

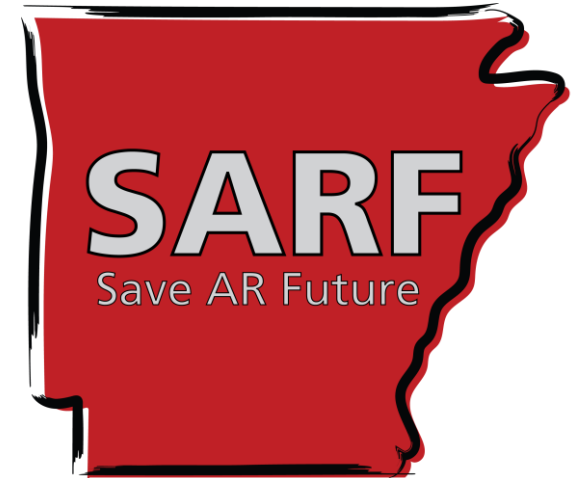
None for Nine's Seventh Annual Conference on Fetal Alcohol Spectrum Disorders

Michael Peterson, Andrew Peterson, and Craig Peterson

Elizabeth Cleveland, PhD, CCC-SLP

Elizabeth Pulliam, PsyD

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Leadership Education in
Neurodevelopmental
Disabilities:
Training Tomorrow's
Leaders

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The following planners and speakers of this CE activity have no relevant financial relationships with ineligible companies to disclose:

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Andrew Peterson

Elizabeth Cleveland, PhD, SLP

Michael Peterson

David Deere, LCSW

Elizabeth Pulliam, Psy.D.

Craig Peterson

The accreditation compliance reviewer, Courtney Bryant, has no financial relationships with ineligible companies to disclose.

Accreditation and Credit Designation Statements

Accreditation Statement

In support of improving patient care, University of Arkansas for Medical Sciences is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

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The University of Arkansas for Medical Sciences designates this live activity for a maximum of *5.0 AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ANCC Designation Statement

The University of Arkansas for Medical Sciences designates this live activity for a maximum of 5.0 ANCC contact hours. Nursing contact hours will be awarded for successful completion of program components based upon documented attendance and completion of evaluation materials.

Continuing Education

A survey will be available at the end of the day. On the survey, please indicate the following:

- Healthcare: 5.0 CE units
- Long-Term Care: 4.5 CE units
- Early Childhood: 4.5 CE units
- Education: 4.5 CE units
- Foster Families: 4.5 Clock hours



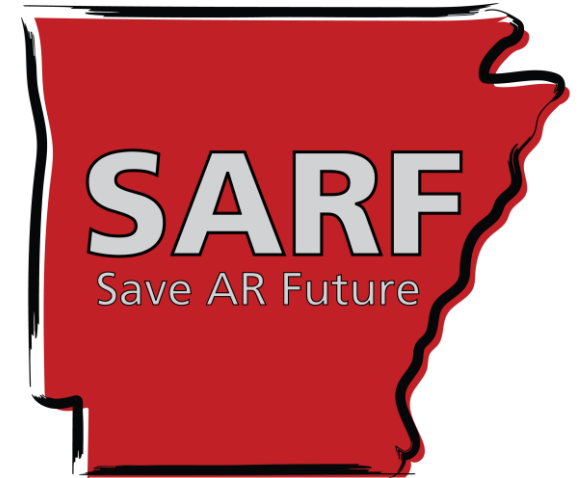
FASD Proclamation

Representative Ferguson

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Peterson Presentation

Thank you to our sponsors!



Leadership Education in
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Lunch Break 11:40-12:10

Check out our sponsors and other resources!



Arkansas Chapter



Leadership Education in
Neurodevelopmental
Disabilities:
Training Tomorrow's
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The Conundrum of Cognition & Communication in the FASD Brain: What's Going On & What Can Be Done?

Elizabeth Cleveland, PhD, CCC-SLP

Co-Director, Specialty Diagnostic Resource Center

Director of Interdisciplinary Training, AR Leadership Education in Neurodevelopmental Disabilities

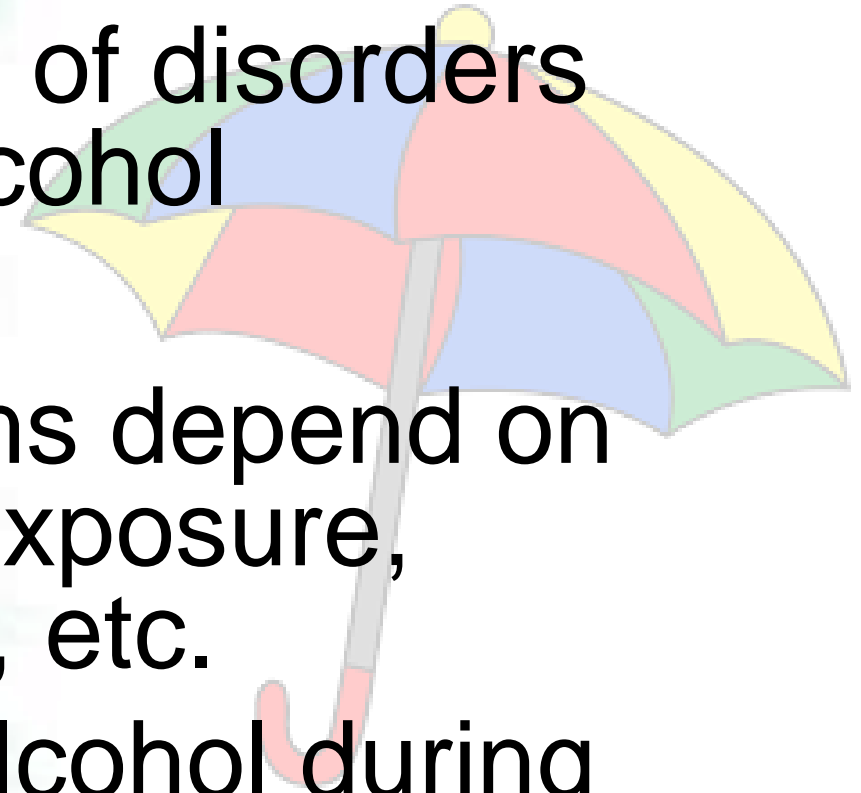
Assistant Professor, University of Central Arkansas

Objectives

- Explain the relationship between cognition, language, and communication in a neurotypical brain
- Describe common symptoms of prenatal exposure to various parts of the brain
- List helpful accommodations for the symptoms

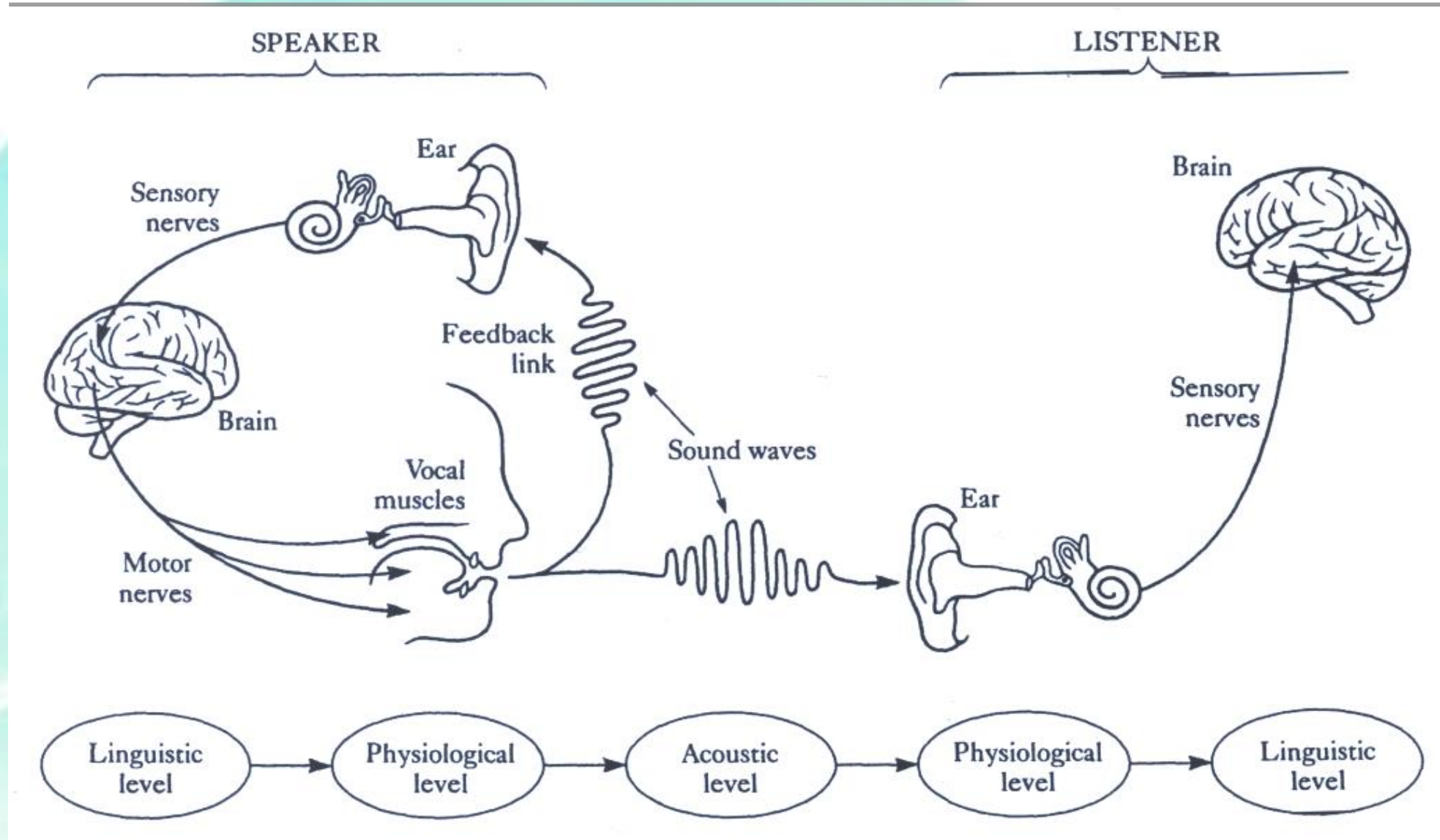
(Very Quick!) FASD Overview

- FASD describes the spectrum of disorders that arise after exposure to alcohol
- Alcohol kills developing cells
- Type of damage and symptoms depend on time of exposure, amount of exposure, metabolism, type of exposure, etc.
- There is NO safe amount of alcohol during pregnancy or while breastfeeding



In order to understand disorders, we must first understand “neurotypical”

Communication Chain



Lateral Brain

Frontal Lobe:
Motor movements,
higher-level
thinking, executive
functioning

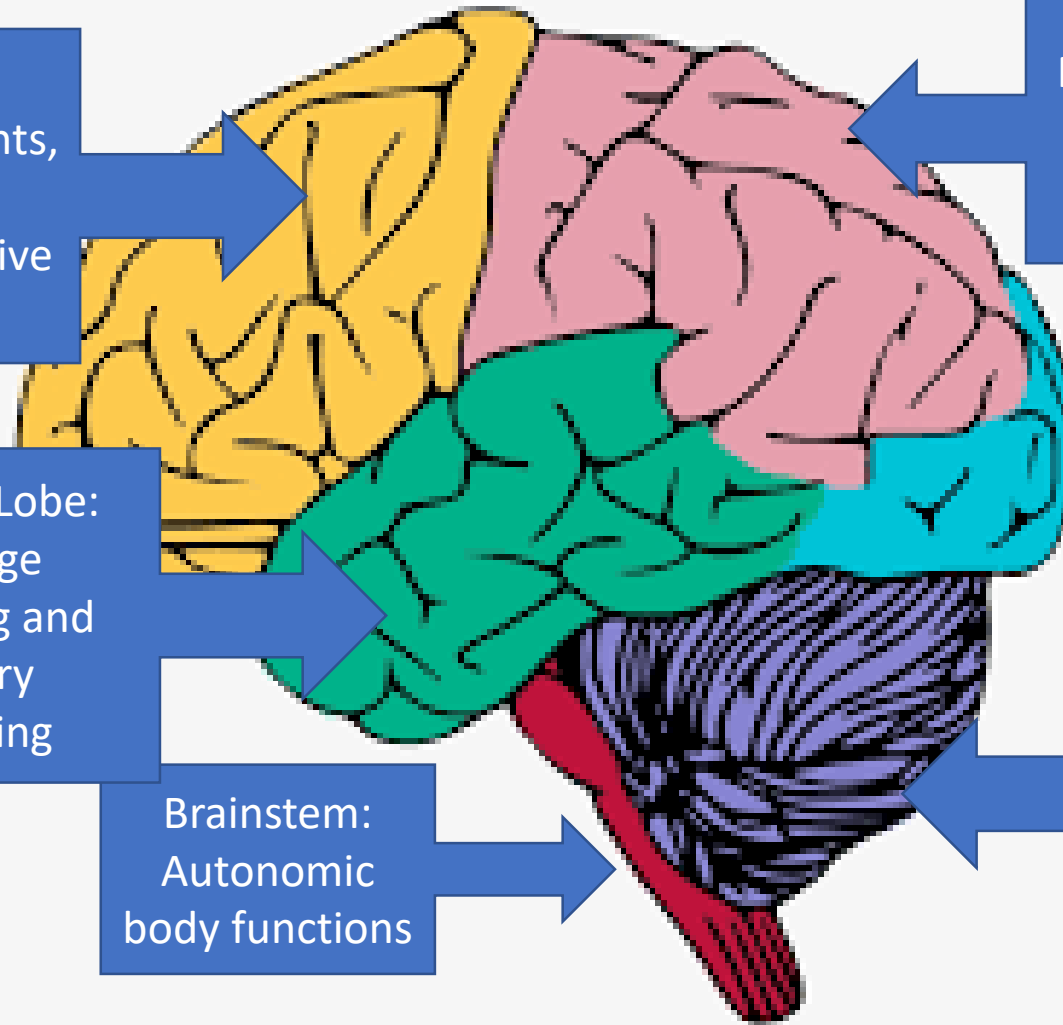
Temporal Lobe:
Language
Processing and
Auditory
Processing

Brainstem:
Autonomic
body functions

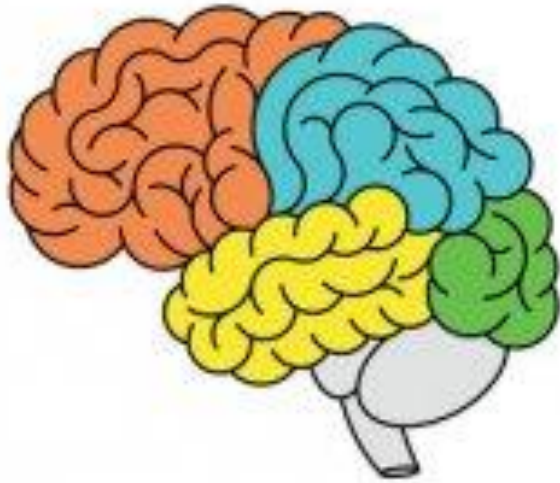
Parietal Lobe:
Sensory
Processing

Occipital Lobe:
Visual
Processing

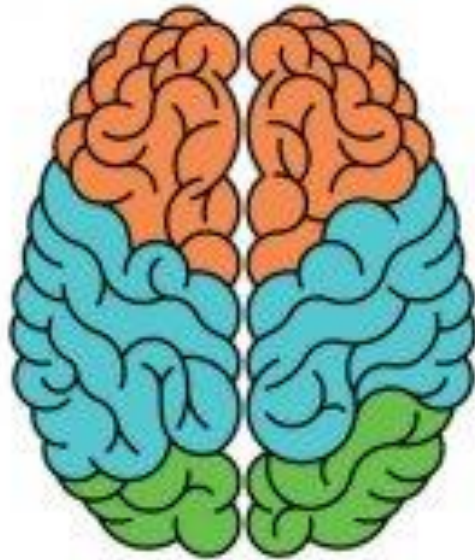
Cerebellum:
Coordination
of motor
movements
and balance



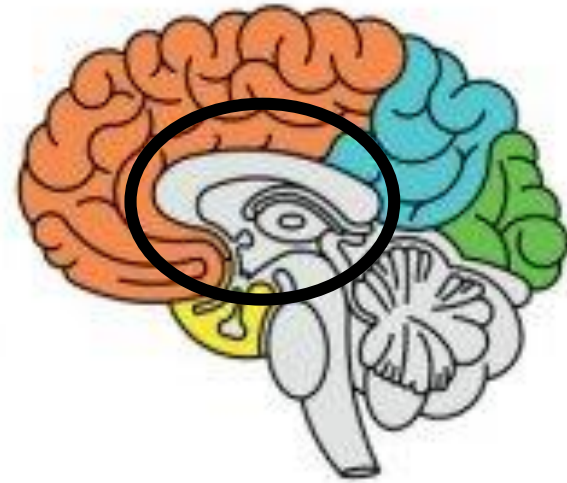
human BRAIN anatomy



side
view



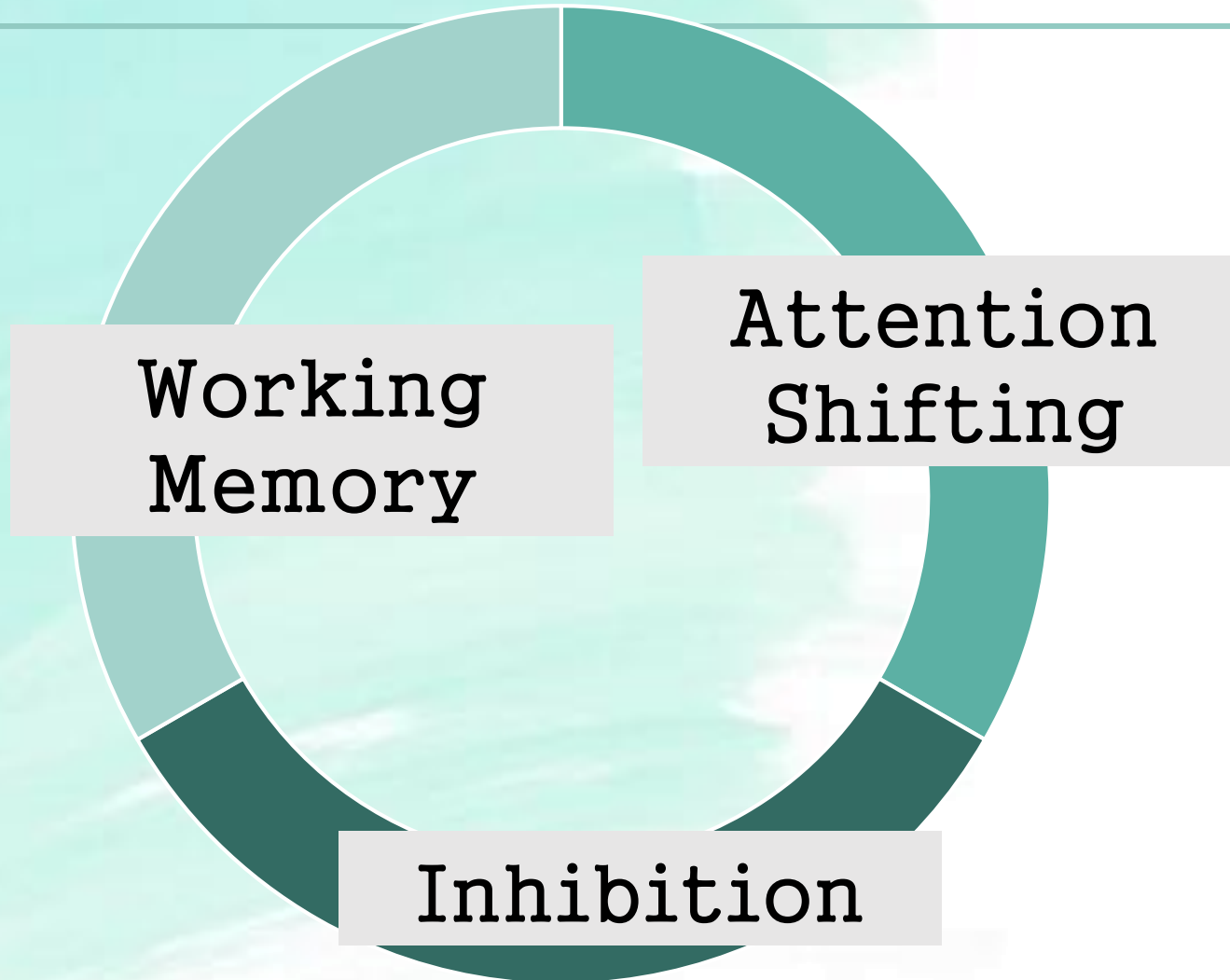
top
view



longitudinal
section

Executive Functions

(Baggetta & Alexander, 2016; White et al, 2017; Halse et al., 2019)



The Relationship Between Executive Function and Language (Bishop et al., 2014)

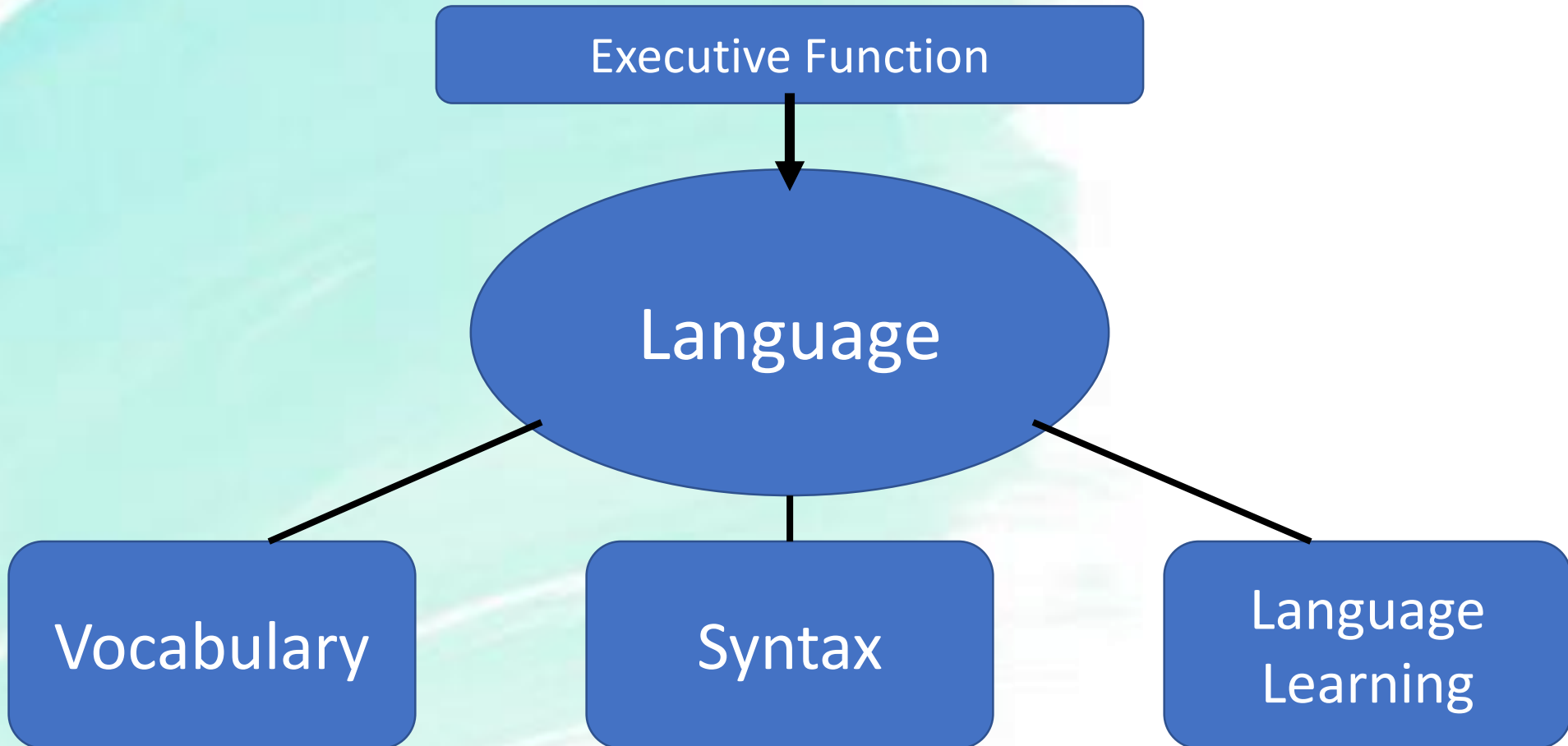
- Language abilities are naturally acquired and used without conscious effort or awareness.
- Executive function involves both deliberation and control.
- Language and Executive Function are related, but not interchangeable.
- Three possible relationships between executive function and language

The Relationship Between Executive Function and Language (Bishop et al., 2014)



Executive Function and Language in Children

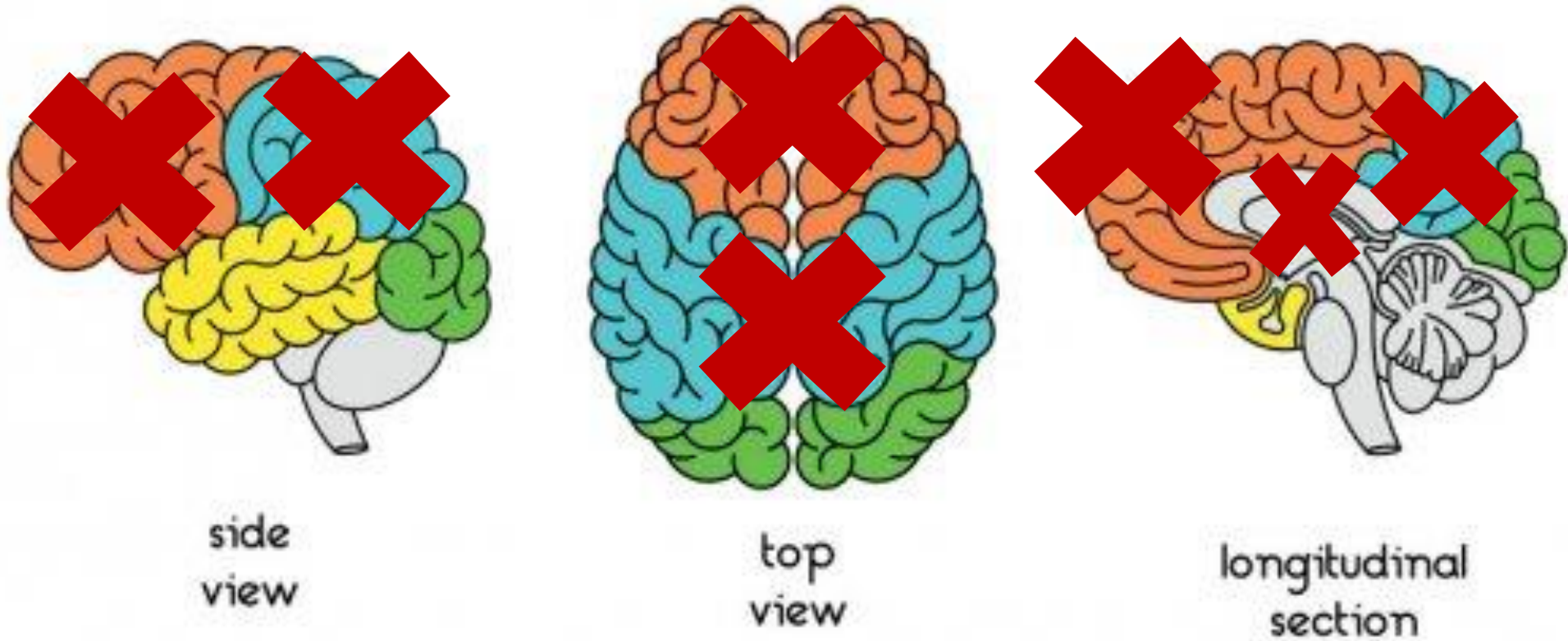
(White et al., 2017)



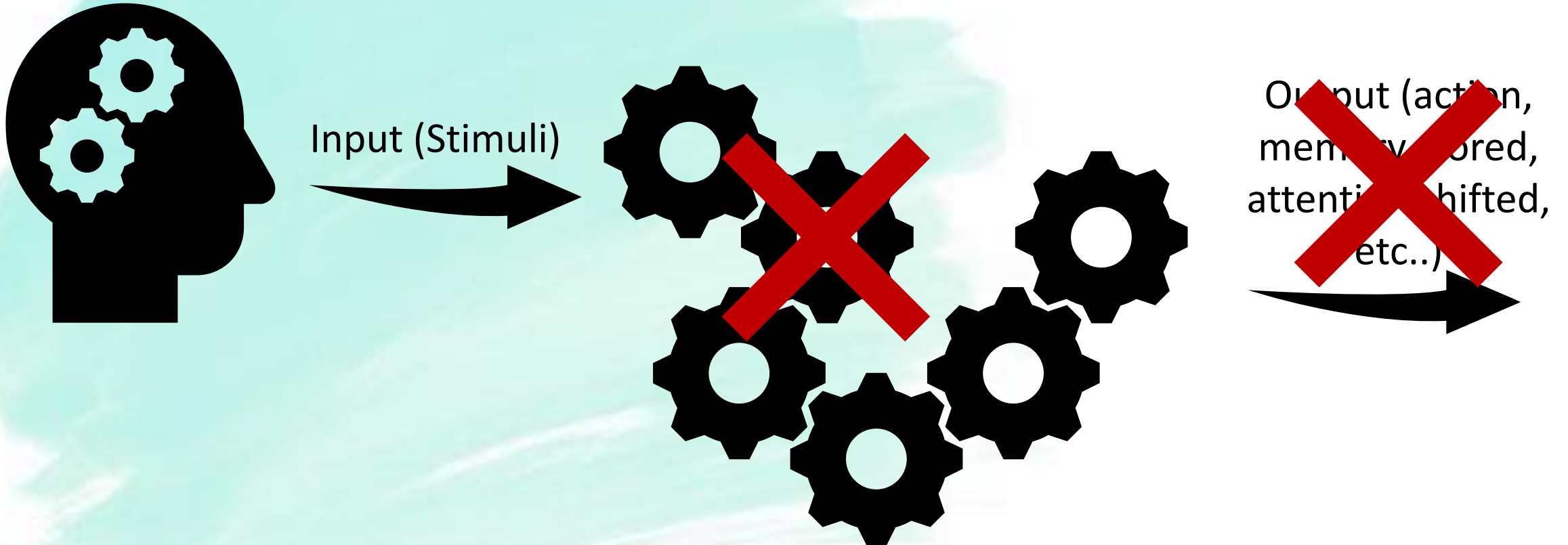
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Executive Dysfunction

Common Areas of Damage Due to Prenatal Alcohol Exposure



Cognition in Motion



Executive Dysfunction

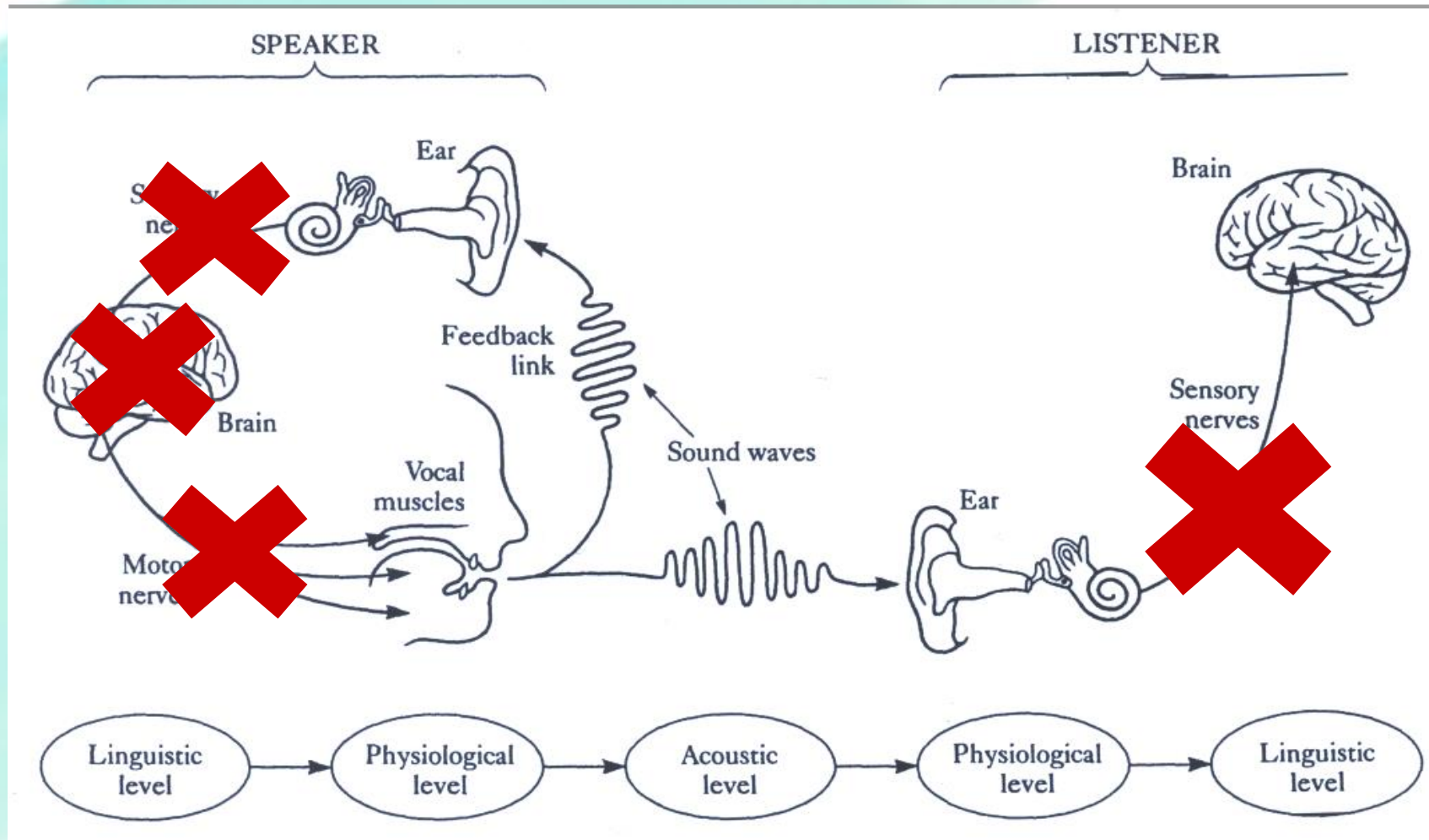
- The altered functioning of working memory, attention shifting, and inhibition control (Brocki & Bohlin, 2004).
- Causes characteristics like:
 - Inattention
 - Impulsivity (verbal and physical)
 - Working memory deficits



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Neurodiversity with FASD

Communication Chain with FASD



Common Misconceptions About FASD (These are untrue!)

- All children with FASD have low IQ and low language skills
- Children who speak okay must not have language dysfunction
- Children who are only mildly delayed do not *really* have a language problem
- If children with FASD are given extra time, they will perform on a neurotypical level
- If a child has a “normal” IQ, their memory must be intact

Some things to consider

- IDD can be a protective factor. Most individuals with FASD have typical IQ scores
- Individuals with FASD often have higher expressive language skills than receptive language skills
- Emotion can impact all other cognitive skills

Executive Dysfunction in FASD

(Kodituwakku et al., 2001; Astley et al., 2009; Mattson et al., 2019; McLaughlin et al., 2019)



Cognition-
Based
Executive
Function

Emotion-
Based
Executive
Function

Common Impacting Factors on Communication with Individuals with FASD

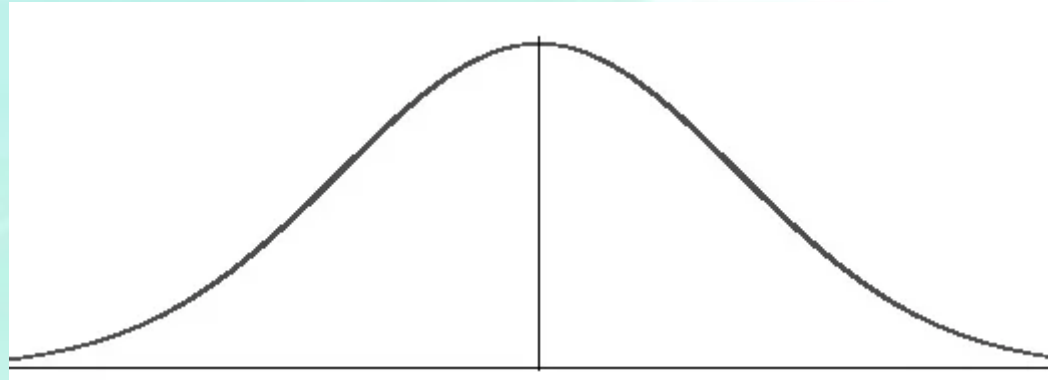
- Attention Deficit
- Difficulty understanding
- Difficulty following directions
- Difficulty working/ doing school work
- Inappropriate responses in conversation
- Pragmatic (social skills) impairment

Common Impacting Factors on Communication with Individuals with FASD

- Impulsivity
- Interruptions
- Difficulty in following turn-taking in conversation
- Pragmatic impairment
- Unintended violent characteristics
- Individuals tend to get in trouble more often than individuals that are not impulsive

Common Impacting Factors on Communication with Individuals with FASD

- Mild (or more) Language Impairment



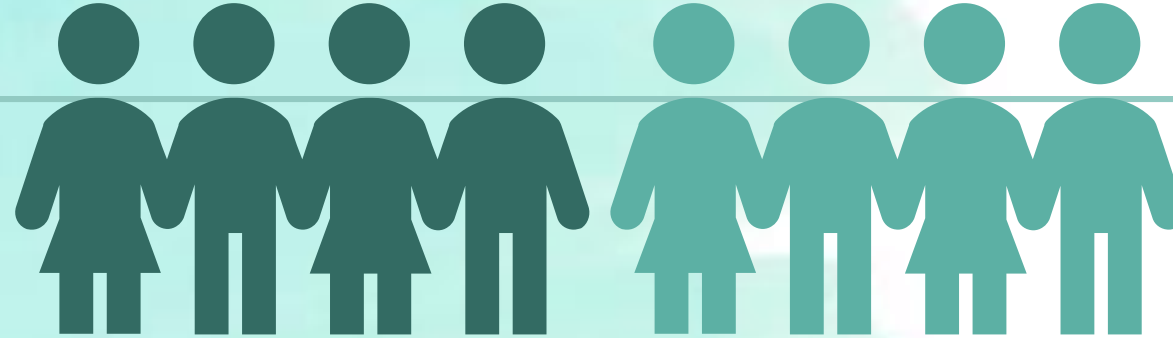
- Difficulty understanding and expressing
- Shutdowns/ silence due to not wanting to say the wrong thing

Common Impacting Factors on Communication with Individuals with FASD

- Pragmatic Impairment
- Often makes friends easily, but are unable to keep them (especially in younger children)
- Difficulty understanding abstract and non-verbal language
- Increase in anxiety and depression

Working Memory in FASD

(Cleveland et al., 2020)



- FASD group had significantly lower language skills than the neurotypical group, but not low enough to qualify them for speech therapy in the public-school setting
- FASD group had significantly lower working memory scores than the neurotypical group
- Time had *no significant effect* on working memory scores in either group
- The FASD group *did not* process significantly slower than the neurotypical group, even though their scores were lower

Working Memory Storage Capacity

Questions 1-3

2 item

Results_Q

Mean _a —Mean _b	t	df	one-tailed
-0.1218	-1.08	20	0.1464975

Questions 4 -6

3 items

Results_Q

Mean _a —Mean _b	t	df	one-tailed	two-tailed
-0.1518	-0.87	20	0.032667	0.065334

This finding is not significant**

Questions 10-12

5 items

Results_Q

Mean _a —Mean _b	t	df	P	one-tailed	two-tailed
-0.4245	-2.94	20		0.004048	0.008096

This finding is significant**

items

Questions 7-9

Results_Q

Mean _a —Mean _b	t	df	P	one-tailed	two-tailed
-0.2418	-1.33	20		0.198488	0.198488

This finding is not significant**

Mean _a —Mean _b	t	df	P	one-tailed	two-tailed
-0.1518	-0.87	20		0.1973115	0.394623

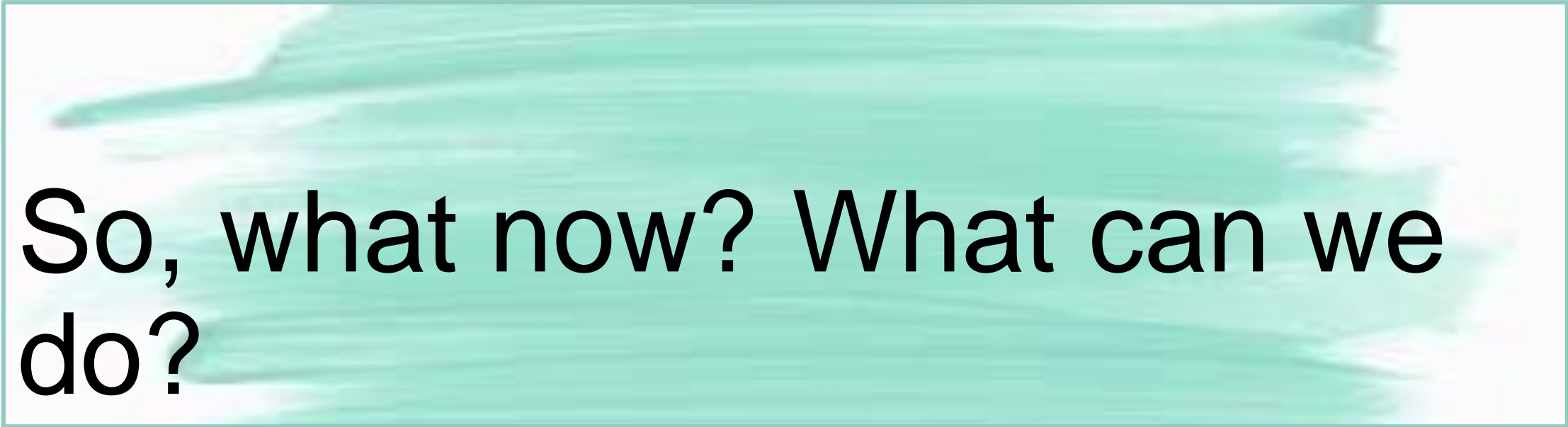
This finding is not significant**

Summary of Findings

- Difficulty with processing information may not be because of slower processing, but *less capacity* for storing information
- When less storage capacity, lower language skills, and lower working memory skills are combined, the result can make learning extremely difficult without intervention.

Communication Tips for Individuals with FASD

- Make sure the individual is paying attention to you- don't expect communication if the individual is distracted
- Speak using accessible language- make things less complicated
- Respond in a non-judgmental way



So, what now? What can we do?

Common Accommodations for Children with FASD

(Note: these are solutions that *often* work. You may need additional support.)

- Following Directions
- Following School Schedules
- Impulsivity in answering questions on tests
- Interruptions in class
- Forgetting to turn in work
- Difficulty with transitioning
- Simple, one-step directions; speech therapy evaluation; visual cues
- Check list- words and/or pictures
- Reminders to review work/review with the teacher before work is graded
- “Talk Token”
- Reminder notebook to be checked by the teacher before and after each class
- Picture schedules, check lists, multiple reminders of what’s coming next



Tips for Encouraging Success for Individuals with FASD (and for every other individual)

- Remember the individual's strengths
- Stay away from reprimanding for symptoms the individual cannot control
- Lower the stimulation to encourage attention
- Think about how the *environment* can change, not how the individual can change

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Specialty Diagnostic Resource Center

Arkansas's Experts on FASD Diagnosis, Intervention, and Training

SDRC

- Interdisciplinary team of professionals
- Housed at UCA's new Integrated Health Sciences Building
- Funded by the Leadership Education in Neurodevelopmental Disabilities (LEND) Grant

What we do:

- Diagnostics for FASD
- Referrals to genetics, SLP, OT, PT, psychology, etc.
- Intervention: Individualized executive dysfunction intervention and group intervention for young adults
- Trainings: All over the country
 - Schools
 - Professionals
 - Families and self-advocates (monthly)
 - Agencies

How to get an appointment

- www.ArkSDRC.org
- appointment@ArkSDRC.org

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Questions?

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Pulliam Presentation

Fetal Alcohol Spectrum Disorders Annual Conference

Thursday September 9, 2021



For attendance & to begin the continuing education credit process please complete the survey by following one of the steps below:

Scan the QR code

OR

Go to this web address:

- <https://crisredcap.uams.edu/redcap/surveys/>
- Then enter this code: YTDKPAH9Y

A Credit Claim Form for CE certificate will be sent to the email provided