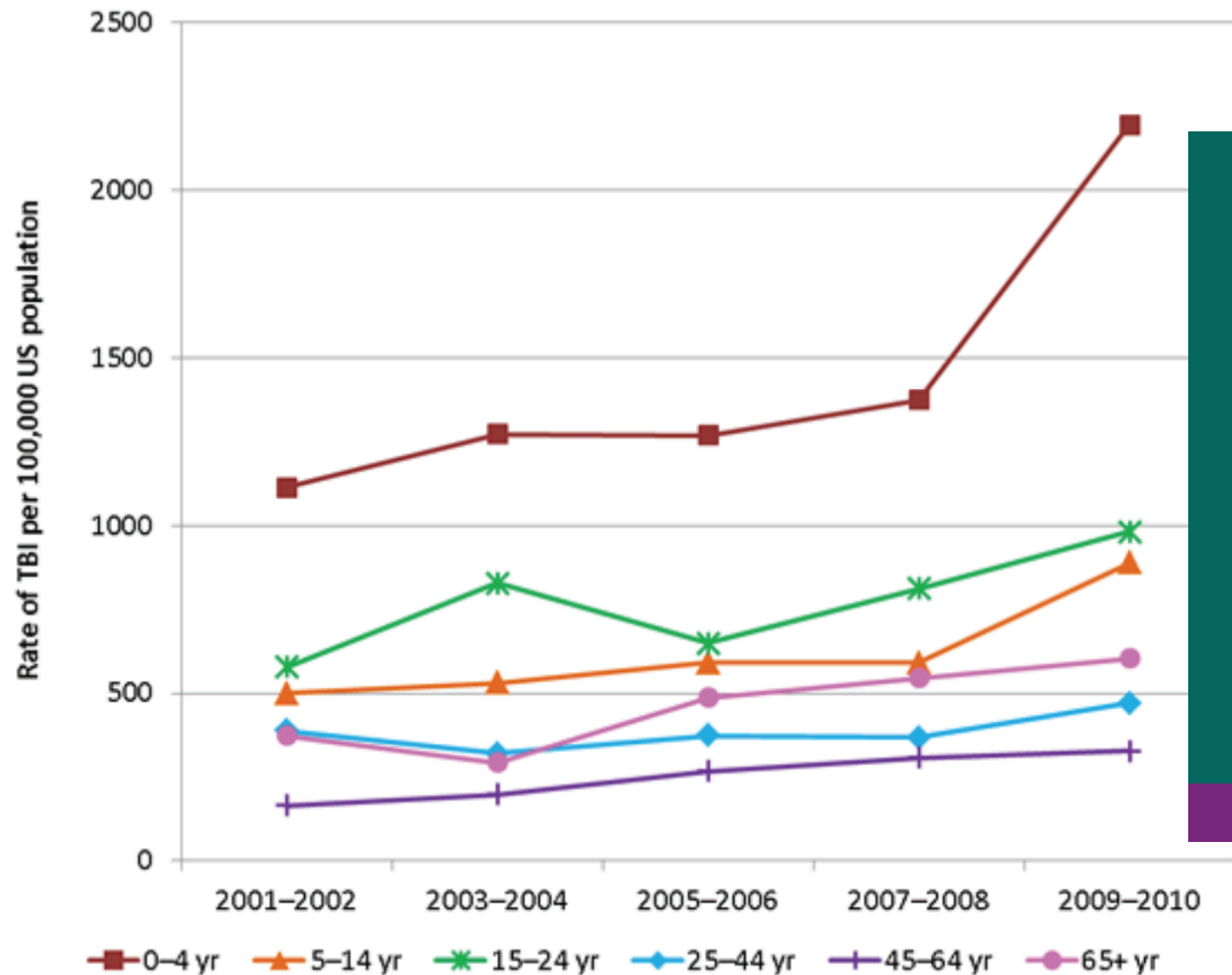
*Source: Centers for Disease Control and Prevention (CDC), Traumatic Brain Injury (TBI): Incidence and Distribution, 2014. Introduction to Brain Injury – Facts and Stats, February 2000.*

# TYPES OF TRAUMATIC BRAIN INJURIES

- Mild TBI (LOC <30 min; PTA < 24 hours) => also commonly called a concussion (on average= 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

Rates of TBI-Related Emergency Department Visits by Age Group– United States, 2001-2010



**SURVEILLANCE OF TBI-RELATED EMERGENCY DEPARTMENT VISITS, HOSPITALIZATIONS, AND DEATHS – UNITED STATES, 2001-2010**

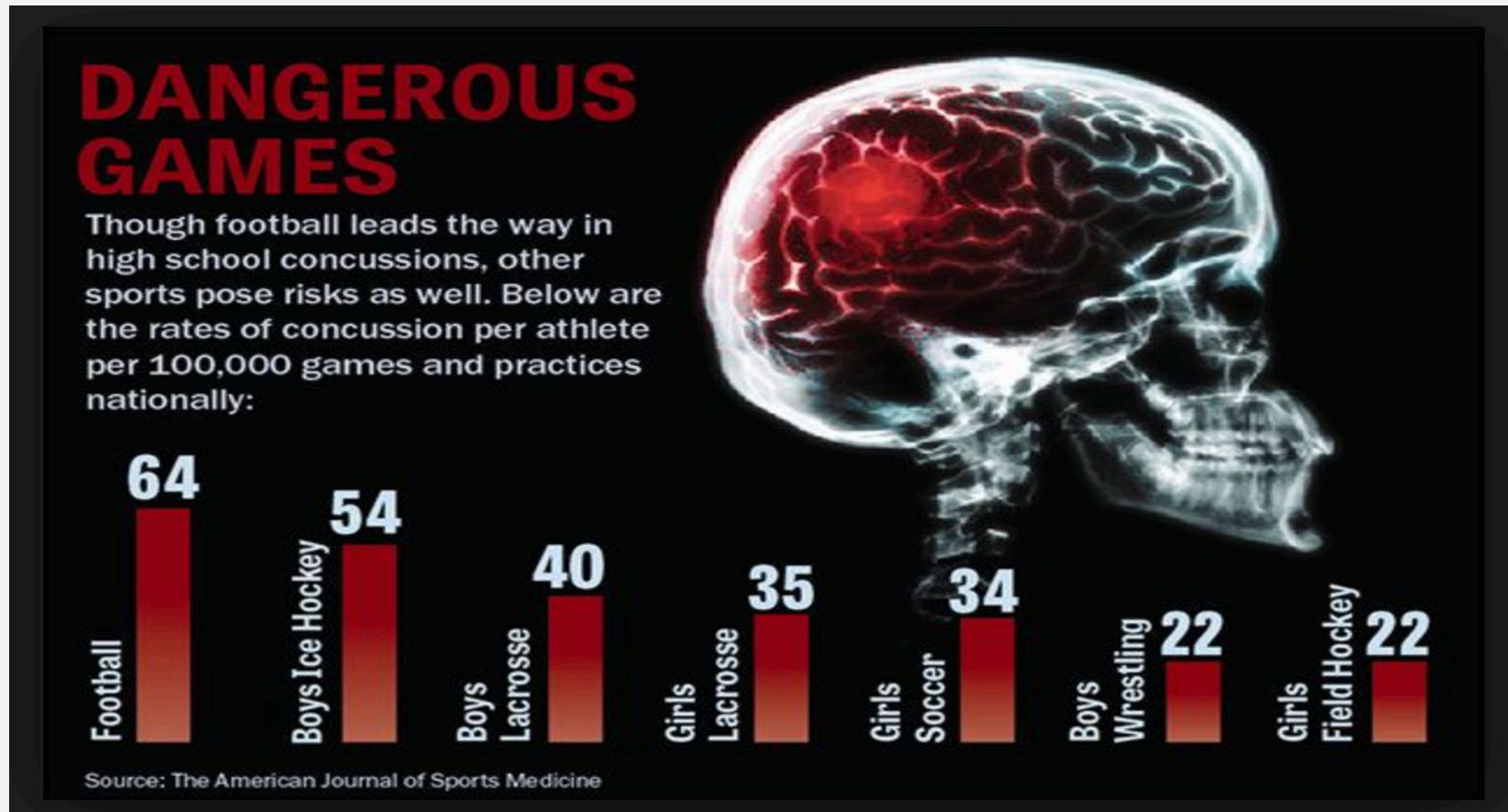
Centers for Disease Control

# DEPARTMENT OF DEFENSE

- One area of need among OEF/OIF Veterans is related to TBI and co-occurring mental health concerns. Military personnel serving in Iraq and Afghanistan are sustaining injuries while deployed (Terrio et al. 2009).
- In fact, TBI has been identified as a "signature injury" of the recent conflicts (Tanielian and Jaycox, 2008).
- Additionally, this cohort is reporting a variety of psychiatric symptoms as well, including those associated with posttraumatic stress disorder (PTSD), depression (Tanielian and Jaycox, 2008), and substance use disorder (Seal et al., 2011).

# MTBI'S/CONCUSSIONS HAPPEN IN SPORTS

## Sports as a Laboratory Assessment Model (SLAM) 2001





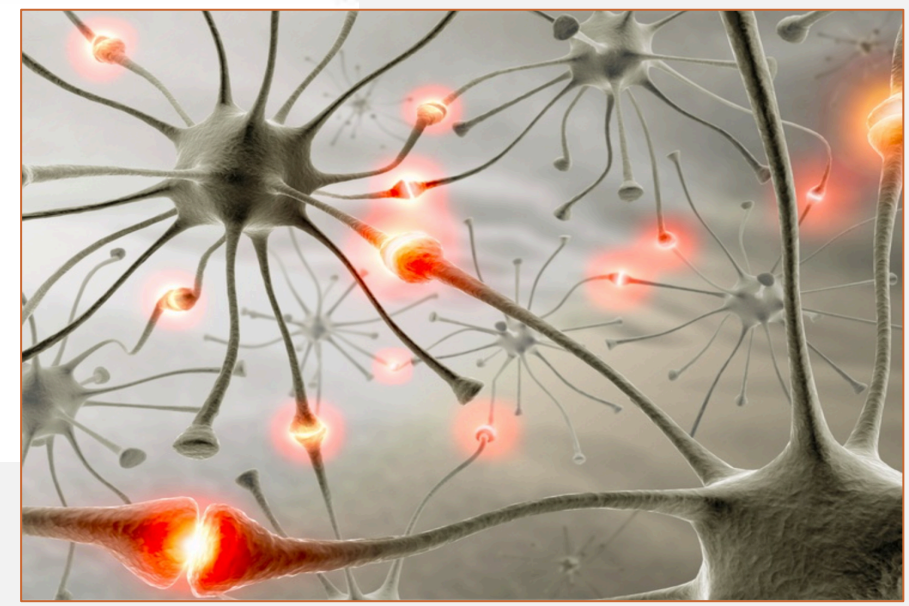
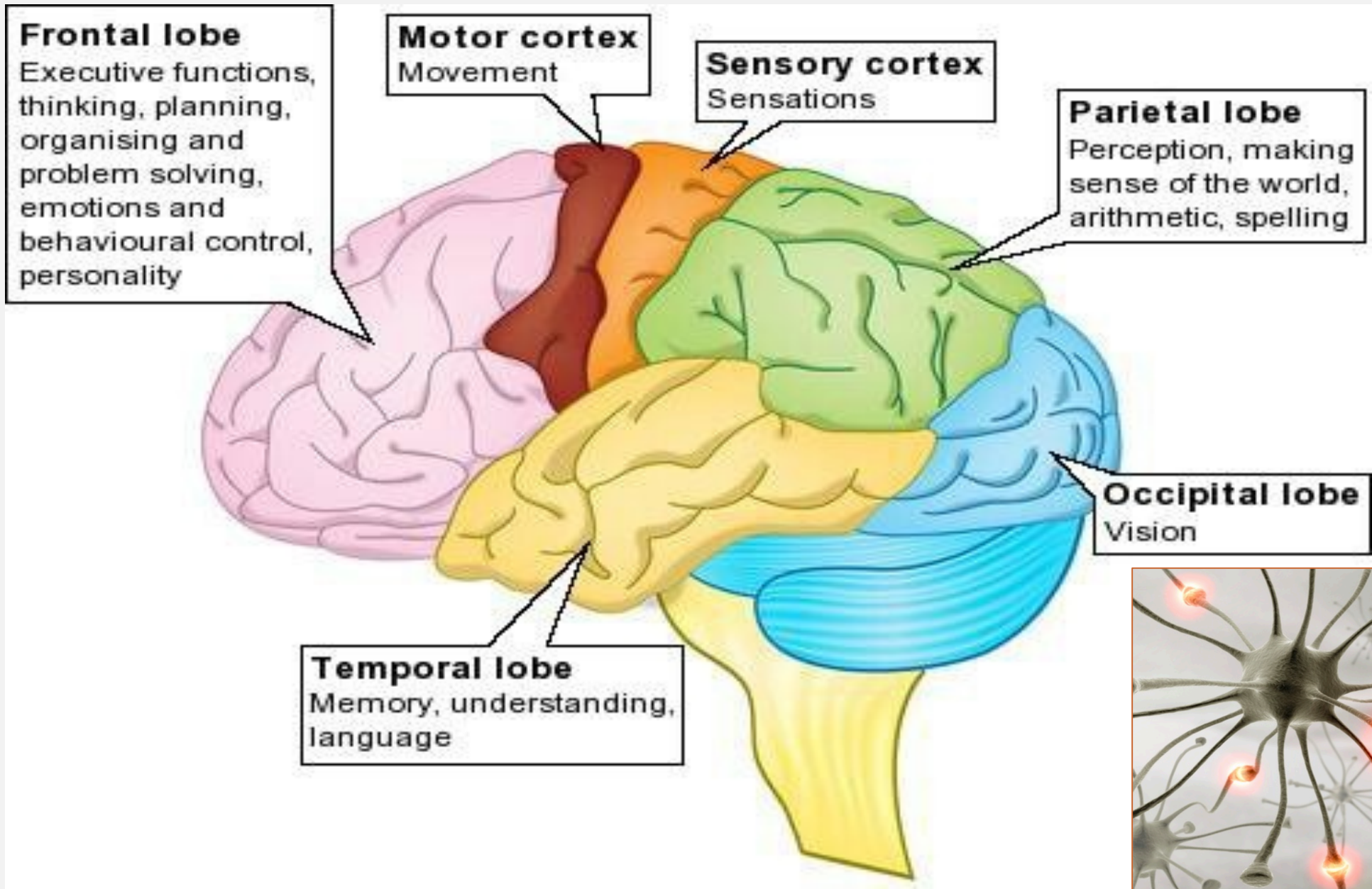
# Harry Potter Sustained An Astoundingly Dangerous Number Of Concussions

“Harry felt as if his head had been split in two.”



1 in 5 students may have a concussion at some point in their academic career (Veliz et al., *JAMA*. 2017;318(12):1180-1182. doi:10.1001/jama.2017.9087)

40% (plus) are getting concussions in non-sports related activities (Eagan-Brown, BrainSTEPS)



# SOFTWARE, NOT HARDWARE, PROBLEM



# SYMPTOMS = FUNCTIONAL

## 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:

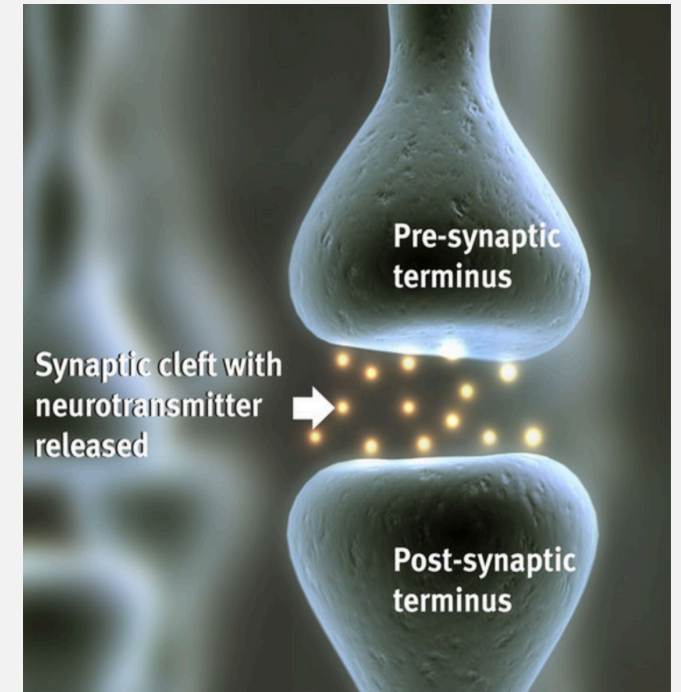
- Fatigue
- Drowsiness
- Sleeping too much
- Can't fall or maintain sleep

# 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

**Not seen on an MRI or CT scan**

**FUNCTIONAL PROBLEM VS A STRUCTURAL PROBLEM**



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

# Brain Injury & Behavioral Health



# DEFINITION OF ACQUIRED BRAIN INJURY:

An Acquired Brain Injury (ABI) covers ALL injuries to the brain that:

- occur after birth
- not heredity
- not congenital
- not degenerative

Includes:

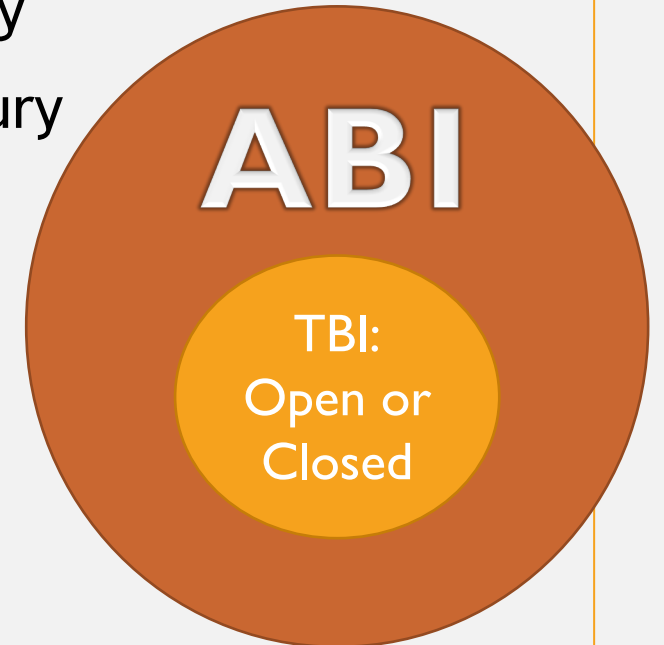
- non-traumatic
- traumatic

Regardless of the cause of the brain injury, consequences of brain injury may be similar and the interventions may be the same.

Brain Injury Association of America

A Traumatic Brain Injury, TBI” is a particular type of acquired brain injury; it is the result of an external blow to the head. A TBI can result in either an:

- open head injury
- closed head injury



## TYPES OF NEUROLOGICAL IMPACT

# Neurological Impact

Acquired Brain Injury (acquired after birth)

Congenital  
(before birth/pre-natal)

Traumatic

Non-Traumatic

e.g., Fetal Alcohol Spectrum Disorder, etc.



# CAUSES OF ACQUIRED (POST-BIRTH) BRAIN INJURY IN CHILDREN

## Traumatic – External Force

- Falls
- Motor Vehicle Accidents
- Bicycle/Pedestrian
- Assaults/Abuse (e.g., Abusive Head Trauma/Shaken Baby Syndrome)

It is estimated that 1,000 – 3,000 children in the US sustain Abusive Head Trauma each year.

[Health.ny.gov](http://Health.ny.gov)

## 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)

# CONGENITAL BRAIN INJURY

- Influences to the brain that occur during pregnancy or birth or as a result of genetic disorders
  - Prenatal substance exposure – **Fetal Alcohol Spectrum Disorder**
  - Infections during pregnancy
  - Hydrocephalus
  - Microcephaly
  - Neural tube deficits
  - Chromosomal abnormalities
  - **Injuries as part of the birth process (this is still frequently debated)**



60%+ (average) in prisons/jail

60% substance abuse



30% homeless

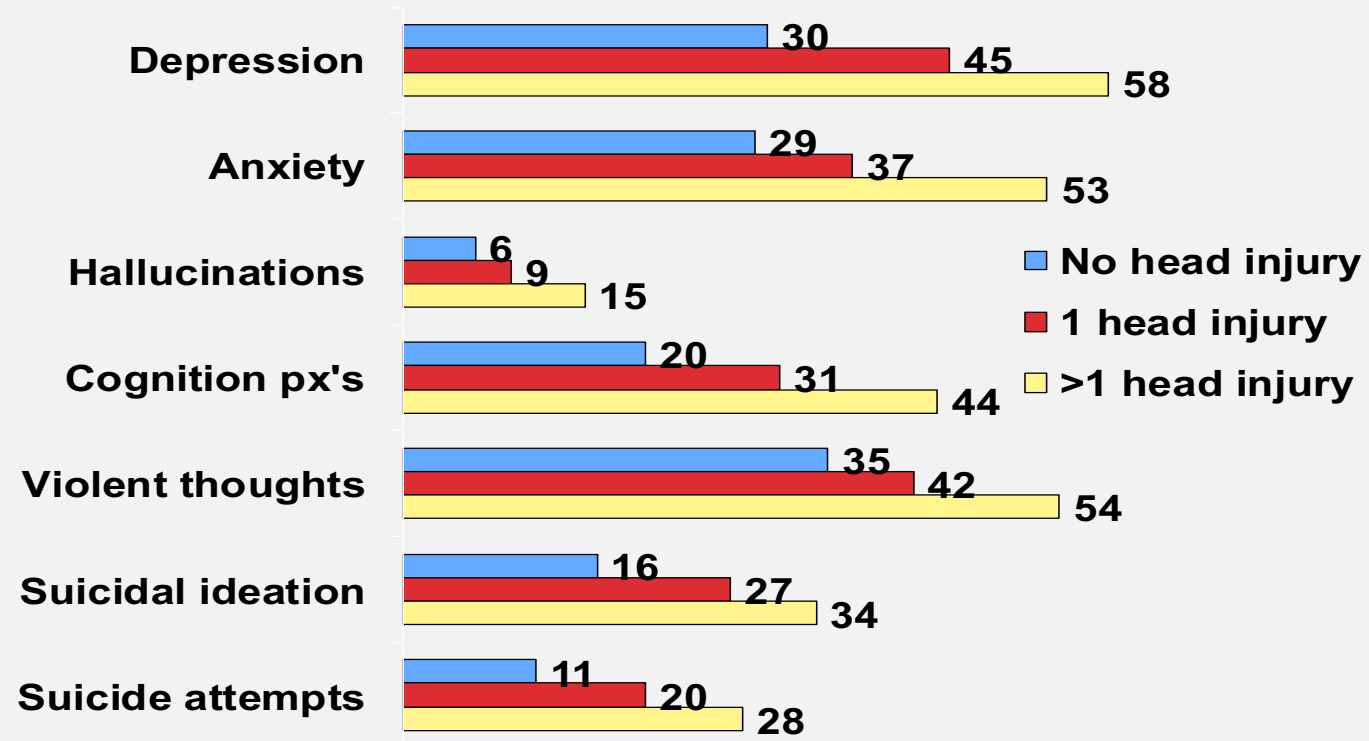
60% mental health



# BRAIN INJURY & CRIMINAL BEHAVIOR

- In a meta analysis, Shiroma (2010) found **60% of inmates report having experienced a head injury** or TBI as compared to **8.5% in a general population** reporting a history of TBI.
- Prisoners who have had head injuries may also experience **mental health problems** such as severe depression and anxiety, substance use disorders, difficulty controlling anger, or suicidal thoughts and/or attempts.
- Studies of prisoners' self-reported health indicate that those with one or more head injuries have **significantly higher levels of alcohol and/or drug use** during the year preceding their current incarceration.

# BEHAVIORAL HEALTH SYMPTOMS IN KENTUCKY PRISONERS (WALKER, HILLER, STATON & LEUKEFELD, 2003)



MOOD AND ANXIETY DISORDERS FOLLOWING  
PEDIATRIC TRAUMATIC BRAIN INJURY: A  
PROSPECTIVE STUDY  
LUIS CA, MITTENBERG W. J CLIN EXP NEUROPSYCHOL  
2002;24:270-9.

- Children (aged 6-15y) hospitalized in a general hospital n= 42 with mTBI versus n=35 orthopedic controls.
- Prevalence of mood disorders at 6mo: mTBI group (35.7%), orthopedic group (11.4%).
- Prevalence of anxiety disorders at 6 months: mTBI group (21.4%), orthopedic group (2.8%)

# Concussions may increase suicide risk

Fralick ML, et al. *JAMA Neurol.* 2018;doi:10.1001/jamaneurol.2018.3487.

Redelmeier DA, Bhatti JA. *JAMA Neurol.* Published online ahead of print.

November 12, 2018

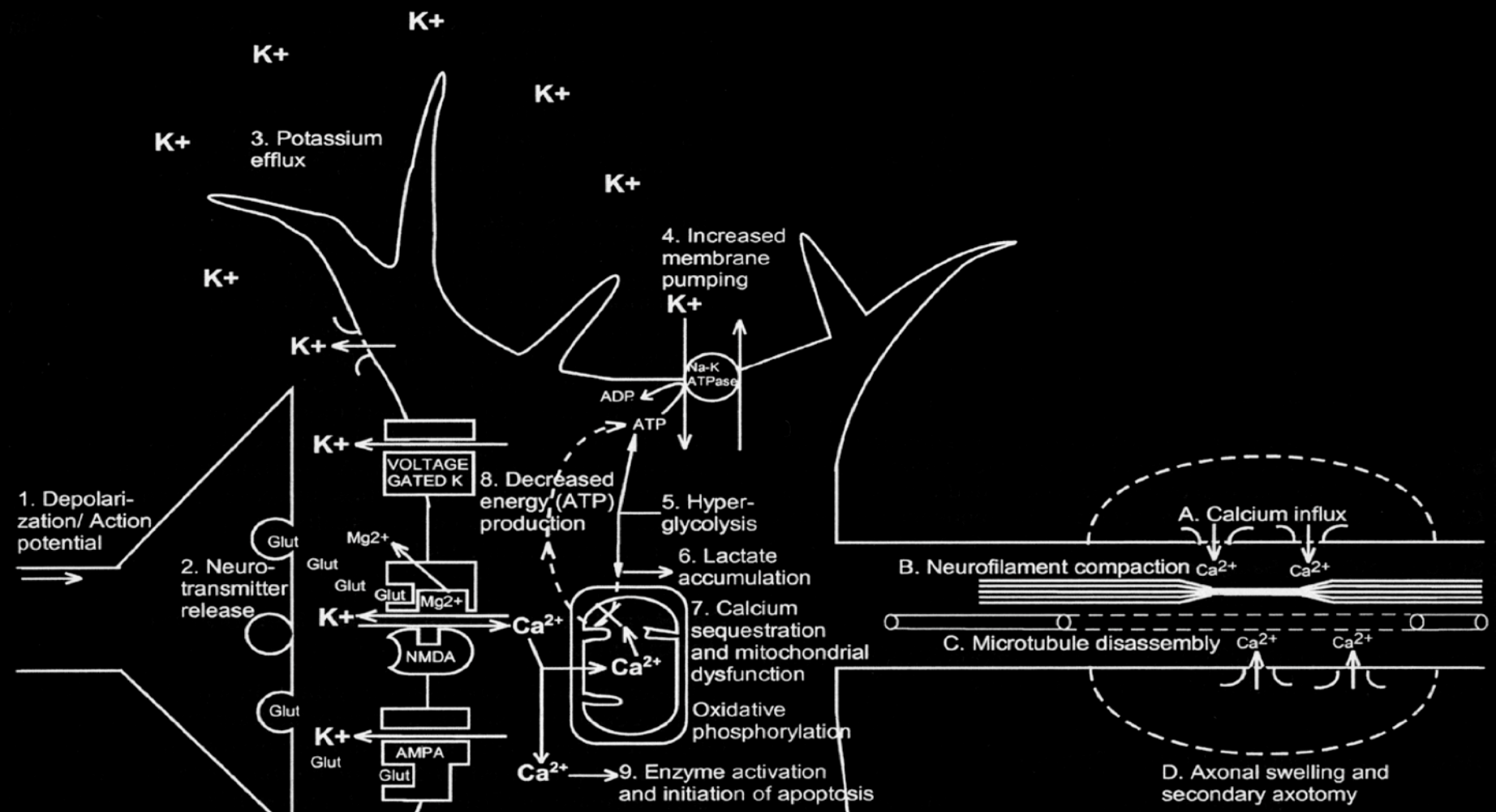
Researchers found sustaining a concussion and/or mild TBI was associated with a **twofold higher risk for suicide** (RR = 2.03; 95% CI, 1.47-2.8). Two studies with estimates after a median follow-up of about 4 years found 1,664 of 333,118 individuals (0.5%) and 750 of 126,114 individuals (0.59%) diagnosed with concussion and/or mild TBI died from suicide. Concussion was also associated with a higher risk for suicide ideation and suicide attempt. The heightened risk for suicide outcomes after concussion was consistent in studies with and without military personnel.

WHAT'S THE CAUSE?

Biochemical

Psychosocial



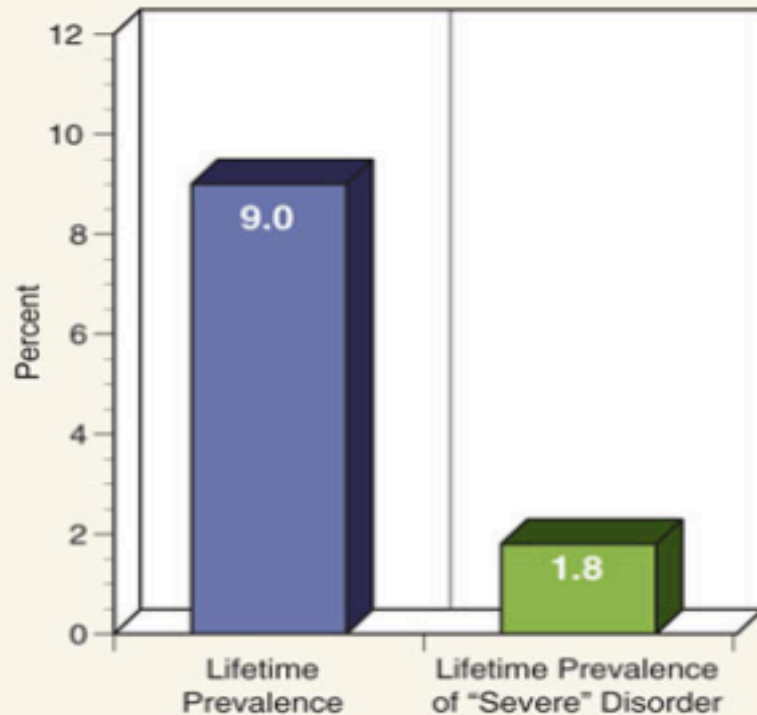


# ENERGY CRISIS

# Attention Deficit Hyperactivity Disorder

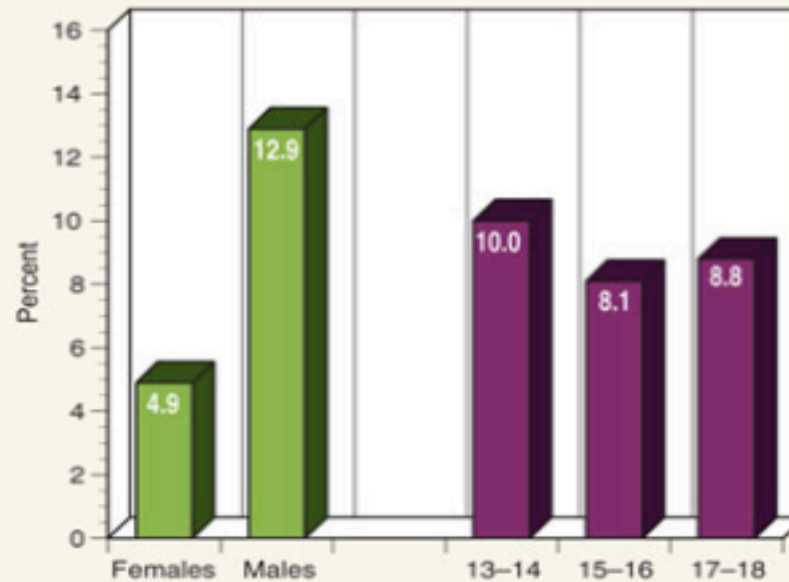
## Lifetime Prevalence of 13 to 18 year olds

- **Lifetime Prevalence:** 9.0% of 13 to 18 year olds
- **Lifetime Prevalence of "Severe" Disorder:** 1.8% of 13 to 18 year olds have a "severe" disorder



## Demographics (for lifetime prevalence)

- **Sex and Age**



- **Race:** Not Reported



National Institute  
of Mental Health

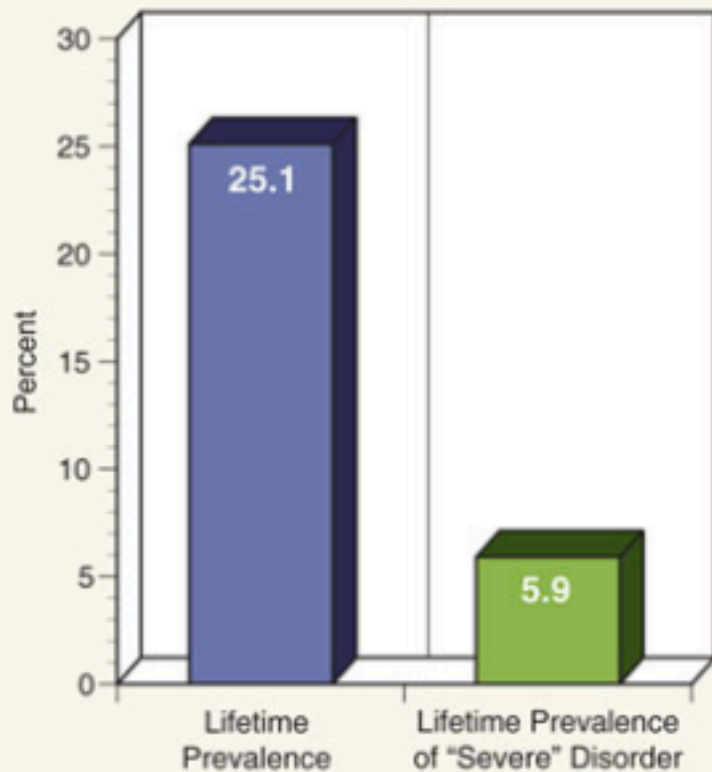
Transforming the understanding  
and treatment of mental illnesses.

Merikangas KR, He J, Burstein M, Swanson SA, Avenevoli S, Cui L, Benjet C, Georgiades K, Swendsen J. Lifetime prevalence of mental disorders in U.S. adolescents: Results from the National Comorbidity Study-Adolescent Supplement (NCS-A). *J Am Acad Child Adolesc Psychiatry*. 2010 Oct;49(10):980-989.

# ANXIETY

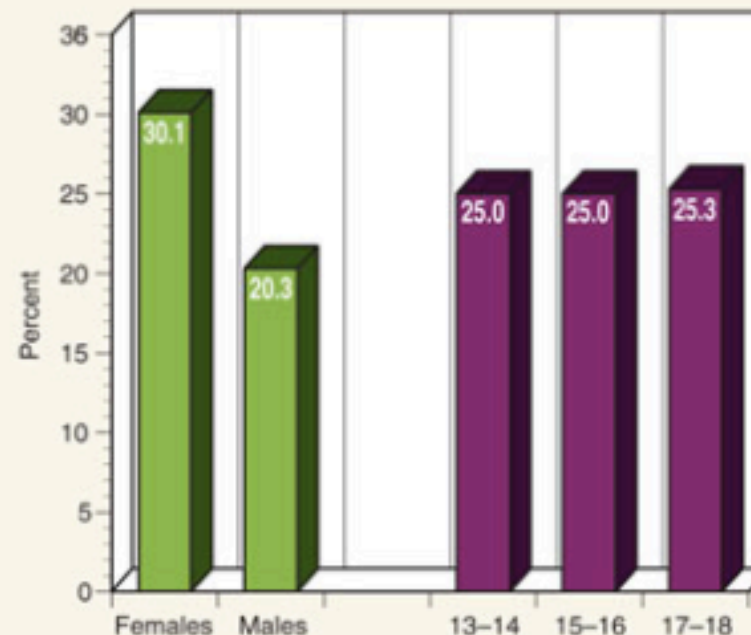
## Lifetime Prevalence of 13 to 18 year olds

- **Lifetime Prevalence:** 25.1% of 13 to 18 year olds
- **Lifetime Prevalence of "Severe" Disorder:** 5.9% of 13 to 18 year olds have "severe" anxiety disorder



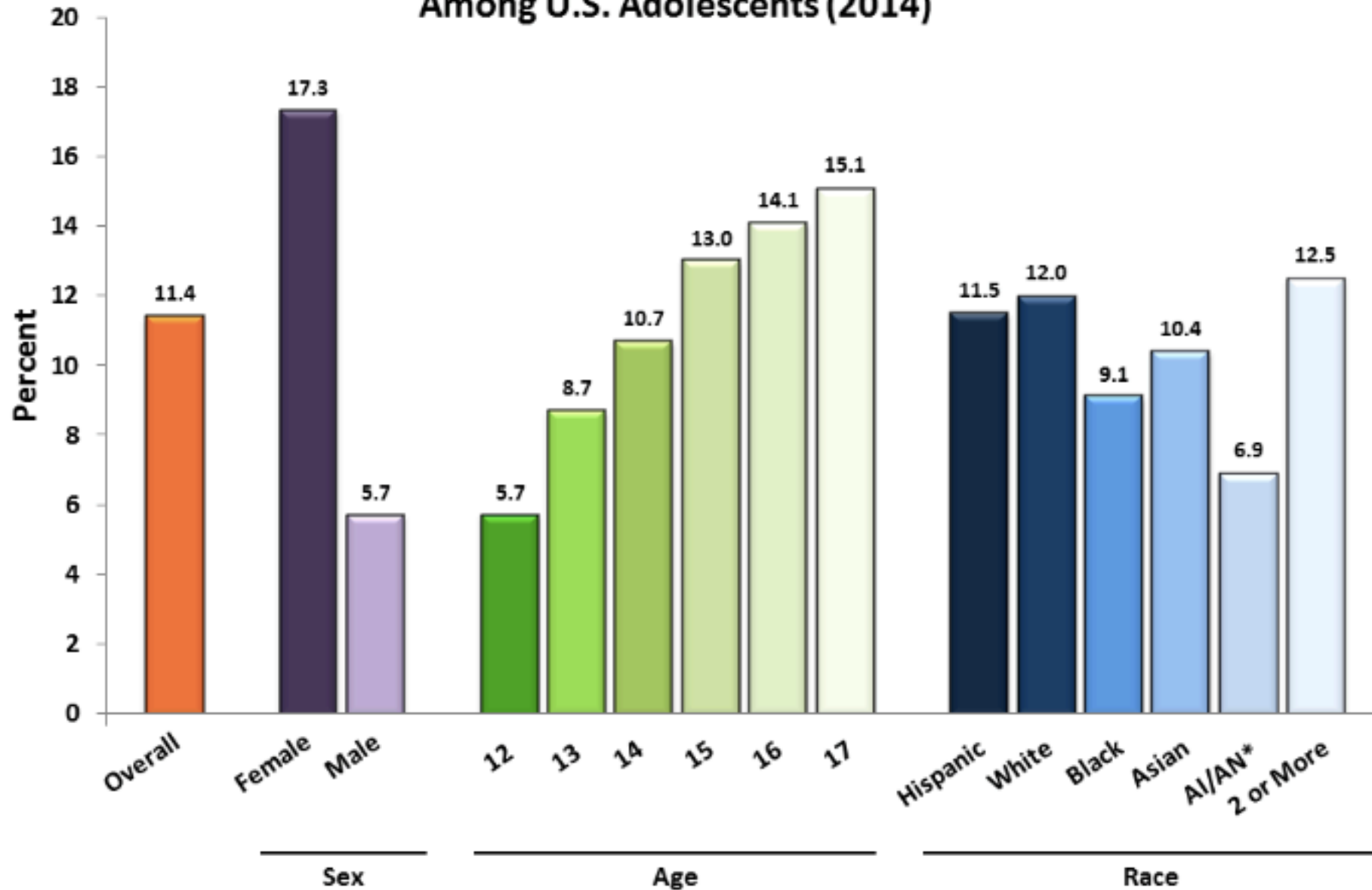
## Demographics (for lifetime prevalence)

- **Sex:** Statistically different
- **Age:** Not statistically different

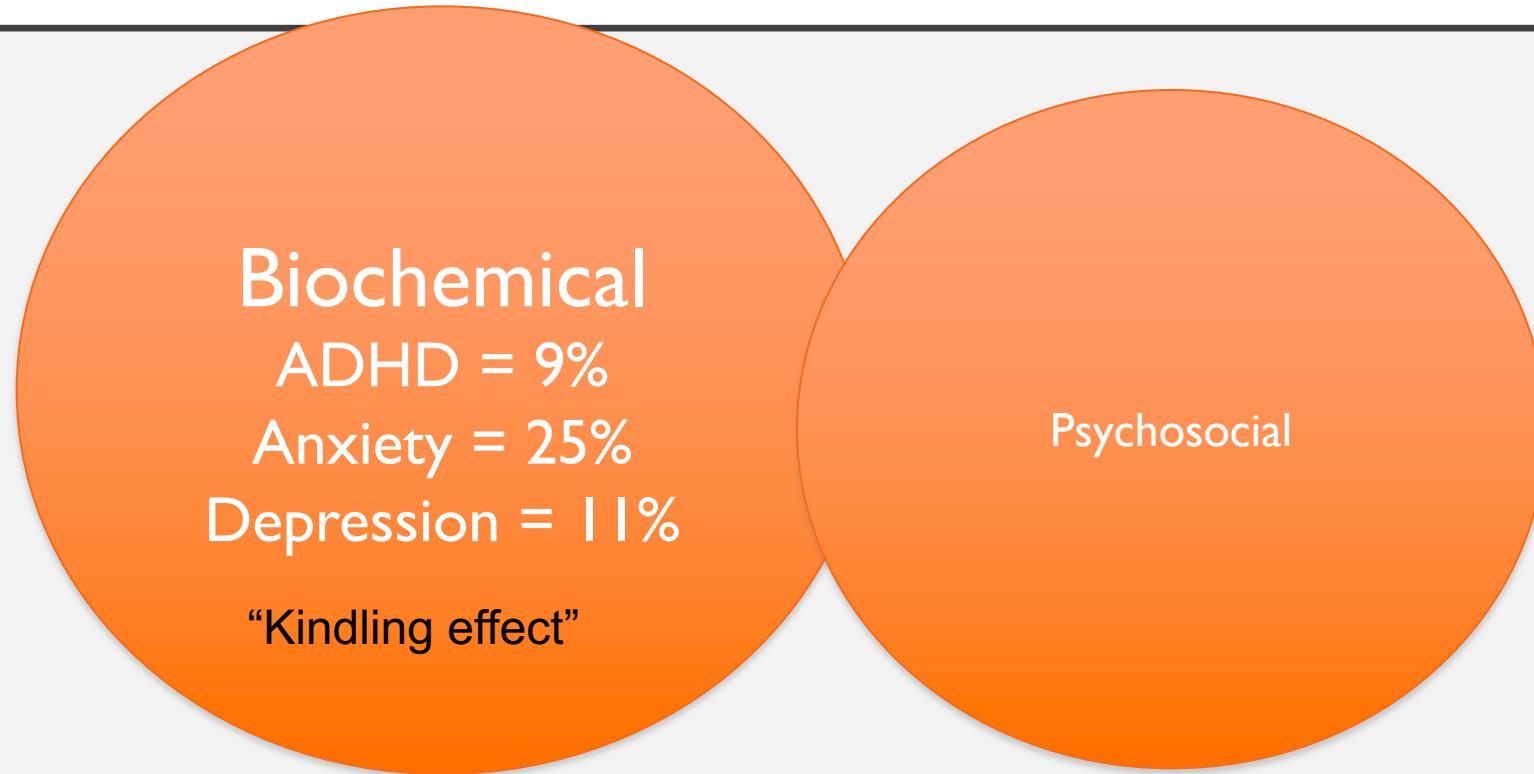


- **Race:** Statistically significant differences were found between non-Hispanic whites and other races

## 12-month Prevalence of Major Depressive Episode Among U.S. Adolescents (2014)



## IS IT BIOCHEMICAL?



IS IT SITUATIONAL?

Biochemical

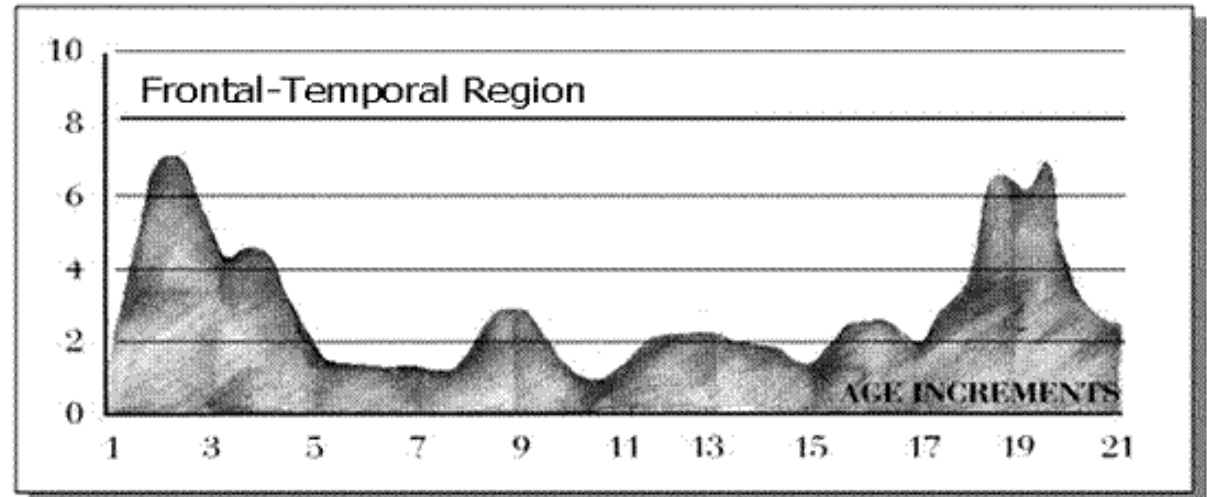
Psychosocial  
“situational”

## EMOTIONAL AND SOCIAL SPIN OFF'S

- Socially isolated
- Missing out on important developmental events
- Behind at school
- Loss of independence
- Perception of inadequacy
- Decline of self-confidence

# MATURATION AND DEVELOPMENT

**CHART 2:**



(Savage, 1999)



## 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

# Anxiety

Problems sleeping

Tired/drained

Physical pains/dizziness

Can't think

Stressed/anxious

# Brain Injury

Problems sleeping

Fatigue

Headache

Trouble  
concentrating/remembering

Lability of all emotions

# Depression

Problems sleeping

Fatigue

Physical aches and pains

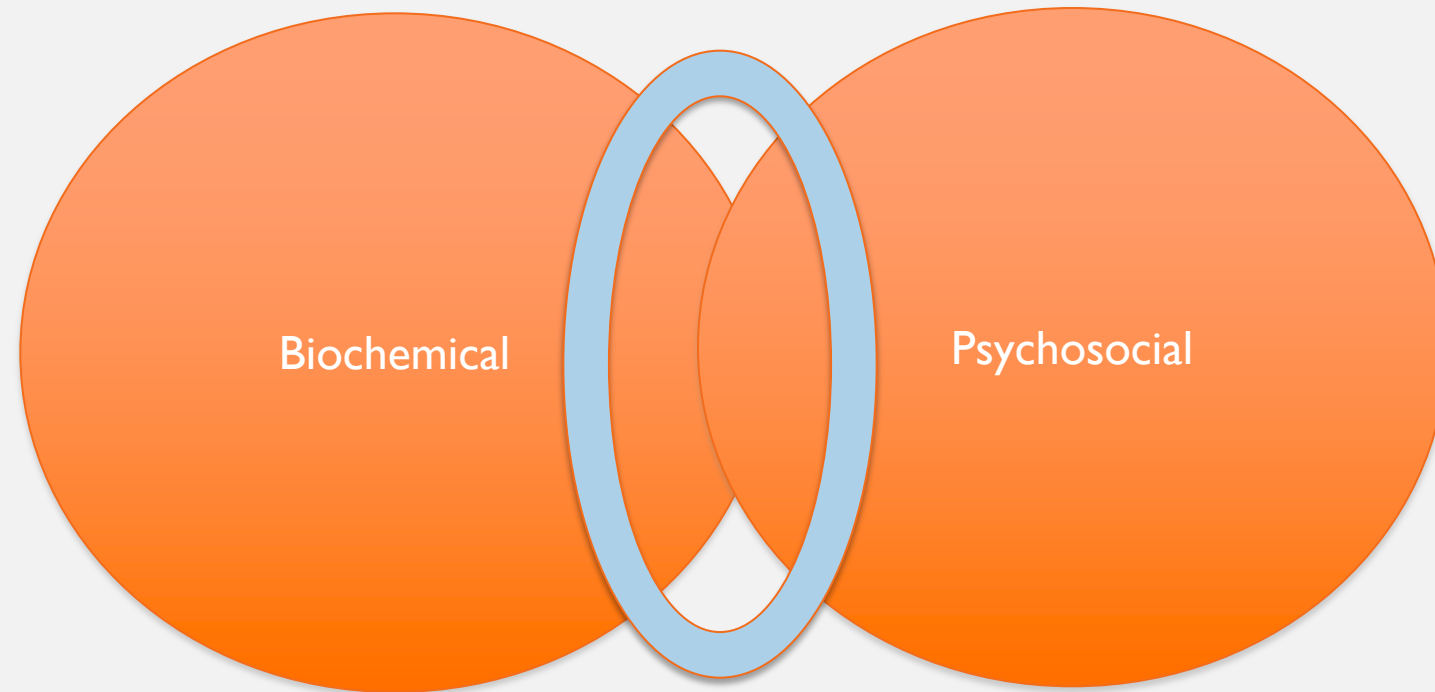
Trouble  
concentrating/remembering

Irritability/Sadness

No filter, limited ability to inhibit responses and behaviors



# PERFECT STORM



# BUILDING BLOCKS OF BRAIN DEVELOPMENT<sup>©</sup>

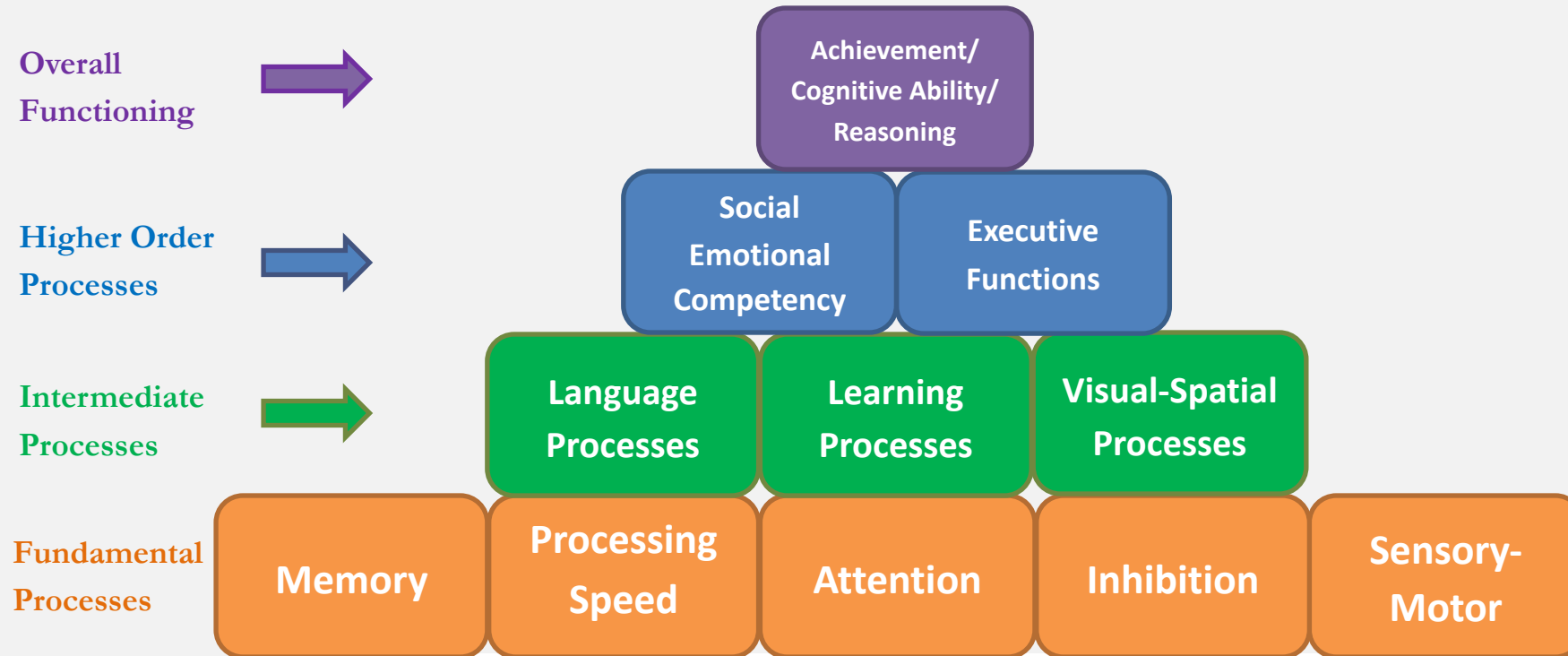
Colorado Brain Injury Steering Committee

Colorado Department of Education (CDE)

- Neuroscience, research, neuro-cognitive processes and assessment
- No ONE model of neurocognitive development
- Simplistic framework that describes the complexity of neurocognitive functioning and inter-relatedness.
- Simple way for parents and educators to understand the brain, and how learning and behavior can be affected
- Neuroeducational model – multidisciplinary teams CAN do this.
- If we understand the BRAIN, we understand learning and behavior



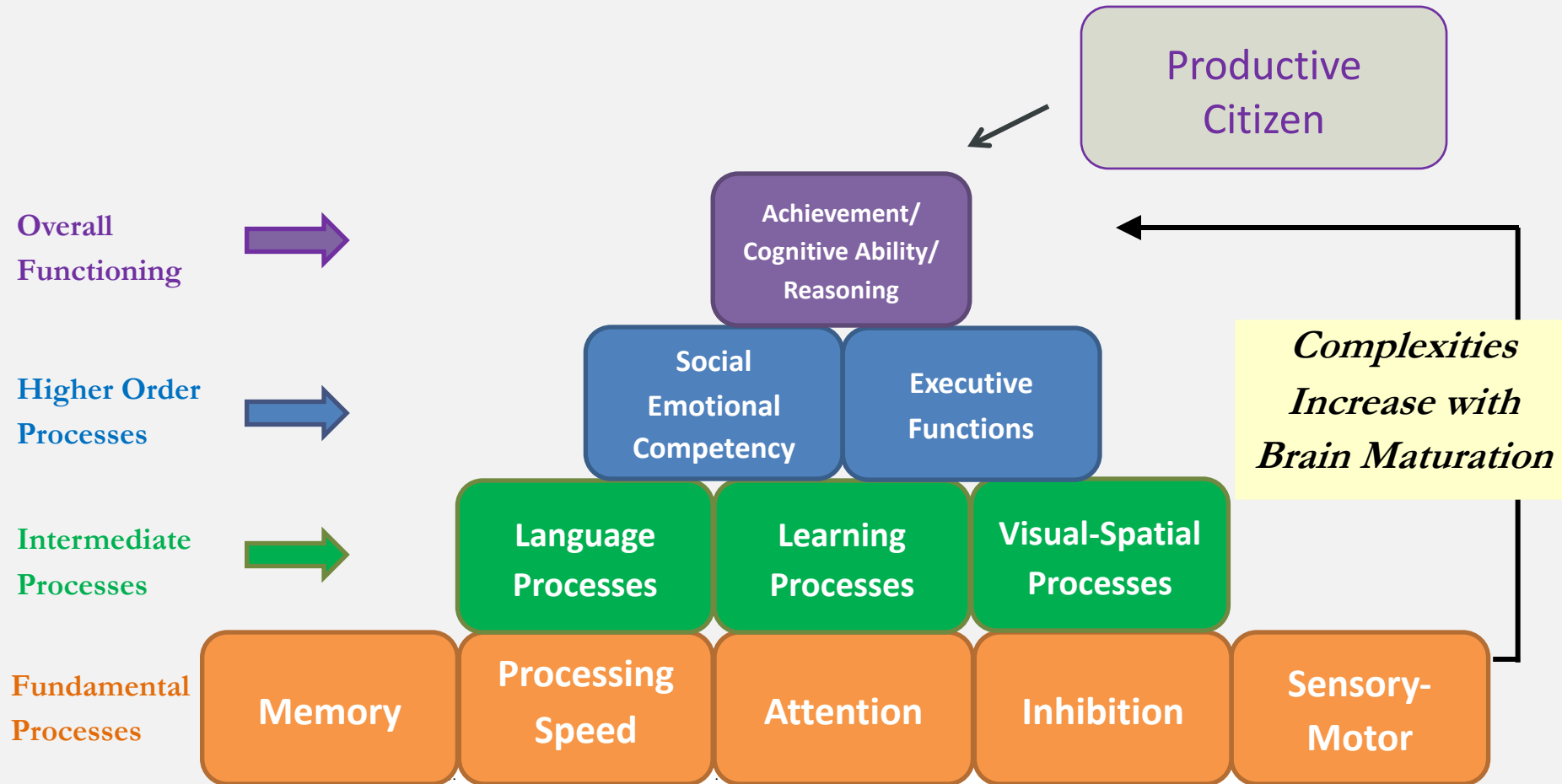
# Building Blocks of Brain Development ©



The Hierarchy of Neurocognitive Functioning © - created by Peter Thompson, Ph.D. 2013, adapted from the works of Miller 2007; Reitan and Wolfson 2004; Hale and Fiorello 2004.

The Building Blocks of Brain Development © – further adapted by the CO Brain Injury Steering Committee, 2016.

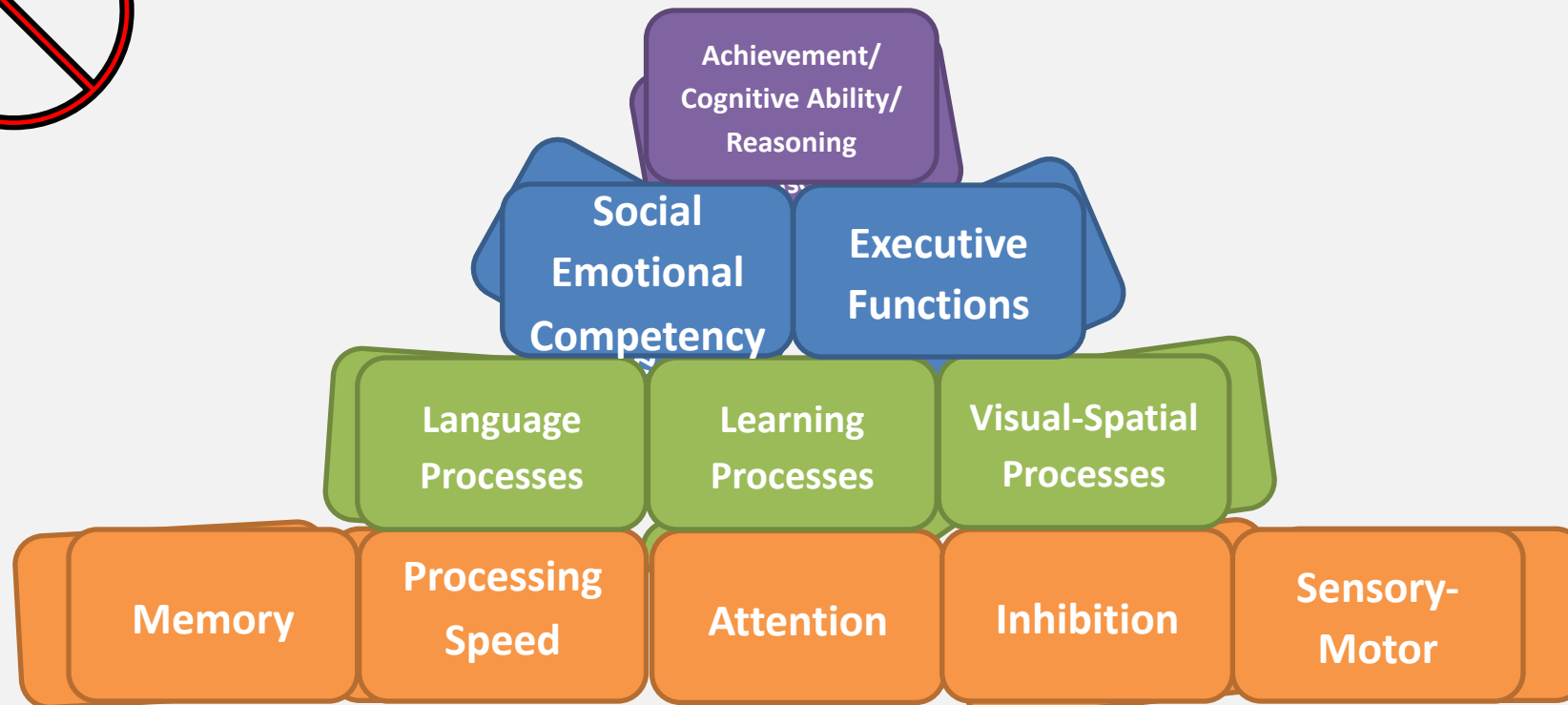
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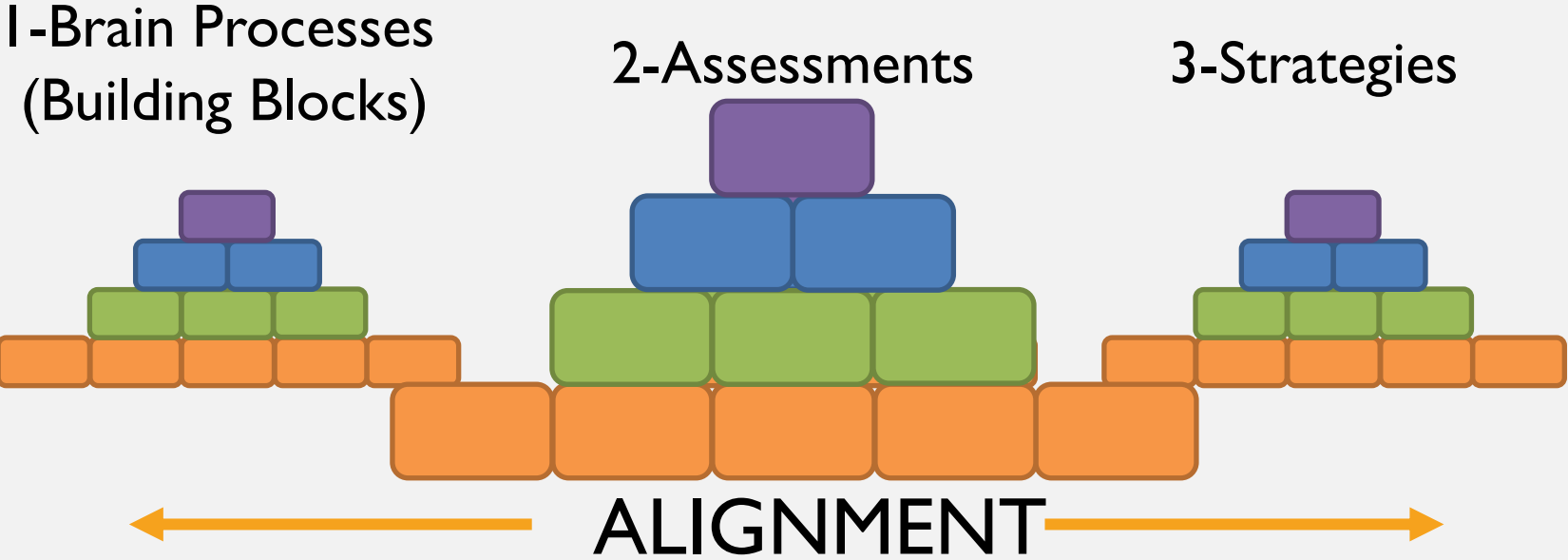


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# Building Blocks of Brain Development<sup>©</sup>

## 3 Components:





# Building Blocks of Brain Development ©

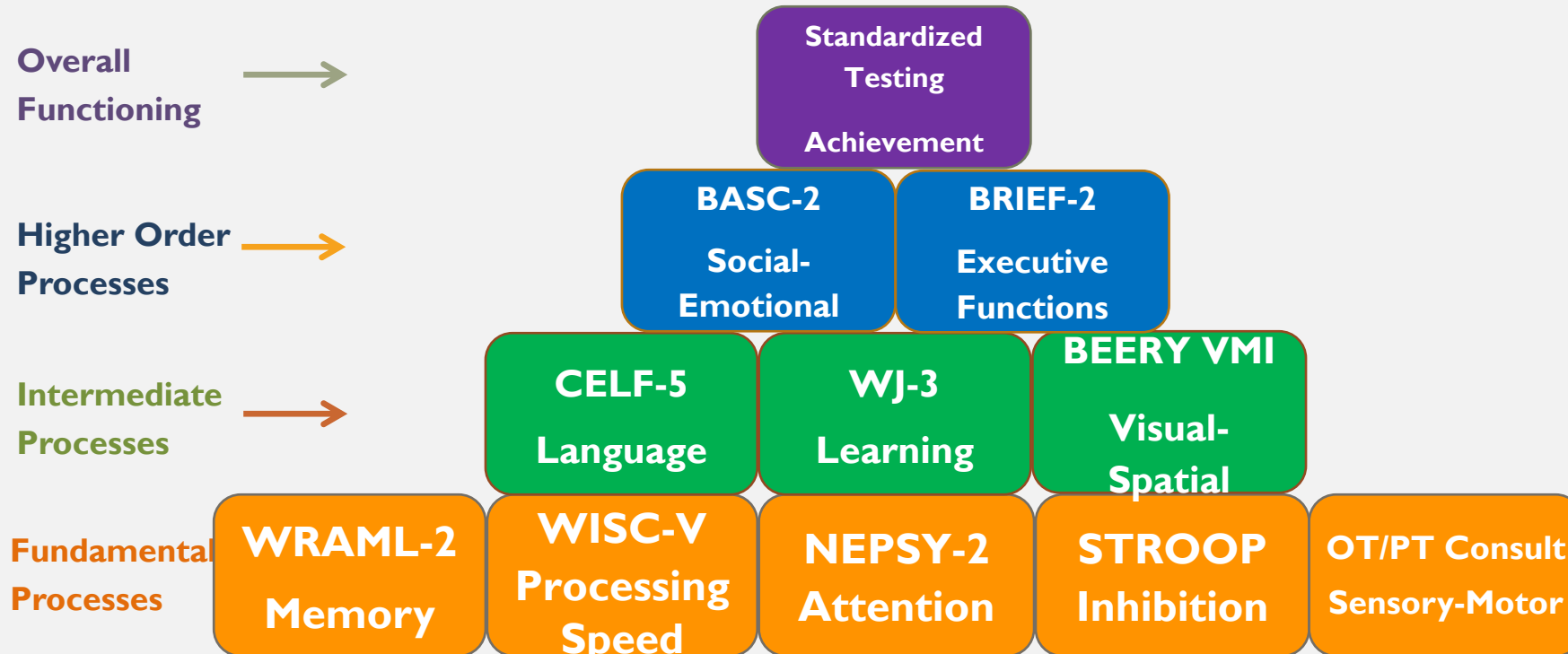


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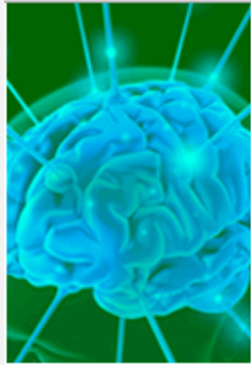
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## ASSESSMENTS



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## COLORADO KIDS Brain Injury Resource Network

HOME

FOR EDUCATORS AND PROFESSIONALS

FOR PARENTS

UPCOMING EVENTS

KEY TERMS

CONTACT US



### Educators and Professionals

ENTER HERE >



### Parents

ENTER HERE >

## WELCOME TO THE COLORADO KIDS BRAIN INJURY RESOURCE NETWORK

The website was designed through funding from the Colorado Kids Brain Injury Resource Network. This website should serve as a tool for educators, school administrators, school psychologists, related services professionals, and families. Feel free to join in the discussion and learn more about how to support our kids in Colorado with brain injuries.

## ANNOUNCEMENTS & UPDATES

**Brain Injury in Children and Youth: A Manual for Educators.** [Click here to view manual.](#)

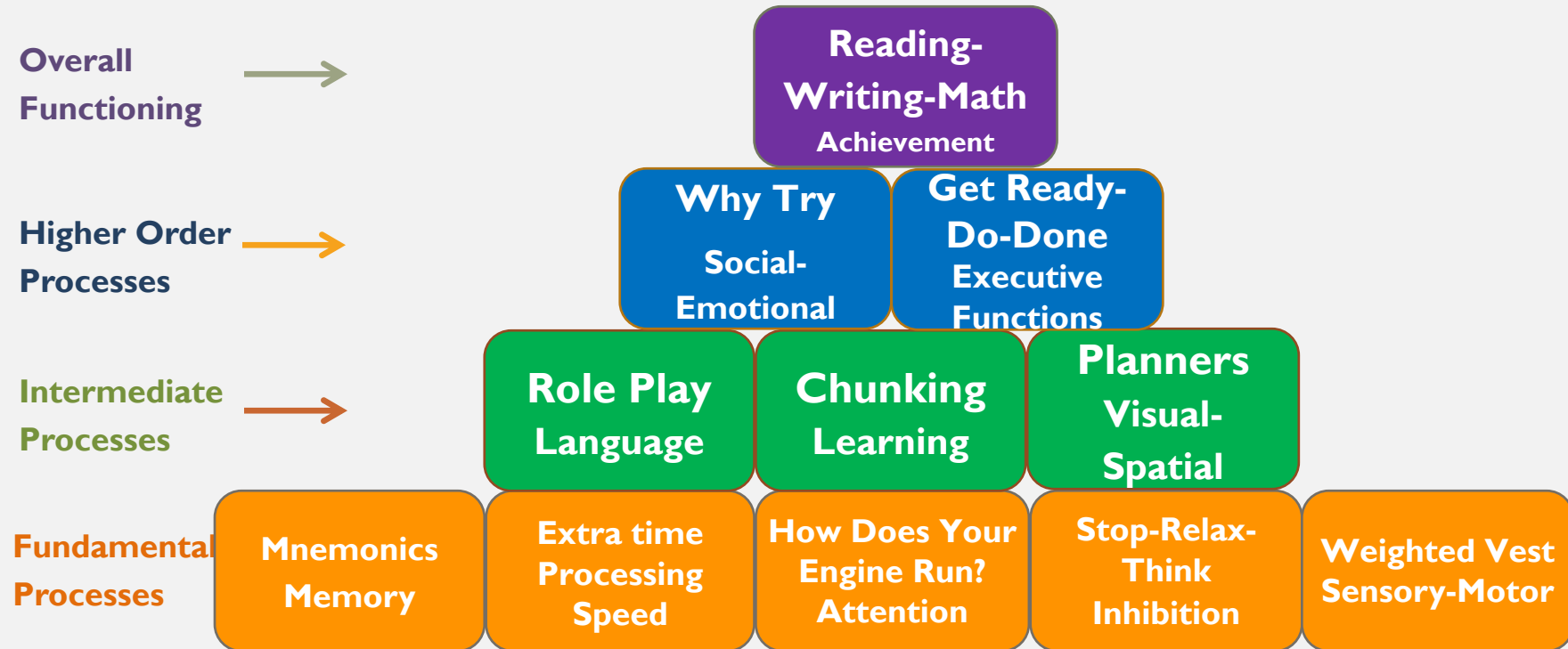
**Colorado Department of Education's Concussion Management Guidelines.** [Click here to view](#)

**Brain Injury Alliance of Colorado Case Management.** [Click here to view.](#)

**Brain Injury Alliance of Colorado Case Management Flyer.** [Click here to view](#)

# Building Blocks of Brain Development©

## STRATEGIES/INTERVENTIONS



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<http://www.cde.state.co.us/cdesped/sd-tbi>

# Brain Injury in Children and Youth

A Manual for Educators



cde

COLORADO DEPARTMENT of EDUCATION

<http://www.cde.state.co.us/cdesped/SD-TBI.asp>



# ATTENTION

**Attention:** *The ability to sustain focus on the information necessary for learning or completing tasks*

- There are numerous types of attention: selective, sustained, shifting and divided attention. Being able to attend to a task, to shift from task to task and to ignore competing distractions so that one can stay focused on the original task at hand, explains why attention is a fundamental skill necessary for all levels of learning.
- Inhibition is associated with this process in the brain – the inability to inhibit an impulse is often the underlying issue with ADHD

## INHIBITION

**Inhibition:** *The ability to inhibit, block or hold back an impulse.*

- Inhibition is associated with the attention process in the brain – it is the ability to inhibit an impulse, long enough to consider multiple thoughts and behavioral options so that a more adaptive behavioral choice can be made.
- Inhibition – the inability to inhibit an impulse is often the underlying issue with ADHD
- This process may be referred to as “mental brakes”, “a filter” or the ability to “think before you act”.

# MEMORY

**Memory:** *The mental ability to store and retrieve words, facts, procedures, skills, concepts and experiences.*

- The general memory process is complex and entails memory creation, storage of information and retrieval. Additionally, there are several types of memory. For example, some primary types of memory are short-term, working, visual, auditory, procedural and declarative memory.
- Damage to any brain area that assists in the formation, storage or retrieval of information can degrade overall memory performance. Due to the number of areas associated with the memory system, it is important to emphasize there are also numerous ways to impair or damage this process.



## PROCESSING SPEED

**Processing Speed:** *How quickly information is received, processed, and/or outputted.*

- A common consequence of a brain injury is the slowing of information processing. Slowed information processing impacts a person's ability to think efficiently and may hinder the effectiveness of other abilities such as memory. Although there are different reasons for slowed processing after an injury, one major reason is that the “wires” of the brain (neurons) can no longer communicate with each other efficiently.
- Another reason for slowed processing speed is that the brain might have to re-route signals around the damaged area (takes longer).

# SENSORY MOTOR

## Fundamental Processes

**Sensory Processing:** *Perceiving and responding to what is seen, heard, smelled, tasted, felt and touched, as well as our sense of balance (vestibular) and our “position sense” (proprioception).*

- Generally speaking, the parietal lobe of the brain (top brain area) processes most sensory information and integrates it to construct a picture of one’s environment. Damage to the parietal lobe may interfere with body awareness, cause attention problems, and degrade the accurate processing of auditory, olfactory, taste, tactile, and visual information.
- Fine Motor: Involves the use of small muscles of the hands to make smooth, coordinated or fine motions.
- Gross Motor: Involves the coordinated use of the large muscles of the body.

## LEARNING PROCESSES

**New Learning:** *The ability to learn new concepts and information.*

- Receiving and processing new information to create *learning* is a remarkably complex neurological phenomenon. A novel academic task requires several brain areas working in concert to produce understanding. Once new information is processed, the new information is sent to other areas of the brain so the information can be comprehended on a deeper level.

# VISUAL-SPATIAL PROCESSES

**Visual-Spatial:** *The ability to generate, retain, retrieve and transform well-structured visual images.*

- Visual-spatial processes are largely associated with the occipital lobe of the brain, which is located at the back of the brain. When visual information is processed in the occipital lobe, it divides the information and sends it to the lower left part of the brain (temporal lobe) or to an upper part of the brain called the parietal lobe. Damage to the back and left side of the brain can degrade a person's ability to process images of known objects. Injury to the back to upper regions of the brain may cause problems with spatial and location tasks.

# LANGUAGE PROCESSES

Intermediate  
Processes

**Language-Receptive:** *The ability to understand language.*

- Understanding spoken language is typically associated with the left hemisphere of the brain. Young children typically understand what is told to them (receptive language) before they can express themselves, but damage to the left side of the brain hinders their ability to understand language.

**Language-Expressive:** *The ability to express one's thoughts and feelings into words and sentences.*

- The ability to speak logically and express oneself using language involves the left hemisphere of the brain.

**Social Pragmatics:** *Pragmatics are the verbal and nonverbal rules of social language and interactions.*

- The ability to follow social rules and using or altering communication for social purposes.

# SOCIAL EMOTIONAL COMPETENCY

Higher Order  
Processes

**Social and Emotional:** *The awareness of social issues and one's emotional status. Behavioral self-regulation, control and self-monitoring are also part of this domain.*

- The ability to interact successfully with other people and control one's emotions involves a higher order cognitive skill set. There are two primary areas associated behavioral and emotional regulation.
  - 1) The frontal cortex is implicated in pro-social behaviors. Specifically, the front part of the brain, near the eyes, assists with impulse control.
  - 2) The limbic system. The limbic system is made of several smaller parts that are associated with creating all emotions. When these deep brain structures are damaged, it is common that the person develops severe emotional difficulties.

## EXECUTIVE FUNCTIONS: INITIATION

**Initiation:** *The ability to independently start an action or activity.*

- Since the frontal regions of the brain are largely responsible for action and movement, it is not surprising these same areas are responsible for initiation. It is also not surprising that emotions help start actions, so the deeper emotional centers of the brain are implicated in initiation. A child's inability to get tasks completed may be related to problems with initiation within the brain.

## EXECUTIVE FUNCTIONS: MENTAL FLEXIBILITY

**Mental Flexibility:** *The ability to easily shift from one idea, train of thought, activity or way of looking at things.*

- Controlling the thoughts and actions of the brain falls under the function of the frontal lobe. Although there are different brain areas that also help with initiation, organization, planning and flexibility, these four “executive functions” are primarily regulated by the upper brain areas located behind the forehead. People with damage to the frontal lobe may become more rigid in their thinking and less adaptable to change.



## EXECUTIVE FUNCTIONS: PLANNING

**Planning:** *The ability to set a goal, identify a sequence of actions to reach the goal and carry out that sequence of steps.*

- Planning is a future oriented process requiring forethought, estimation and problem solving. Similar to the same neurological structures involved with regulation, organization, and problem solving, the upper frontal lobe is intimately tied to planning.

## EXECUTIVE FUNCTIONS: ORGANIZATION

**Organization:** *The ability to create and maintain orderliness in thoughts, activities, materials and the physical environment.*

- The upper frontal region of the brain, behind the forehead, controls planning and organization of thoughts and activities. The ability to sequence thoughts in a logical fashion and translate those thoughts into action to organize a person's environment involves communication between the frontal cortex and left hemisphere of the brain. Damage to the front and/or the left hemisphere of the brain may cause disorganized thinking and ordering of materials.

## EXECUTIVE FUNCTIONS: REASONING

**Reasoning:** *The use of deliberate and controlled mental operations to solve novel and on the spot problems*

- Many aspects of reasoning are similar to the process of new learning. Reasoning is the foundation for problem solving and ultimately overall intelligence. Higher order reasoning involves the effective integration and processes of the entire cerebral (brain) structure. Since the frontal cortex is considered the “manager” of the brain, this region is typically needed in reasoning as it orchestrates how information is processed. However, many areas of the brain are needed for deep thinking.

# CASE STUDY

# 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					

# STRUCTURED INTERVIEW

- Structured Interview questions should include (for each incident):
    - Where
    - When
    - How
    - Medical intervention(s) sought at the time, later, through the recovery
    - Are answers medically plausible?
- \*Be aware of assumptions – “scalp laceration” or “head injury” does not automatically mean a “brain injury”

# MEDICAL DOCUMENTATION

**NOTE:** Medical documentation simply confirms the **presence** of the TBI. It does not and cannot automatically establish the “impact” of the TBI.

Confirming that an injury has occurred does not shed light upon the **effect** of the injury on subsequent physical, educational, behavioral, emotional, social outcome.

Once medical documentation has been established, CDE requires that school teams continue to collect a **body of evidence** to establish “educational impact.”

### Initial Health History

Student/child name:	DOB:
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IDENTIFYING INFORMATION					
Age:	Sex:	Grade:	School:		
ADDRESS:					
This form is completed by:			Relationship to Child:		
Reason for assessment:					
Mother's Phone: Home:		Work:		Cell:	e-mail:
Father's Phone: Home:		Work:		Cell:	e-mail:
Child lives with: Both Parents <input type="checkbox"/> Mother <input type="checkbox"/> Father <input type="checkbox"/> Other (explain)					
My child has the following health care coverage: Medicaid <input type="checkbox"/> CHP+ <input type="checkbox"/> Private <input type="checkbox"/> None <input type="checkbox"/>					
Child's Primary Health Care Provider:				Phone:	
Date of last physical:		Date of Last Visit:		Reason for visit:	
Child's Dentist:			Date of Last Dental exam:		

PREGNANCY AND BIRTH	
Month into pregnancy that medical care began:	Length of pregnancy:
Were there any medications taken while pregnant?	Explain:
Were there any complications with pregnancy? No <input type="checkbox"/> Yes <input type="checkbox"/> Explain:	
Were there any complications with labor and delivery? No <input type="checkbox"/> Yes <input type="checkbox"/> Explain:	
Length of labor:	Birth Weight:
APGAR scores:	
Explain any health issues at birth:	
Did baby require extra stay in hospital? No <input type="checkbox"/> Yes <input type="checkbox"/> Explain:	

DEVELOPMENTAL HISTORY	Yes	No	Comments
Did your child crawl by 9 months?			
Did your child walk by 18 months?			
Did your child say words by 15 months?			
Was your child toilet trained by 3½ years?			
Were there problems with balance coordination?			
Were there problems with fine motor skills? (buttons, handwriting, picking something up)			
Do you have other concerns about your child's development? (If yes, explain)			



Code: \_\_\_\_\_ Date Received: \_\_\_\_\_



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**Brain Check: Screening Tool Project**  
Parent/Guardian Survey

**Student Information**

Today's Date: \_\_\_/\_\_\_/\_\_\_

Child's Age: \_\_\_\_\_

Child's Date of Birth: \_\_\_/\_\_\_/\_\_\_

Child's Gender:  Male  Female

Child's race:  
(circle one or more)

1: American Indian/Alaska Native  
2: Asian  
3: Native Hawaiian or Other  
Pacific Islander

4: Black or African American  
5: White  
6: More than one race  
Please describe: \_\_\_\_\_

Child's ethnicity:  
(circle one)

1: Hispanic or Latino  
2: Not Hispanic or Latino

3: Unknown or Not Reported

# CONFIRM TEAM FINDINGS

- With a formal screen – recommend the Brain Check Survey - <http://www.lobi.chhs.colostate.edu/index.aspx>
- History of Injuries (All ABI's)
- Functional Changes – Learning, Behavior, Cognitive, Physical Symptoms



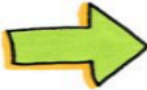
CAN'T VERSUS WON'T

Skill versus Will

# REFRAME THE BEHAVIOUR

"KIDS DO WELL IF THEY CAN"  
~ ROSS GREENE

WON'T



CAN'T



- JUDGMENTAL
- WILLFUL
- DEFIANT



- CURIOUS
- TOO MANY STRESSORS
- SKILLS DEFICITS



HE'S LAZY  
SHE JUST WANTS  
ATTENTION  
...RUDE!

- REWARDS & PUNISHMENTS



WHAT'S GETTING IN  
THEIR WAY?  
HOW CAN I HELP?

- FIND & REMOVE BARRIERS

- FRUSTRATION
- GUILT / SHAME

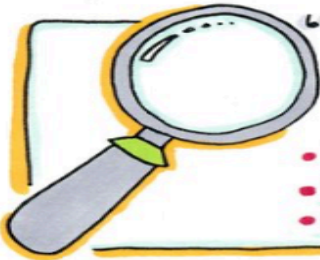


- SUPPORTED
- STRENGTHENED

"SEE A CHILD DIFFERENTLY, YOU SEE A DIFFERENT CHILD"  
~ Dr. Stuart Shanker

When kids exhibit challenging behaviour we can be "STRESS DETECTIVES"... finding and removing barriers.

- FIND STRESSORS → REDUCE THEM
- FIND UNMET NEEDS → MEET THEM
- FIND SKILLS DEFICITS → TEACH THEM

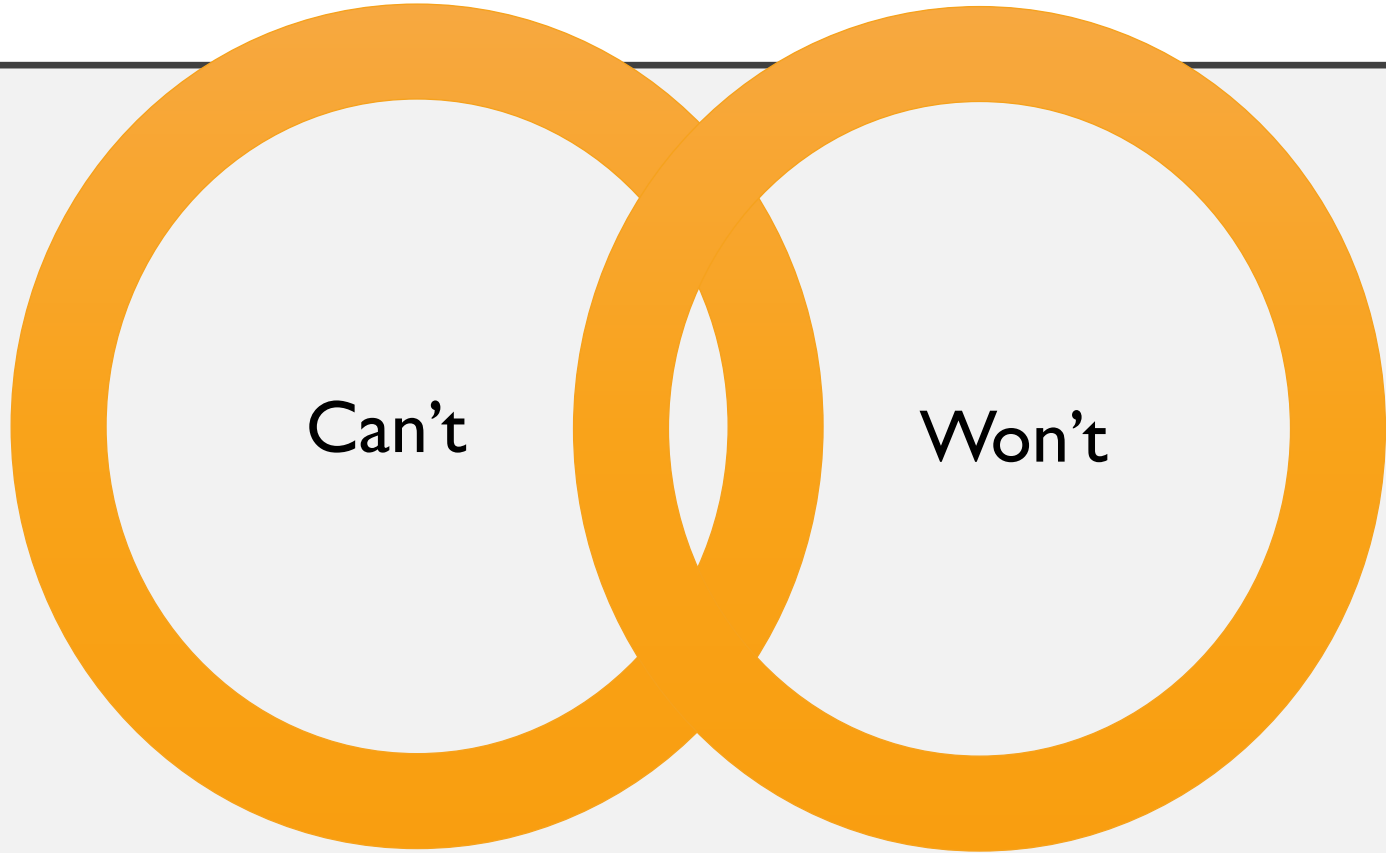


@kwiens62

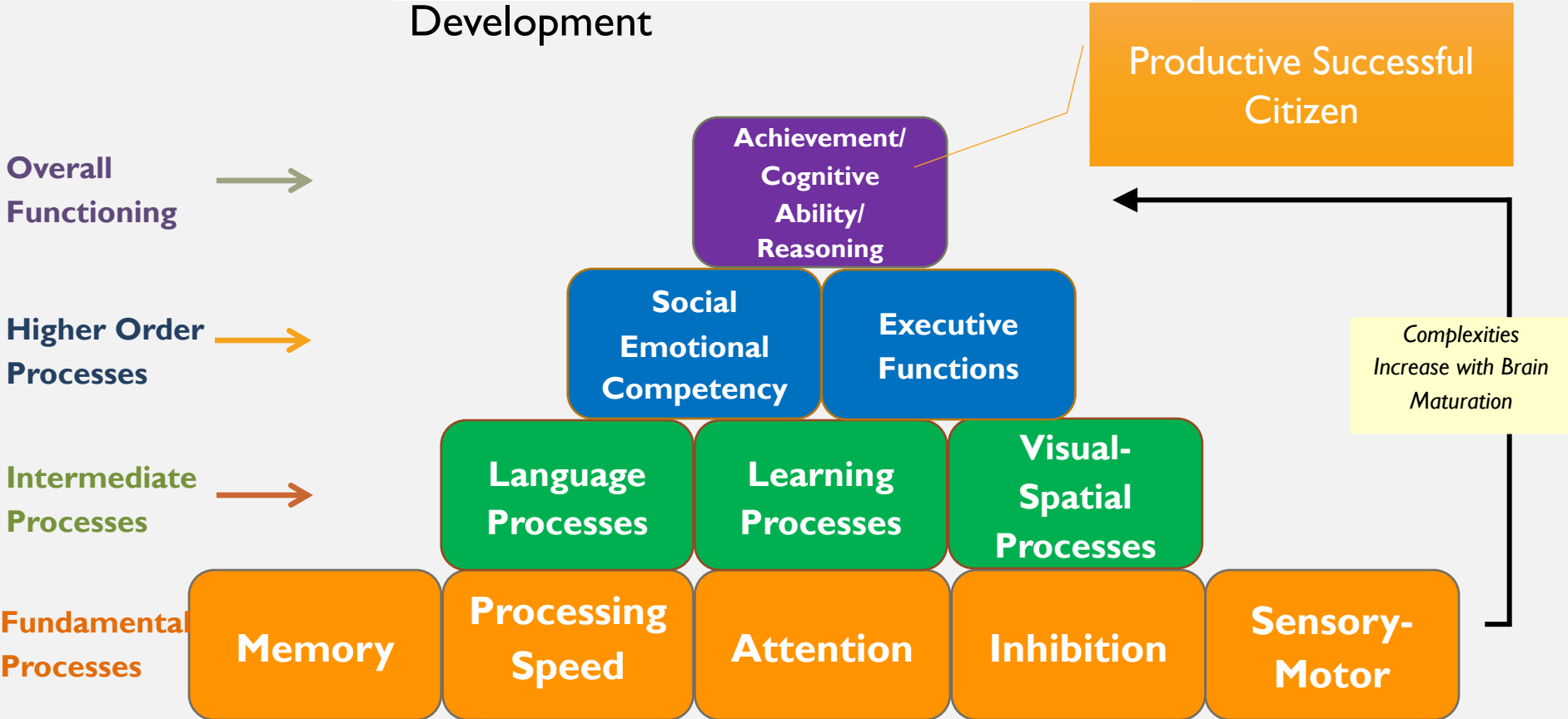
# CAN'T VERSUS WON'T

- Mitigating factors?
- Treatment implications
- TBI courts
- Mental Health Courts
- Problem-Solving courts





# Hierarchy of Neurocognitive Development



CO Brain Injury Steering Committee: Adapted from Miller, 2007; Reitan and Wolfson, 2004; Hale and Fiorello, 2004

# CONSEQUENCE-BASED STRATEGIES

Thus, behavior management techniques can be classified into two categories:

(1) antecedent strategies, which are used before a behavior occurs in an effort to prevent or elicit a behavior, and

**(2) 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.**



# ANTECEDENT MANAGEMENT

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(2) 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.

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

**Crisis Prevention instead of Crisis Management**

# COLLABORATIVE PROBLEM SOLVING CPS

People Do Well If They Can This is the most important theme of Collaborative Problem Solving: **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. That's because doing well is always preferable to not doing well.

## What's Your Explanation?

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

# GOING BEYOND FBA



## Functional Behavioral Assessment (FBA)

- Behaviors serve a function and have a purpose, usually:
  - To get something (e.g., attention, money, good grades, power, control)
  - To avoid/escape something (e.g., punishment, embarrassment, out of work)

Presupposes “will”

## Function of the Behavior

~~Attention~~

~~Memory~~

**Executive DYSFUNCTION:**

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

**Social INCOMPETENCE:**

- Inability to make better behavioral or social decisions.

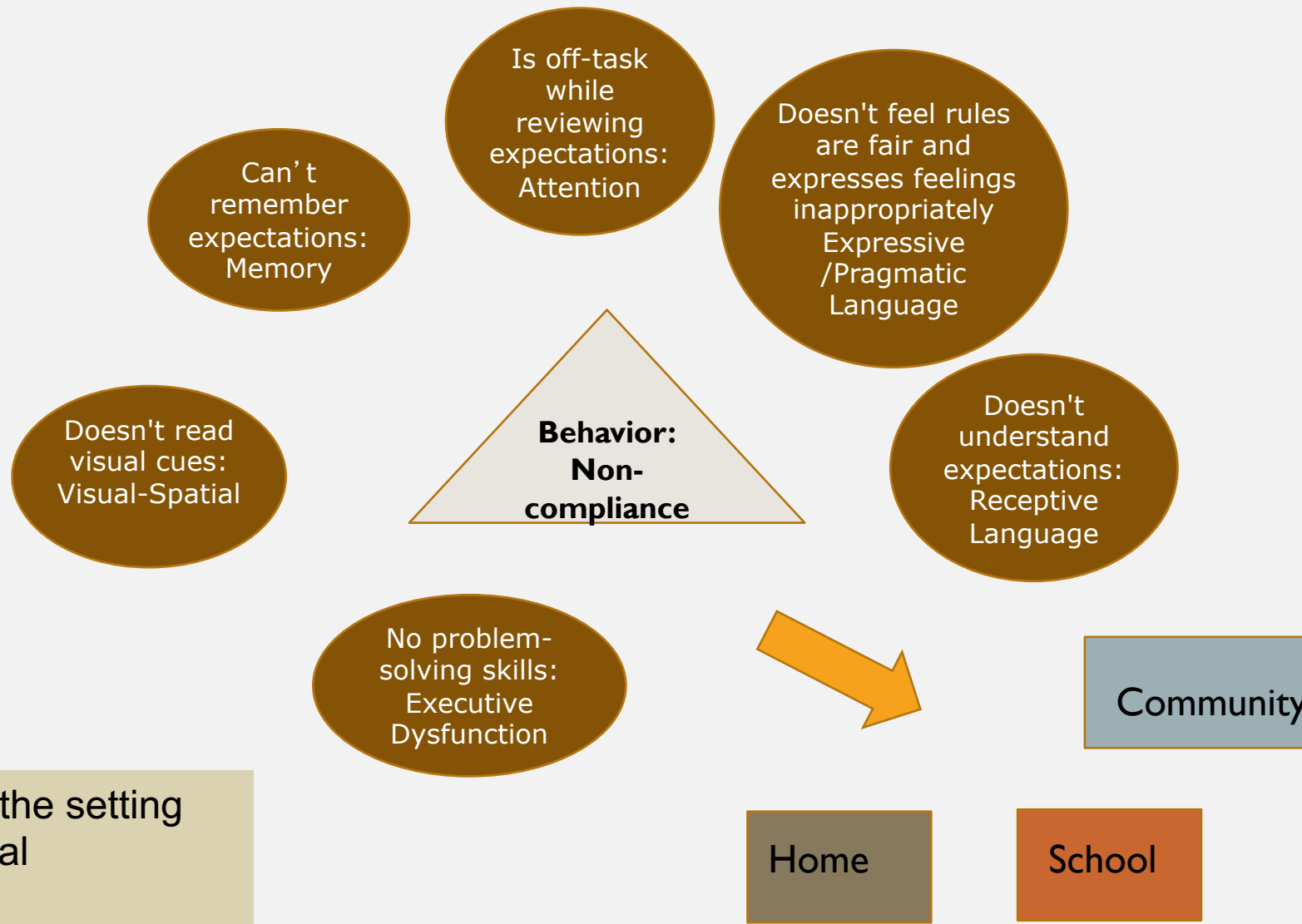
• Lack of attention to feedback in environment = poor MEMORY & poor LEARNING = repetitive mistakes



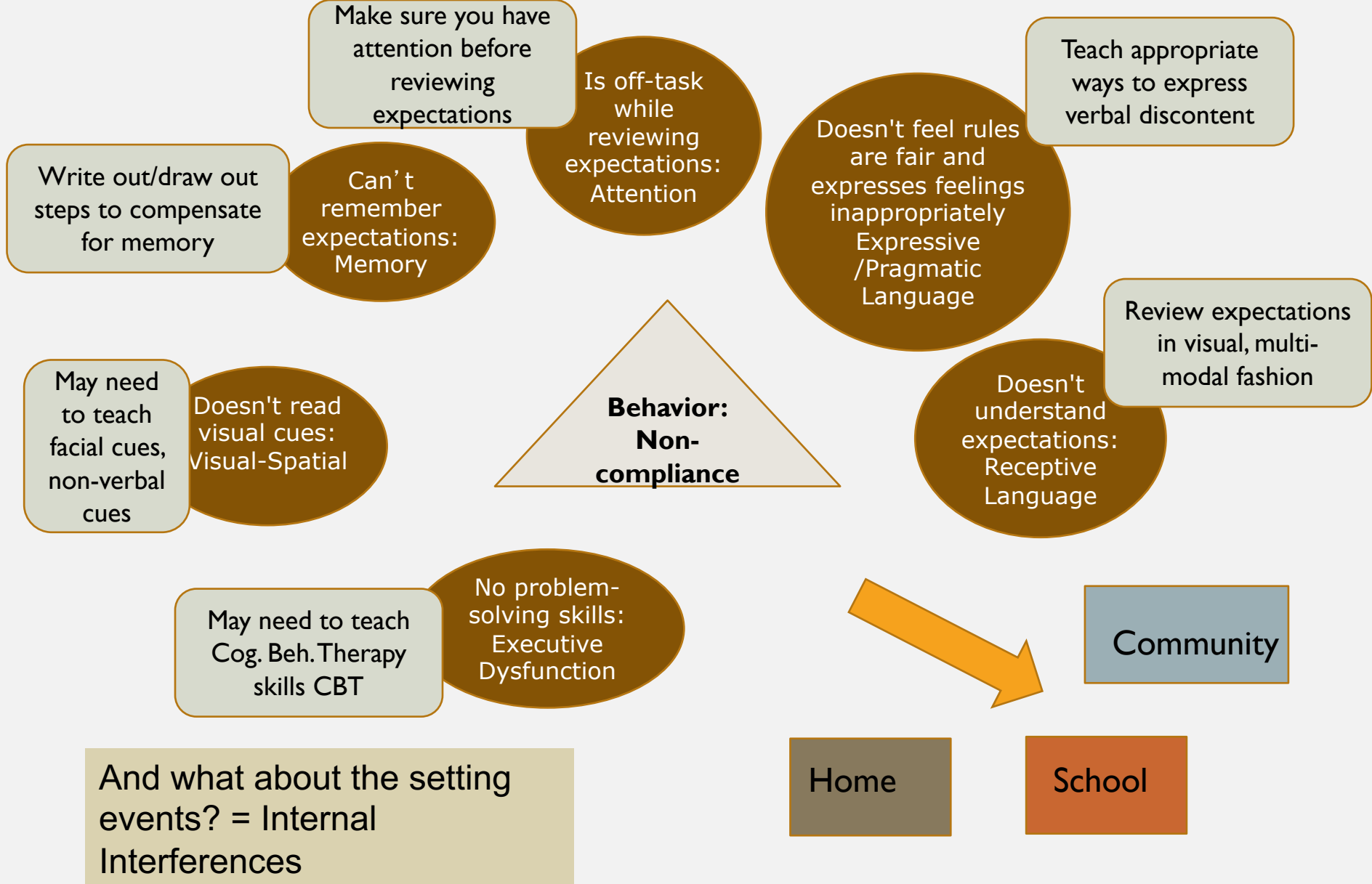
## WHAT DO YOU KNOW (SUSPECT) ABOUT YOUR STUDENT?

- 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 Abuse?





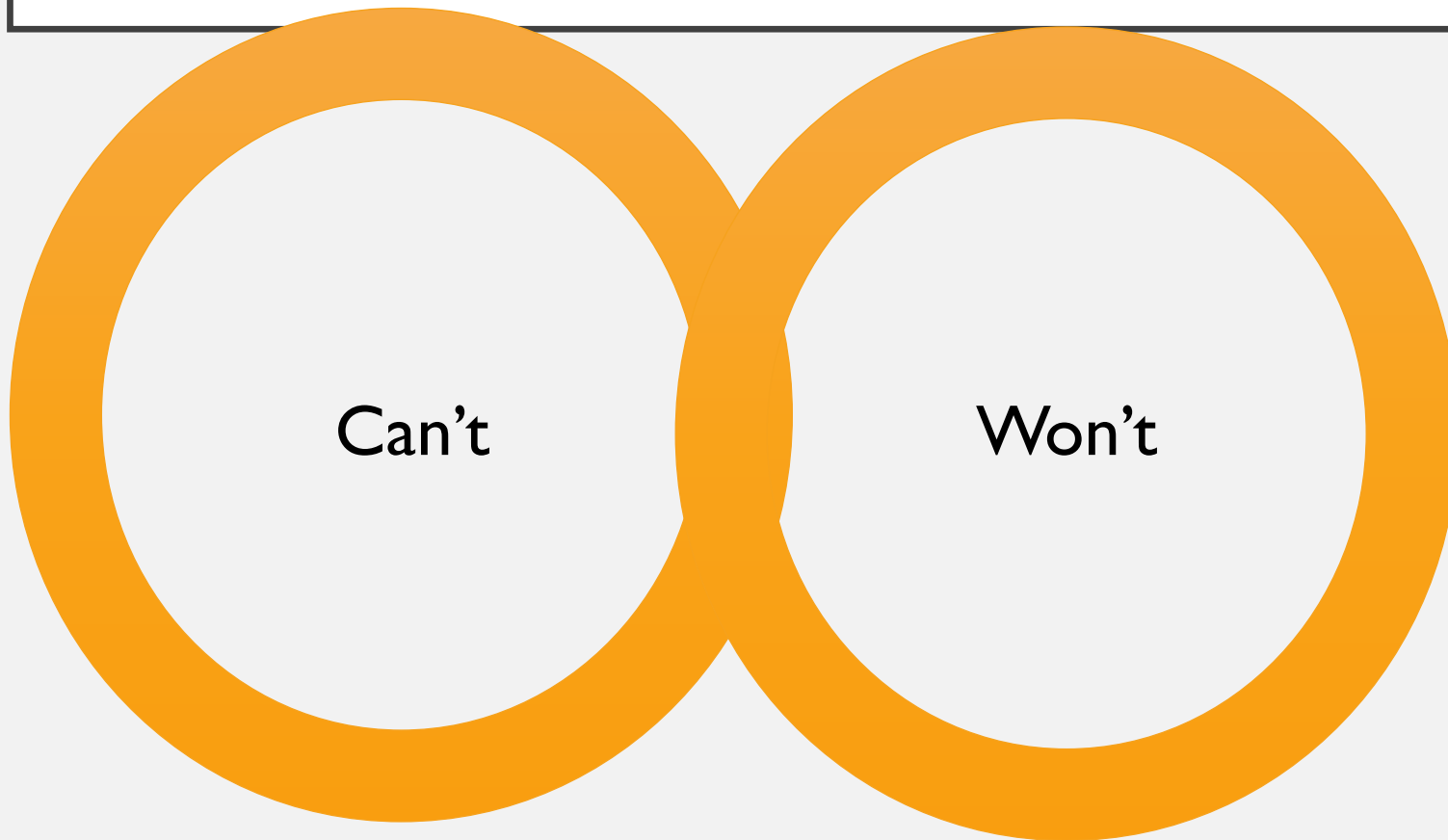
# FUNCTION OF THE BEHAVIOR



# FUNCTION OF THE BEHAVIOR

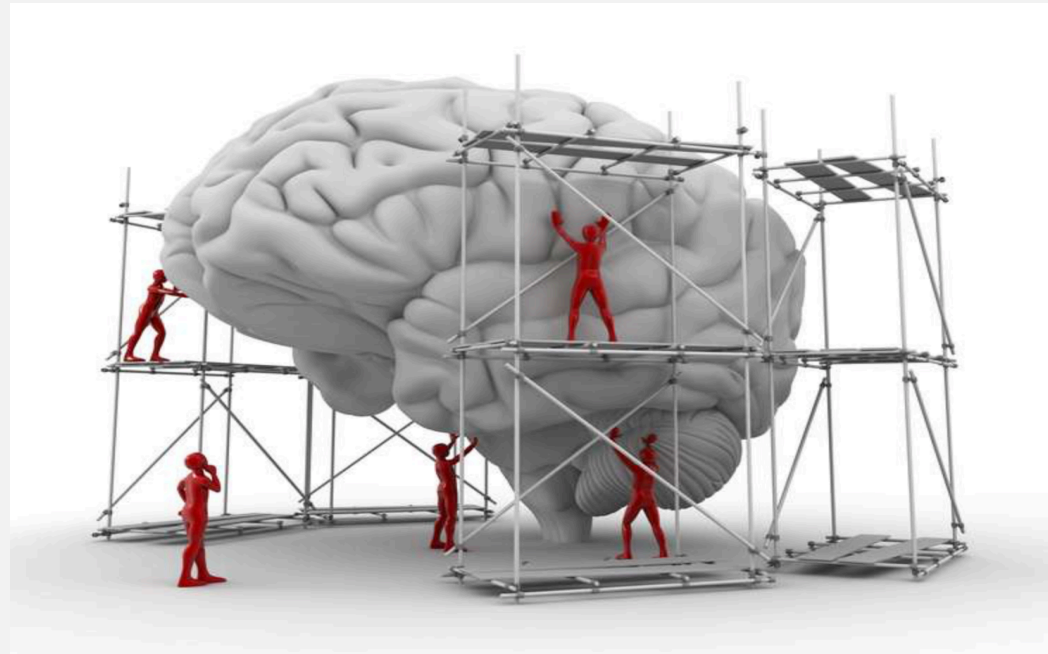






**Saving Face signifies a desire -- or defines a strategy -- to avoid humiliation or embarrassment, to maintain dignity or preserve reputation. Acknowledging a skill deficit requires courage – and trust of you and the system**

# QUESTIONS?



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## RESOURCES

- Centers for Disease Control: <https://www.cdc.gov/traumaticbraininjury>
- Website for Parents and Professionals: [www.COKidswithbraininjury.com](http://www.COKidswithbraininjury.com)
- Brain Injury Manual for Educators: <http://www.cde.state.co.us/cdesped/SD-TBI.asp>
- Brain Check Survey: <http://www.lobi.chhs.colostate.edu/index.aspx>
- Brainline & Brainline Kids - [http://www.brainline.org/landing\\_pages/features/blkids.html](http://www.brainline.org/landing_pages/features/blkids.html)
- Greene (2016) Lost and Found: Helping Behaviorally Challenging Students (and, While You're At It, All the Others)
- Dawson and Guare (2012) Coaching Students with Executive Skill Deficits
- Dawson and Guare (2010) Executive Skills in Children and Adolescents