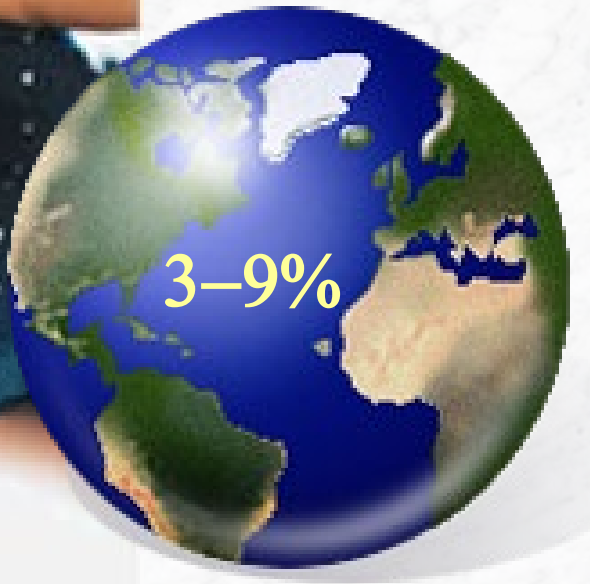


ADHD: Etiology & DX

Jodi Morstein, PhD, APRN
Associate Professor (Clinical)
Behavioral Health





AD/HD - Inattentive Type F 90.1

- Fails to give close attention to details or makes careless mistakes.

- Has difficulty sustaining attention.

- Does not appear to listen.

- Struggles to follow through on instructions.

- Has difficulty with organization.

- Avoids or dislikes tasks requiring sustained mental effort.

- Loses things.

- Is easily distracted.

- Is forgetful in daily activities.

ADHD



AD/HD - Hyperactive/Impulsive Type F90.2

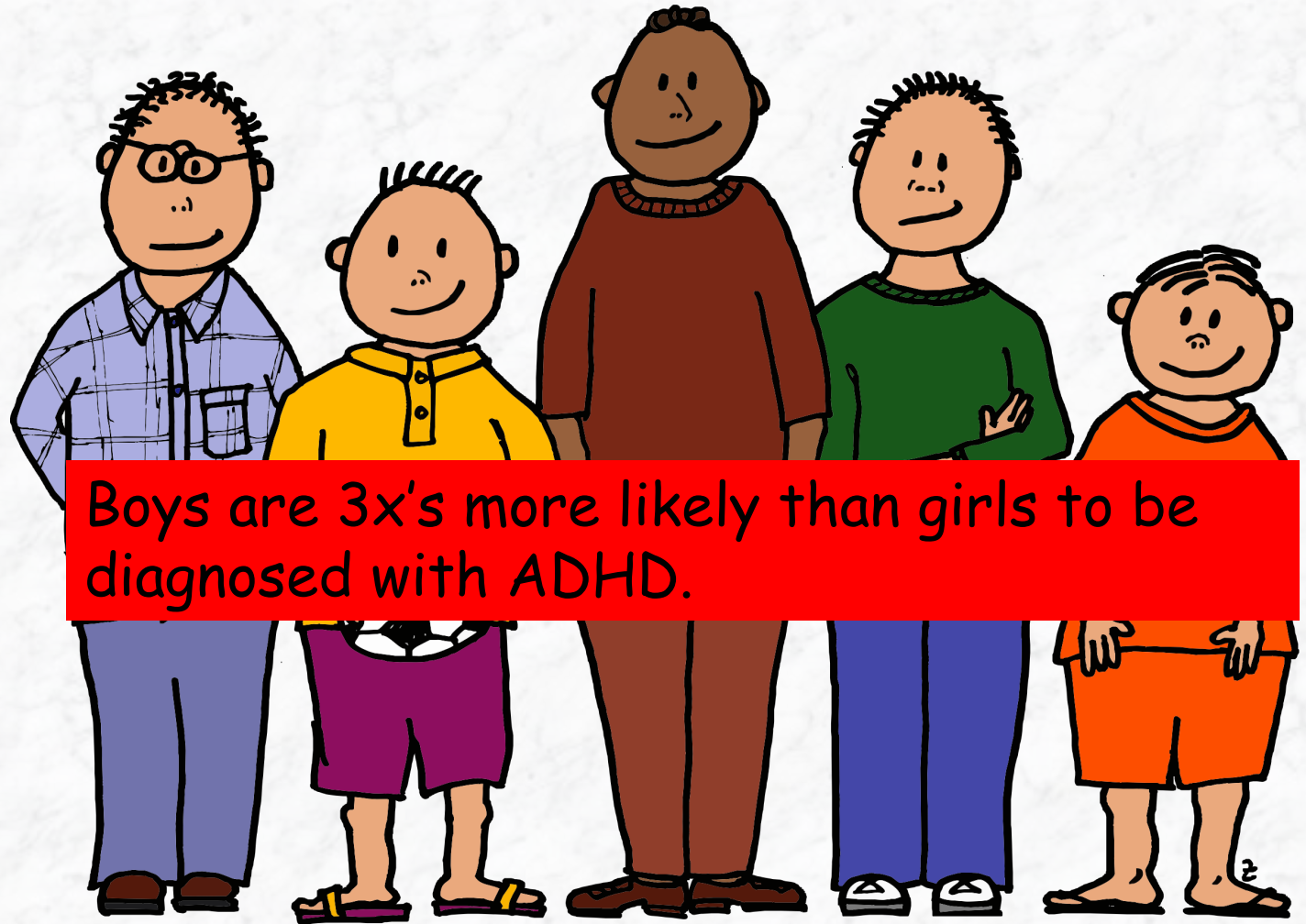
- Fidgets with hands or feet or squirms in chair.
- Has difficulty remaining seated.
- Runs about or climbs excessively in inappropriate situations.
- Difficulty engaging in activities quietly.
- Acts as if driven by a motor.
- Talks excessively.
- Blurts out answers before questions have been completed.
- Difficulty waiting or taking turns.
- Interrupts or intrudes upon others.



4% Girls Pre-school
8% Boys Pre-school

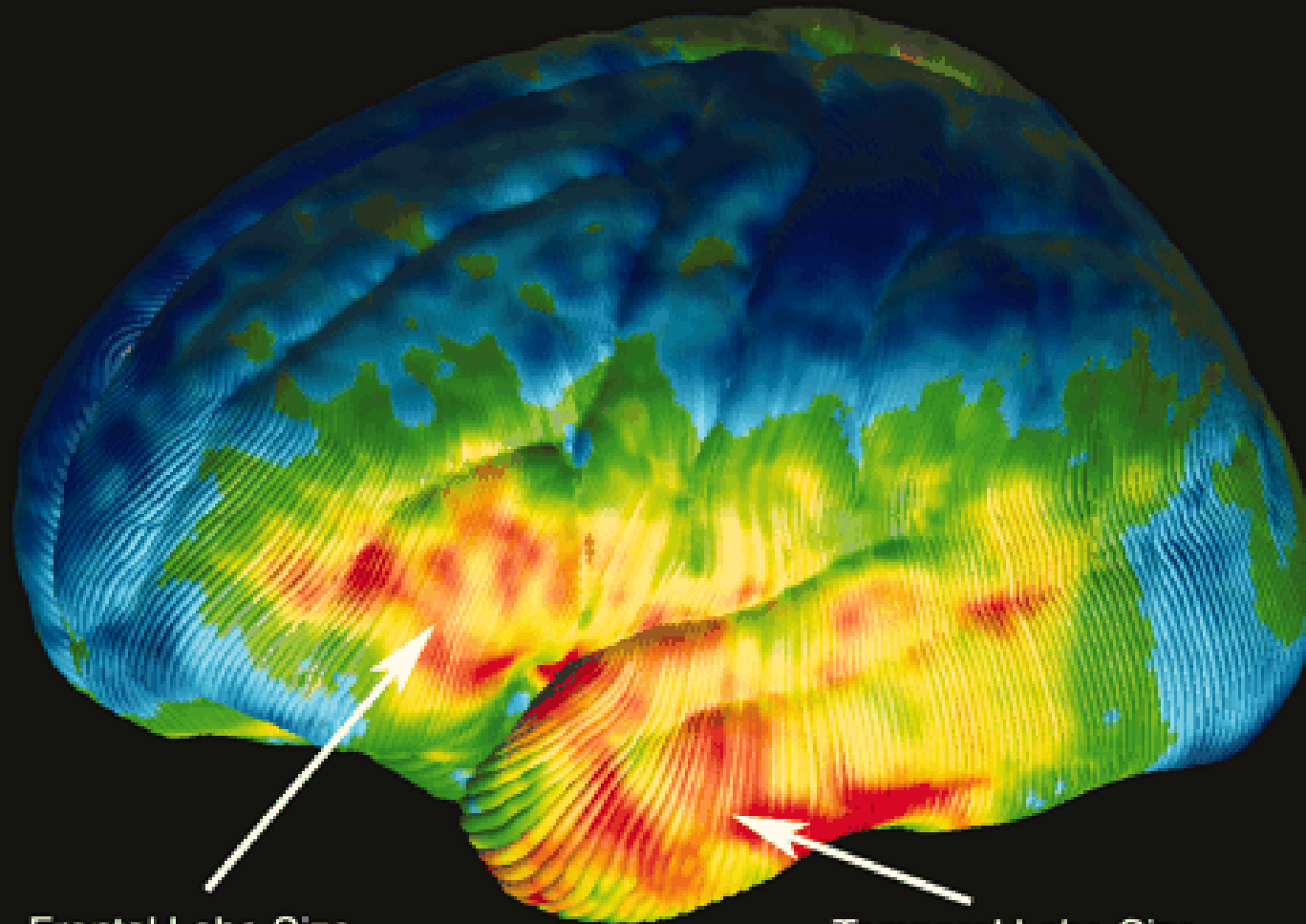
2-4% Girls 6-12
6-9% Boys 6-12

Hyperactivity - early
Inattention - 4th-5th grade



Genetics...

- 10-35% of immediate family members
- 32% of siblings
- If parent has ADHD -57% chance child will too
- Twin studies - heritability .75-.97
- Multiple Genes



Frontal Lobe Size
Reduction in ADHD

Temporal Lobe Size
Reduction in ADHD

Comprehensive Assessment

- Diagnostic Checklists - Mini Kid, Vanderbilt, Connors
- Family History/Medical History
- Complete Physical
- Academic Assessment
- Formal Testing - Brown Scales, WISC



An iceberg floating in the ocean. The tip of the iceberg, which is visible above the water, is labeled with the terms 'Hyperactivity' and 'Impulsivity'. The much larger, submerged part of the iceberg is labeled with 'Inattention'. A central text box is overlaid on the submerged part of the iceberg, listing various associated symptoms and conditions. The background is a blue sky and dark blue ocean.

Hyperactivity

Inattention

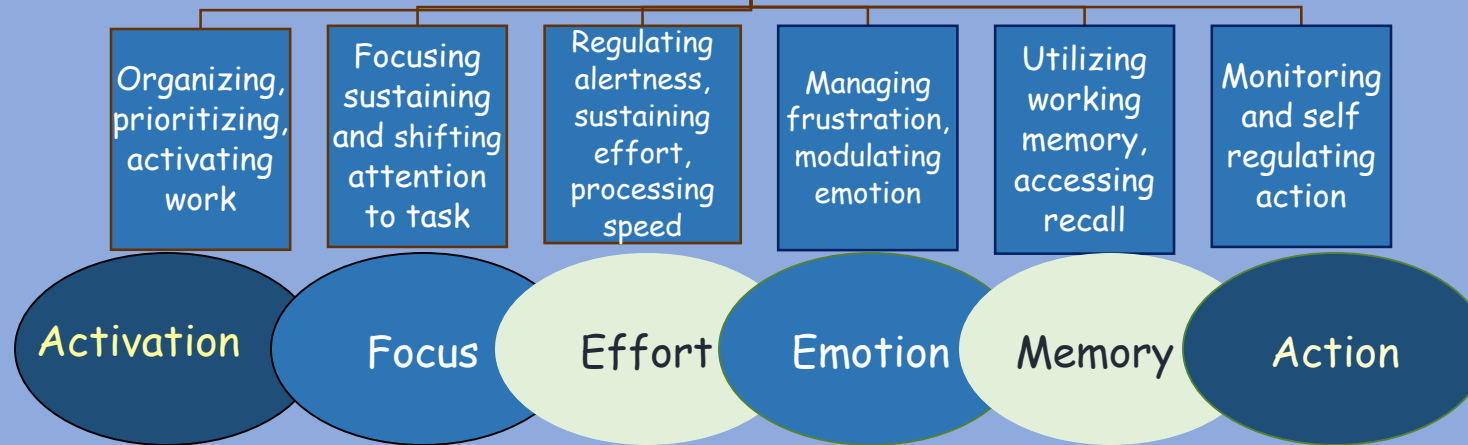
Impulsivity

Weak Executive Functioning
Impaired sense of Time
Sleep Disturbances (56%)
Developmental Delays - Social Maturity
Little learning from reward & punishment
Co-morbid Conditions (87%)
Learning issues
Low Frustration Tolerance

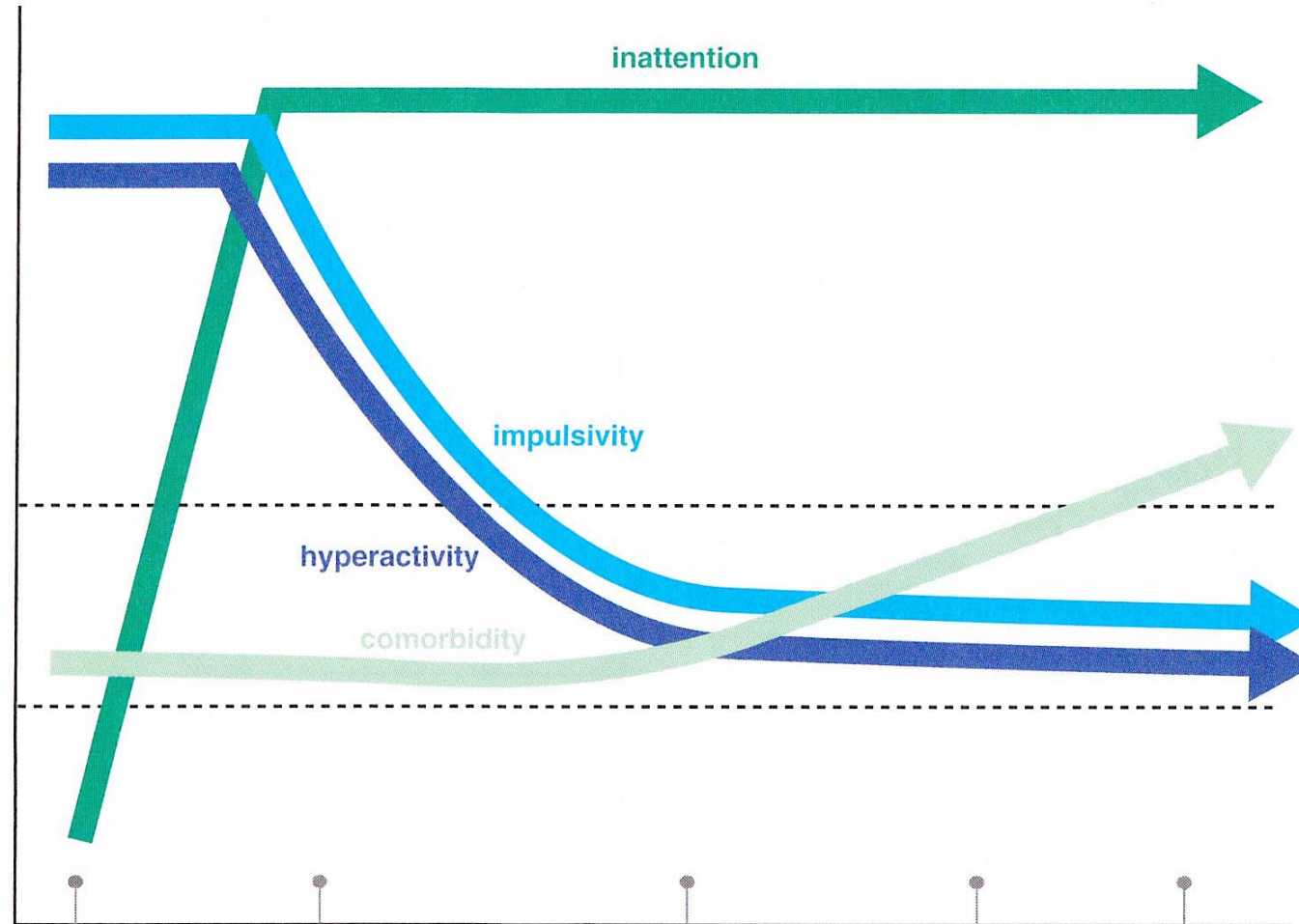
Ziegler-Dendy 2006

Executive Functions

(work together in various combinations)



Impact of Development on ADHD



preschool

behavioral disturbances

school age

- behavioral disturbances
- academic problems
- difficulty with social interactions
- self-esteem issues

adolescence

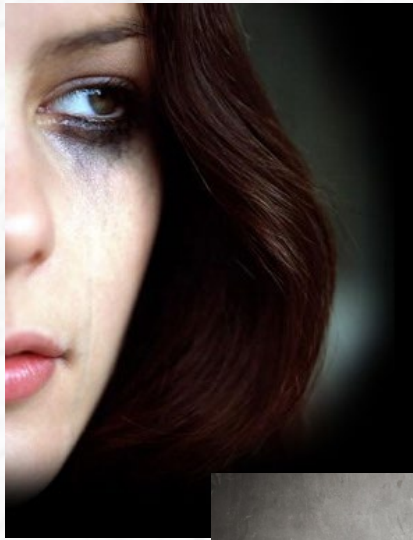
- academic problems
- difficulty with social interactions
- self-esteem issues
- legal issues, smoking and injury

college age

- academic failure
- occupational difficulties
- self-esteem issues
- substance abuse
- injury/accidents

adulthood

- occupational failure
- self-esteem issues
- relationship problems
- injury/accidents
- substance abuse

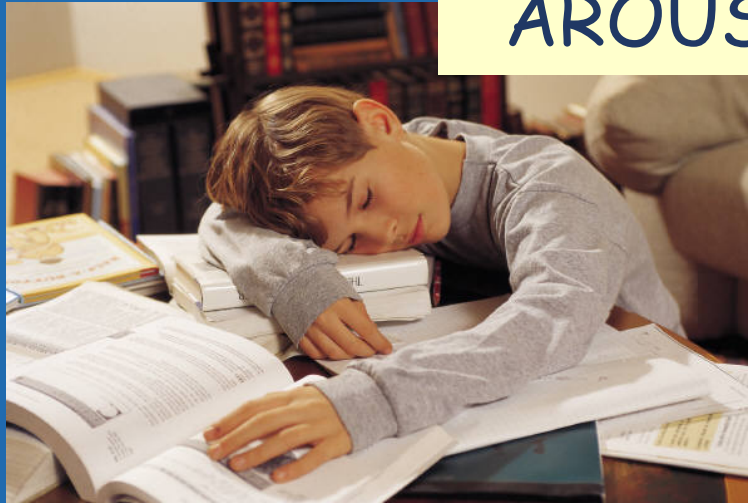


- Anxiety 34%
- Depression 29%
- Bipolar ?
- Tourette's 11%
- OCD 4%
- ODD 54-67%
- Conduct Disorder 22-43%

MOOD



AROUSAL



COGNITION

Norepinephrine



REWARD



MOVEMENT



COGNITION

Dopamine

NO



Significant Psycho-Social Treatment
or Intervention for treating ADHD
in over 25 years.