Southeast (HHS Region 4)

MHTTC Mental Health Technology Transfer Center Network

Funded by Substance Abuse and Mental Health Services Administration

Understanding executive functioning differences among autistic students with and without co-occurring ADHD

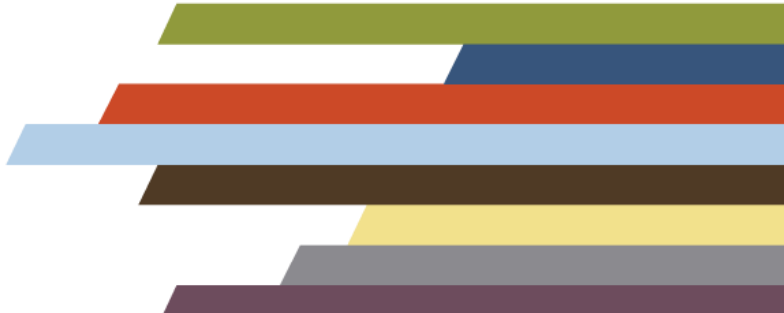
Katherine Pickard, PhD

Emory University School of Medicine

February 15, 2023

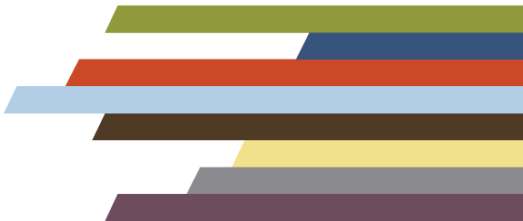
SAMHSA

Substance Abuse and Mental Health Services Administration



DISCLAIMER

The views, opinions, and content expressed in this presentation do not necessarily reflect the views, opinions, or policies of the Center for Mental Health Services (CMHS), the Substance Abuse and Mental Health Services Administration (SAMHSA), or the U.S. Department of Health and Human Services (HHS).



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The Southeast MHTTC is located at Emory University in the Rollins School of Public Health.

Our Mission: To promote the implementation and sustainability of evidence-based mental health services in the Southeastern United States.

Our Vision: Widespread access to evidence-based mental health services for those in need.

Our Services: We use a public health approach to build leadership capacity and to provide mental health trainings and resources to providers, agencies, and communities across the Southeast.

SAMHSA

Substance Abuse and Mental Health Services Administration

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Research and Clinical Interests

- Translating best practice interventions for autism into community settings.
- Extensive work within early intervention and public school systems.

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A Note on Identity First Language Use

Within our products on autism, we use *identity first* language.

We have made this decision:

- In response to the neurodiversity movement.
- Based on the preference of many autistic adults.
- In order to avoid the use of ableist language.

However, we recognize that this is not the preference of every individual or family and that many people continue to use person-first language.

Bottema-Beutel, K., Kapp, S. K., Lester, J. N., Sasson, N. J., & Hand, B. N. (2021). Avoiding ableist language: Suggestions for autism researchers. *Autism in Adulthood*, *3*(1), 18-29. Link: https://www.liebertpub.com/doi/full/10.1089/aut.2020.0014

Learning Session Objectives

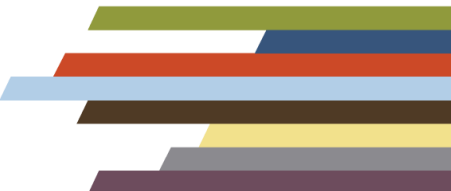
Part 1 of this webinar series will focus on common executive functioning differences in autistic students and how these differences relate to ADHD.

By the end of the learning sessions, participants will be able to:

1. Describe how often autism and ADHD co-occur.
2. Define executive functioning and its importance for autistic youth.
3. Know the executive functioning differences that are common in autistic youth and youth with ADHD.
4. Identify executive functioning differences among autistic youth within two case studies.

Polling Questions

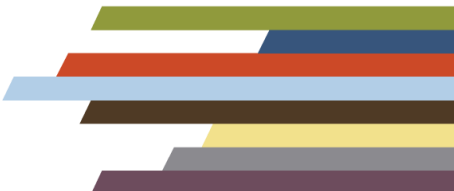
1. What is your professional role?
2. How much of your professional time do you spend working with autistic students?
3. How much of your professional time do you spend supporting the behavior and/or mental health of autistic students?
4. What is your familiarity with executive functioning differences in autistic students?



Toolkit for Supporting the Mental Health of Autistic Students

Roadmap for Executive Function Part 1

1. Overview of autism and ADHD
2. Definition of executive functioning
3. The importance of executive functioning for autistic children
4. Executive functioning challenges in autism, ADHD, or both.
5. Common executive functioning assessment tools
6. Case studies



Autism Spectrum Disorder

- A neurodevelopmental disorder characterized by early and persistent differences in both:

Social Communication

- Eye contact
- Conversation
- Relationships
- Perspective taking

Interests and Behavior

- Special interests
- Sensory differences
- Black-and-white thinking
- Repetitive behaviors

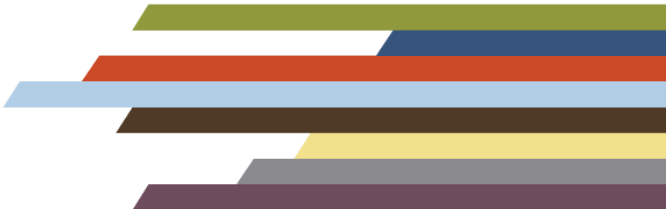
(American Psychological Association, 2013)

Autism Spectrum Disorder

- About 1 in 44 school-age children have autism
- About 4 times as many boys have autism
- Autistic children have varying support needs

Individualized services are recommended from an early age and across the lifespan in response to a changing profile of strengths and support needs.

(Lord et al., 2021; Maenner et al., 2021)



Prevalence of Mental Health Challenges in Autistic Individuals

Mental Health Category	Autism	General Population
ADHD	28%	7.2%
Anxiety	20%	7.3%
Depression	11%	4.7%
Bipolar Disorders	5%	0.7%
Schizophrenia	4%	0.4%

(Ghandour et al., 2019; Lai et al., 2019)

ADHD

- A neurodevelopmental disorder characterized by early and persistent differences in inattention and/or hyperactivity.
- Examples of symptoms include:

Inattention

- Makes careless mistakes
- Difficulty staying organized
- Does not follow instructions
- Loses items easily

Hyperactivity

- Often fidgets or moves about
- Has difficulty remaining quiet
- Is “on the go”
- Often interrupts others

(American Psychological Association, 2013)

Co-Occurring Autism and ADHD

- Prior to 2013, if a child had a diagnosis of autism, they could not also have a diagnosis of ADHD.
- In 2013, the Diagnostic and Statistical Manual, Fifth Edition (DSM-5) was released.
- There were significant changes to autism in the DSM-5, including that children could now have both autism and ADHD.

(American Psychological Association, 2013)

Research on Autism and ADHD

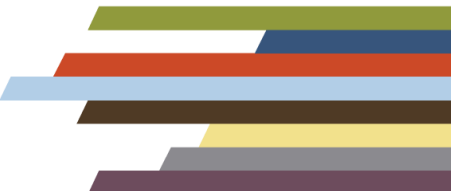
Changes in the DSM-5 opened the door for more research on overlapping characteristics in autism and ADHD.

This has included research on executive functioning, which is a primary and significant area of overlap.

(Antshel et al., 2019; Craig et al., 2016)

Polling Question

1. When you think of executive functioning challenges, what comes to mind?

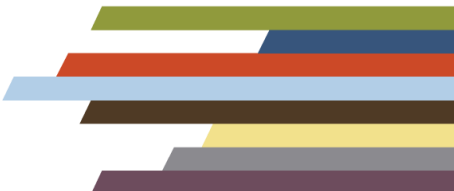


Executive Functioning: What it is

- Executive functioning is a set of “cognitive control” processes.
- These processes enable:

> “Self-regulation and self-directed behavior toward a goal, allowing us to break habits, make decisions and evaluate risks, plan for the future, prioritize what we do and cope with novel situations.”

(Miyake & Friedman, 2012; Craig et al., 2016)



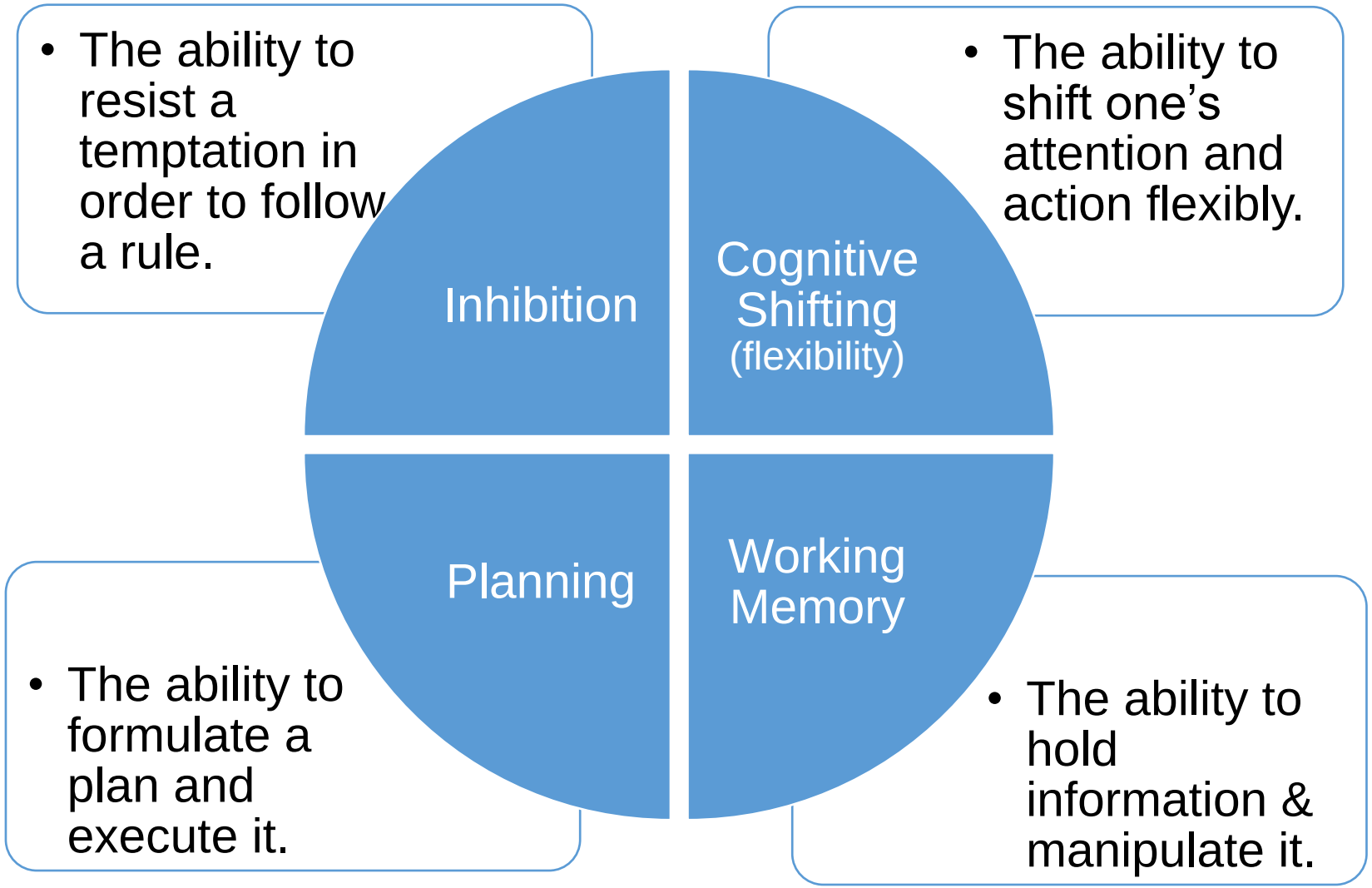
Case Study 1

Darnell is in the fifth grade. Darnell has autism and participates in General Education. He does well, but he does not like group work, and is quick to correct others if they don't follow the rules of the project. Peers are starting to make fun of him and call him the "rules police." Darnell does better during individual work. However, he needs support from his teacher to get started completing activities and reminders to stay on task. Without this support, Darnell will sit and stare at his work without starting. On the playground, Darnell is observed sometimes not responding to his peers when they talk to him and often joining in conversations in an off-topic way. His teachers are wondering which of his challenges are related to executive functioning and which may be related to autism.

Questions for Case Study 1

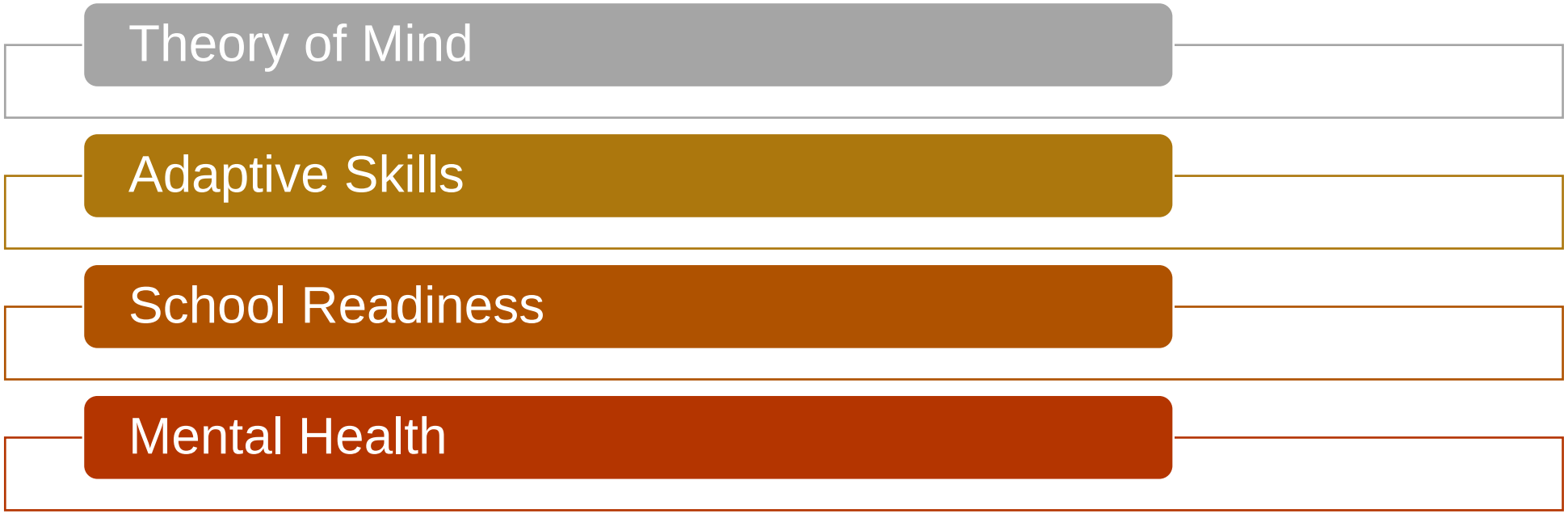
Based on what you already know, what executive functioning differences does Darnell have?

Executive Functioning: What it is



Executive Functioning: Why it Matters

Executive functioning skills are linked to all sorts of developmental outcomes for children with and without autism.



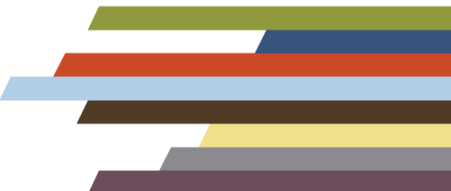
(Pellicano, 2012; Pugliese et al., 2015)

Executive Functioning: Why it Matters

- Executive functioning skills are linked to all sorts of developmental outcomes for children with and without autism.

  - Theory of Mind:
  - This skill allows individuals to read and respond to their social world.
  - We know that autistic youth have difficulty navigating a complex social world.
  - Executive functioning challenges exacerbate social challenges.

(Pellicano, 2012; Pugliese et al., 2015)

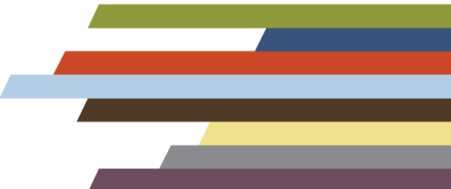


Executive Functioning: Why it Matters

- Executive functioning skills are linked to all sorts of developmental outcomes for children with and without autism

  - Adaptive skills:
  - These include skills related to self-help; planning and organization around meals; being able to schedule and access appointments; and working independently.
  - Autistic children who have executive functioning challenges may have greater difficulty independently learning life skills.
  - This makes them at greater risk to need support throughout their life.

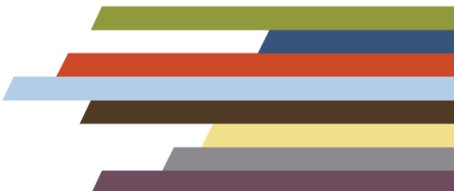
(Pellicano, 2012; Pugliese et al., 2015)



Executive Functioning: Why it Matters

- Executive functioning skills are linked to all sorts of outcomes for children with and without autism

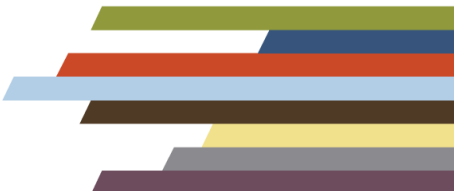
  - School Readiness and Performance:
  - For youth with and without autism, executive functioning is related to school readiness and academic outcomes
  - This is likely because school requires EF skills like being able to sit, inhibit the response to shout things out, make transitions, and remember things



Executive Functioning: Why it Matters

- Executive functioning skills are linked to all sorts of developmental outcomes for children with and without autism

  - Mental Health:
  - Autistic students with executive functioning challenges are more likely to have co-occurring anxiety and depression.
  - Challenges with mental health get in the way of friendships and school participation.



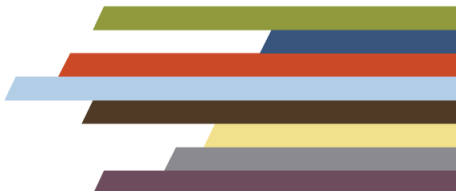
Executive Functioning Profiles

Both autistic children and children with ADHD have differences in executive functioning when compared to peers without autism and ADHD.

However, the executive functioning profiles of autistic children and children with ADHD are not the same.

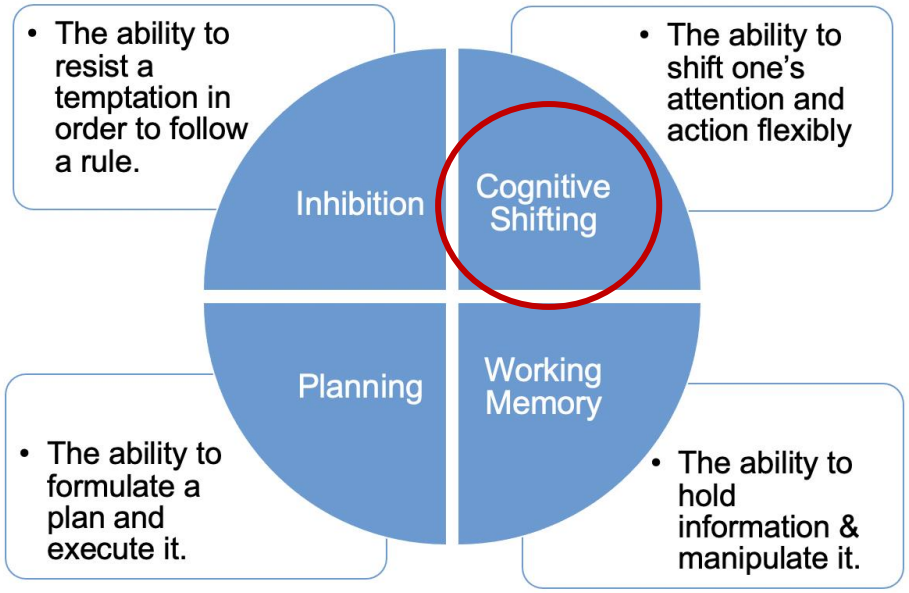
These differences can be helpful in distinguishing autism and ADHD, and in thinking about tailored school-based services and supports.

(Antshel et al., 2019; Craig et al., 2016; Happe et al., 2006; Karalunas et al., 2018)



Cognitive Shifting

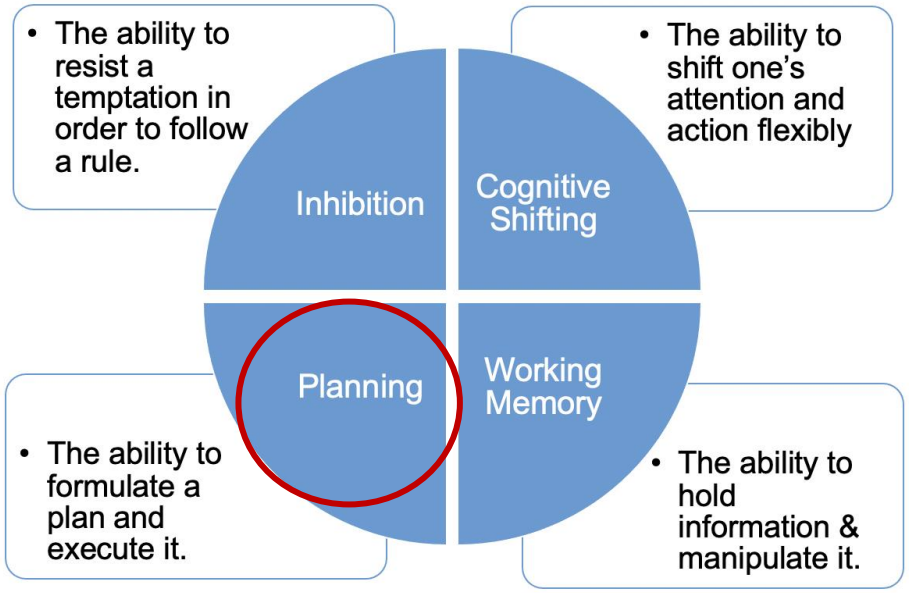
- Autistic students tend to have greater challenges with cognitive shifting than students with ADHD.
- Cognitive shifting differences could manifest at school as:
  - Difficulty with changes in routine.
  - Monitoring and sticking to the rules.
  - Having trouble flexibly shifting perspectives.



(Antshel et al., 2019; Craig et al., 2016; Happe et al., 2006; Wallace et al., 2016)

Planning

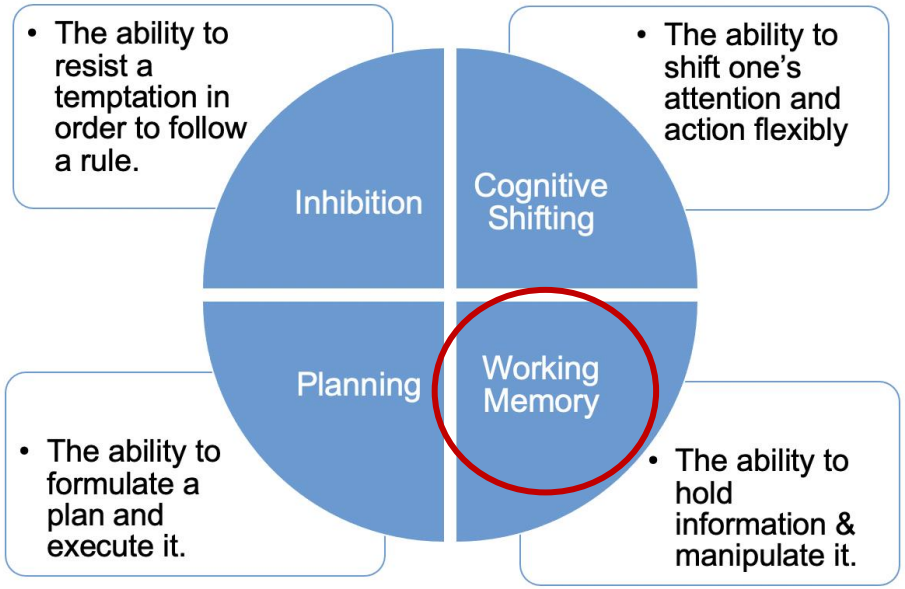
- Autistic students tend to have greater difficulty planning than students with ADHD.
- Planning differences could manifest at school as:
  - Difficulty knowing the steps needed to complete tasks at school.
  - Taking a while to get started on activities.
  - Needing reminders or visual supports to complete routines and activities.



(Antshel et al., 2019; Craig et al., 2016; Happe et al., 2006; Wallace et al., 2016)

Working Memory

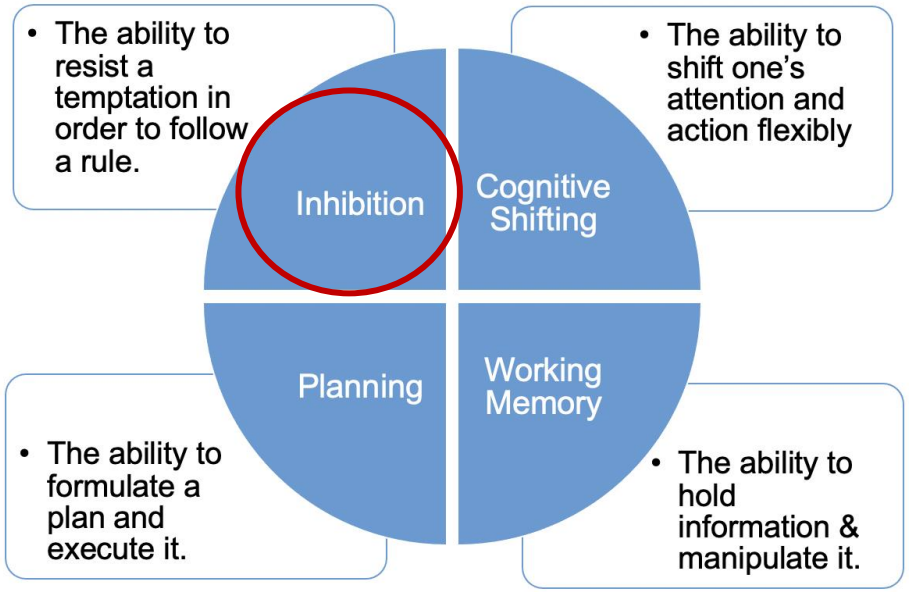
- Students with ADHD and autism have similar difficulties with working memory.
- Working memory differences may manifest as the following at school:
  - Difficulty remembering information that was recently shared with them.
  - Not processing instructions well.



(Antshel et al., 2019; Craig et al., 2016; Happe et al., 2006; Wallace et al., 2016)

Inhibition

- Students with ADHD tend to have greater trouble with inhibition than autistic students.
- Inhibition difficulties may manifest as the following at school:
  - Difficulty remaining seated.
  - Sharing answers without raising hand first.
  - Touching or fidgeting with objects during class.



(Antshel et al., 2019; Craig et al., 2016; Happe et al., 2006; Wallace et al., 2016)

A Note About Emotion Regulation

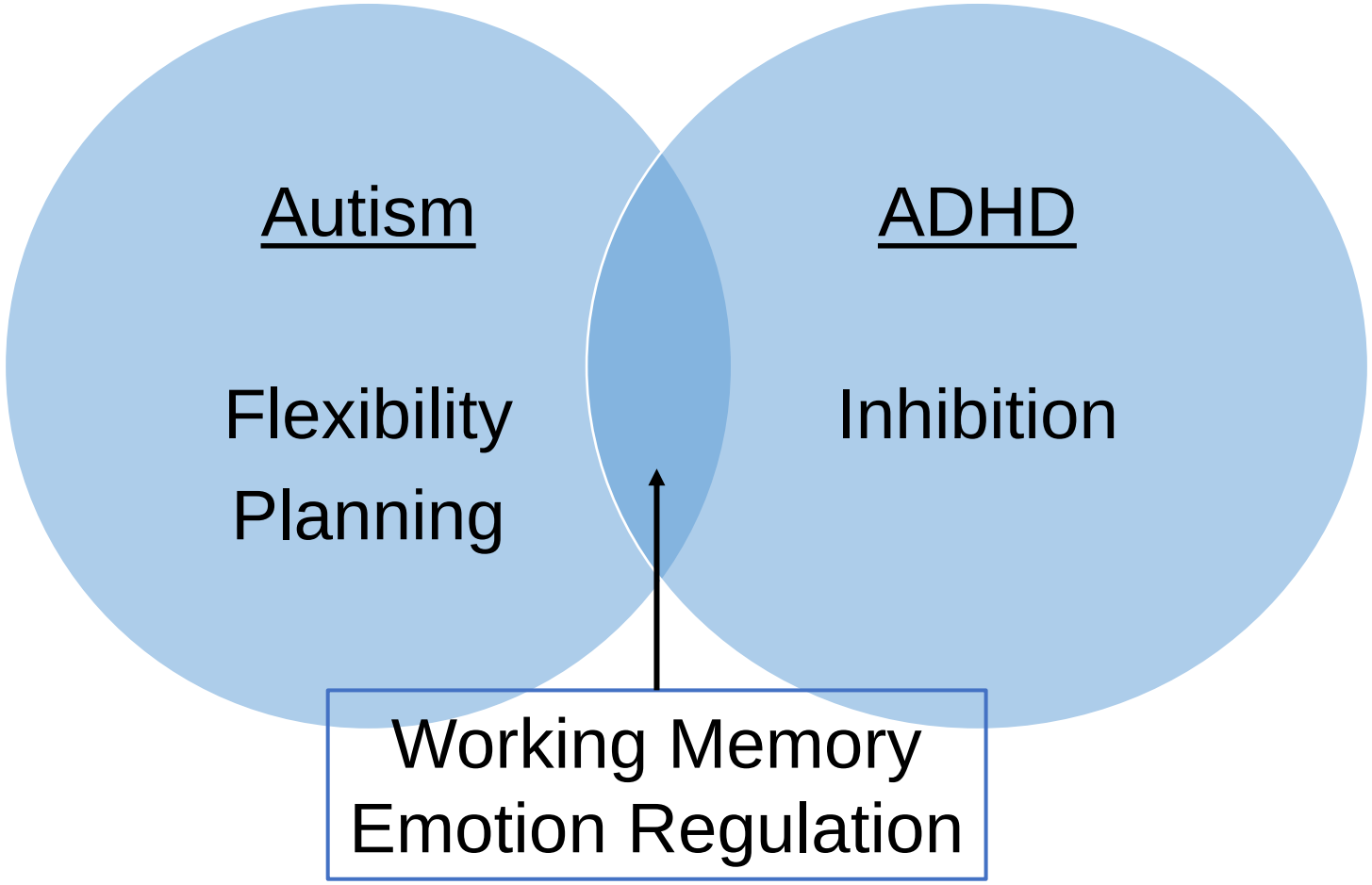
Emotion regulation is not a core executive functioning domain but is considered highly overlapping

Students with both autism and ADHD have difficulty with emotion regulation.

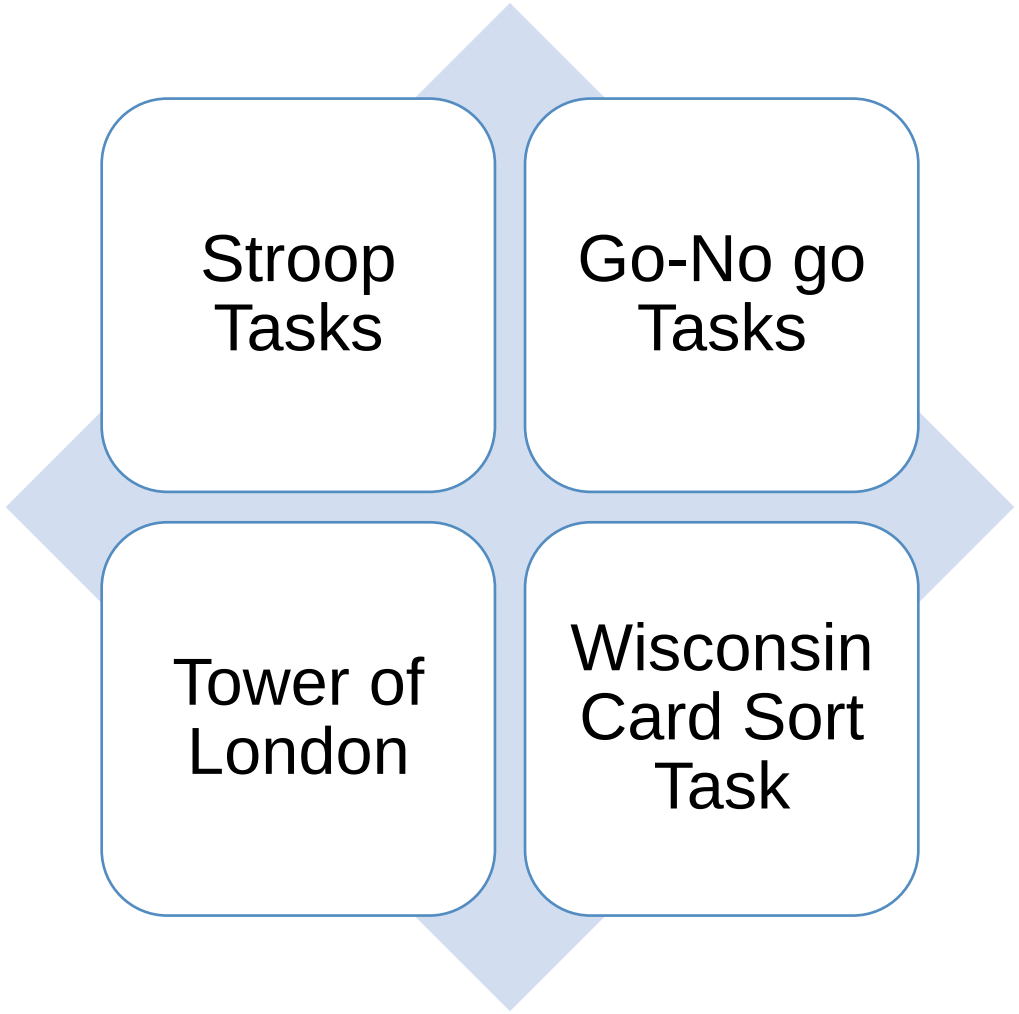
This may include having emotions that go from 0 to 100 quickly at school

(Antshel et al., 2019; Craig et al., 2016; Happe et al., 2006; Wallace et al., 2016)

Summary of Executive Functioning Differences in Autism and ADHD



Executive Functioning Assessments



(Craig et al., 2016)

Common Measures of Executive Functioning

The Behavior Rating Inventory of Executive Functioning (BRIEF)

- Assesses the intensity of executive functioning challenges in children ages 5-18 years.
- Parent-, teacher-, and self-report versions are available.
- Provides T-Scores based on a child's age and gender to guide decision making around severity of challenges.

(Goioa et al., 2000)

Case Study 1

Darnell is in the fifth grade. Darnell has autism and participates in General Education. He does well, but he does not like group work, and is quick to correct others if they don't follow the rules of the project. Peers are starting to make fun of him and call him the "rules police." Darnell does better during individual work. However, he needs support from his teacher to get started completing activities and reminders to stay on task. Without this support, Darnell will sit and stare at his work without starting. On the playground, Darnell is sometimes observed not responding to his peers when they talk to him and often joining in conversations in an off-topic way. His teachers are wondering which of his challenges are related to executive functioning and which may be related to autism.

Questions for Case Study 1

1. What executive functioning differences does Darnell have?
2. Which domains of executive functioning do these fall under?
3. What additional information would you like to know about his executive functioning?
4. What strategies might you consider to support Darnell's executive functioning?

Case Study 2

Sarah is in 10th grade and has an Individualized Education Plan with an Autism designation. Sarah has borderline cognitive skills and is learning at a fifth-grade level. She has a few friends but is often observed to interrupt them, say things that appear off topic, or talks persistently about fashion design. Sarah is sensitive to loud noises, including fire drills, the intercom, and loud laughter. Sarah often is late to class, loses her belongings, and/or forgets to complete and turn in assignments. Sarah is easily annoyed and upset when she is reprimanded or learns of her forgetfulness. In these situations, she puts her head on the desk, cries, or tries to walk out of the classroom. Her teachers are wondering whether she may have executive functioning differences in addition to her learning challenges.

Questions for Case Study 2

1. What executive functioning differences does Sarah have?
2. Which domains of executive functioning do these fall under?
3. What additional information would you like to know about her executive functioning?
4. What strategies might you consider to support Sarah's executive functioning?

Next Time: Supporting Executive Functioning

Part 2 of will provide an overview of evidence-based approaches to support the executive functioning of autistic students.

By the end of the webinar, participants will be able to:

1. Describe evidence-based approaches and strategies to support executive functioning in autistic students with and without co-occurring ADHD.
2. Identify strategies to support the executive functioning of autistic students within case studies.
3. Know where to find additional resources to support the executive functioning of autistic youth, including those who have ADHD.

Executive Functioning Strategies

- Skills-based approaches to teaching students .

Polling Question

1. Which executive functioning differences are you most interested in learning strategies to support?

Thank you!

Southeast MHTTC:
https://mhttcnetwork.org/centers/southeast-mhttc/home

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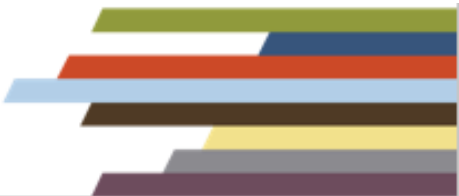
https://www.marcus.org/autism-research/autism-research-team/katherine-pickard



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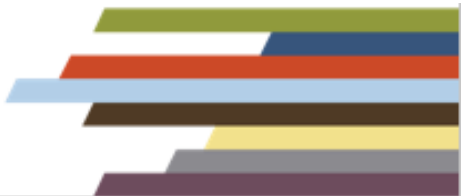

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