Autism in Girls: A deeper look into the differences of females on the spectrum

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Who are you?
Parent, teacher, caregiver, administration, case manager?
When you think of autism and individuals you know on the autism spectrum, what are some characteristics or generalizations that come to mind?
Review of Autism: General Facts
- Neurodevelopmental
- Multiple etiologies
- No racial or ethnic differences
- Prevalence 1:59; NC 1:55
- More boys than girls *

** recent studies show that the ratio of 1:4 boys to girls may be more of “missing” girls with autism due to basis diagnosis of traditionally “male” symptoms.
Mild Autism Spectrum Symptoms
Social Difficulties
Minimally Affect Adaptation

RRB
More Flexible

Intact Cognitive Skills
IQ: Average or Above
Verbal
Good Academic Skills

Impaired Cognitive Skills
IQ: Intellectual Disability
Lack of verbal skills
Poor Academic Skills

RRB
Extreme Rigidity

Severe Autism Spectrum Symptoms
Social Difficulties
Severely Affect Adaptation
Learning

What is it? Take in information and generalize/apply the information. Weakness with implicit learning.

In Autism? Weaknesses with implicit learning, flexibility, and generalization.

Implications for Teaching & Learning:
○ Skills require explicit teaching
○ Explicitly plan for and teach generalization
Uneven Pattern of Development

What is it? + and - across domains

In Autism? Very pronounced & scattered skills sometimes across seemingly related domains

Implications for Teaching & Learning:
- Use + to support
- Over/underestimation of skills
Auditory Processing and Receptive Language

What is it? Processing of auditory information

In Autism? Visual skill strength and auditory skill weaknesses

Implications for Teaching & Learning:
- Use visual supports
- Give think time
- Match language level - “one up rule”
Sensory Processing

What is it? Interpretation of information via 7 senses (or even 8?)

In Autism? Perceptual differences in processing sensory information

- Over/Under-responsive
- Fluctuate & change over time
- Difficulty with open space

Implications for Teaching and Learning:

- Schedule breaks & provide respite space
- Provide a variety of sensory materials
- Consult with OT
Sensory Processing

Sensory Overload
The Brain’s Executive Functions

ACTIVATION
- Organizing
- Prioritizing
- Getting to work

FOCUS
- Tuning in
- Sustaining focus
- Shifting attention

EFFORT
- Regulating alertness
- Sustaining effort
- Adjusting processing speed

EMOTIONS
- Managing frustration
- Modulating emotions

MEMORY
- Holding on and working with information
- Retrieving memories

ACTION
- Monitoring and regulating one’s actions
What is it In Autism? Difficulties in task initiation, sequencing, organization, attention, self-monitoring, transitions,

Implications for Teaching and Learning:
- Visual Supports
  - Schedules
  - Activity Systems/work systems
  - Material Structure
- Incorporate Special Interest
- Timers
- Priming for changes
- Chunking assignments
- Concept of finished
Attention: What is it? In Autism?

- **Sustained Attention**: Maintaining focus without distraction
- **Selective Attention**: Relevant vs. non-relevant
- **Divided Attention**: Single channel, difficulty multitasking
- **Alternating Attention**: Difficulty disengaging and shifting attention
- **Focus on Details**: Difficulty seeing the big picture or understanding meaning
What is this a picture of?
Sticky Attention – The Stroop Effect

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Attention

Implications for Teaching & Learning

- Minimize distractions
- Incorporate special interests
- Provide visual clarity (highlighting, underlining, etc)
Multiple Perspectives and Social Communication

What is it?
- Theory of Mind
- Responding to other’s emotions
- Joint attention
- Functional Communication (nonverbal)

In autism? Difficulties in all of the above which impacts social functioning.

Negatively impact reading and writing abilities

https://www.pbs.org/video/pov-neurotypical-small-talk/
Theory of Mind
Lack of intrinsic **motivation** is a common characteristic of autism.

- Rewards
  - non-preferred/preferred
  - Individualized behavior charts
  - Explicit instruction
Weaknesses:
- Implicit Learning
- Generalization
- Attention
- Multiple Perspectives
- Executive Functioning
- Auditory / Receptive Skills

Strengths:
- Explicit Learning (rules and routines)
- Visual Information
- Focus on Details
- Restricted Interests (increased motivation)
Observable Characteristics/Behaviors

Underlying Learning Characteristics

Differences in Learning, uneven pattern of development, differences in auditory processing & receptive language, executive functioning difficulties, differences in attention, difficulty with multiple perspectives & social communication, differences in sensory processing, restrictive repetitive behaviors & interests
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<th>Characteristic of ASD</th>
<th>Description</th>
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<td>Differences in Learning</td>
<td>Take in information and generalize/apply the information. Weakness with implicit learning.</td>
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<td>Uneven Pattern</td>
<td>Pronounced differences in strengths and weaknesses sometimes within seemingly related domains.</td>
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<td>Differences in Auditory Processing &amp; Receptive Language</td>
<td>Slower auditory processing, difficulty processing more than one mode of information simultaneously (i.e. processing visual and auditory at the same time), difficulties understanding verbal information</td>
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<td>Executive Functioning Difficulties</td>
<td>Skills needed to organize, monitor, and carry out tasks and daily activities from beginning to end. May present as difficulty with planning, initiation, organization, sequencing, time management, shifting and flexibility, goal directed persistence, emotional self-control, and/or metacognition.</td>
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<td>Differences in Attention</td>
<td>Focus on details rather than the big picture, difficulty shifting attention, dividing attention, sustaining attention, and understanding what information is relevant.</td>
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<td>Difficulty with Multiple Perspectives &amp; Social Communication</td>
<td>Understanding that other people have thoughts, feelings, and perspectives that are different from one's own. Difficulties with joint attention and social communication (social initiation, conversational exchanges, turn taking, appropriateness and maintenance of topic, pragmatics, and differences in use and understanding of nonverbals)</td>
</tr>
<tr>
<td>Differences in Sensory Processing</td>
<td>Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment. These may include proprioceptive, interoceptive, and vestibular differences.</td>
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<td>Restrictive/Repetitive Behaviors/Interests</td>
<td>Stereotyped or repetitive motor movements, use of objects, or speech. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal nonverbal behavior, and/or highly restricted, fixated interests.</td>
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Autism Statistics

- CDC indicates that autism impacts 1:68 individuals and in NC it is more like 1:55
- Autism Speaks is projecting a higher number for 2018
- Currently, ⅔ of those diagnosed recently have average to above average IQs
- In the past ⅔ of those diagnosed had delayed cognitive abilities (ID)
Estimated Autism Prevalence 2018

* Centers for Disease Control and Prevention (CDC) prevalence estimates are for 4 years prior to the report date (e.g., 2018 figures are from 2014)
Why Research Females on the Spectrum?
Where does this lead us?

• Started exploring the topic of Autism in Girls
• Training offered
• Brainstormed with teachers
• Created a data form
• Beginning to collect data
Prevalence of Autism in Girls

• For children with autism and a co-morbid intellectual disability, the ratio is 2:1 for boys to girls diagnosed.

• For children with high functioning autism, the ratio is 6:1 for boys to girls diagnosed.
Number of Students served in RCSS Under the Category of Autism Spectrum
Number of Students Served in Our Moderate/Severe Self-Contained Classes Under the Category of Autism Spectrum
Questions Raised from Initial Data Analysis:

• Are we qualifying girls under the wrong categories?
• What is the average age girls qualify under the category of AU?
• Are lower functioning girls with AU qualifying under a different category?
Autism in Girls:

Jumping Right In!
Why the difference?
Some Theories:

1. Differences in Physiology
2. Differences in Gender Norms and Expectations
3. Gender-bias within the medical tools
Analogy
COMMON GENDER DIFFERENCES IN AUTISM

- Gender differences in socialization
  - Women are encouraged to be more social with others
  - Women imitate the behavior of peers to fit in, masking the traits of autism
  - Focus of restricted interests tends to be more socially acceptable
  - Diagnostic tools are created using boys as the baseline
  - Shyness and introversion, common with ASD, are also considered “typical” of girls

Sources: (Deweerdt, S., 2014; Happé, 2015; Lai et al., 2015; Girls and Women on the Autism Spectrum by Amaze)

https://www.youtube.com/watch?v=gpJ6bJHEc-k
Differences

- Differences in their autism profiles
- More internalized symptoms
- Higher rate of comorbid conditions in females with Autism
- Females tend to be better at “mimicry”
- Superior language skills
Misconceptions

“*She can’t be autistic - she is too social*”

“*She is just shy*”

“*She doesn’t have repetitive behaviours or obscure interests*”

These statements are not true.

“I got so used to holding it together at school or coping others just to blend in. The trouble is, I would then have shutdowns or fall apart at home – exhausted from keeping up my charade. I may have seemed ‘fine’ but in reality, I really needed more support.”

Sarah, 30 years old

“*People just think I’m naughty and lazy but I’m not. Sometimes I don’t know where to start and my brain feels too busy.*”

Emma, 8 years old

Other Information:

• Increased vulnerability for assault

• Increased incidences of self- medicating
Meeting Social and Educational Needs

How this looks different for Females on the Autism Spectrum
Needs based on common Learning Styles of Autism:

• Visual supports
• Explicit instruction
• Implementing systems to support generalization
Important issues for girls on the Autism Spectrum

• Social skills classes that target all aspects of female roles and relationships
• Girl oriented personal, social, and health education
• Explicit instruction in specific female related “hidden curriculums”
• Teaching independence
• Self image, self esteem, and self confidence building
• Vocational training and fostering hobbies ad interests
Specific Ways to Meet the Needs:
Self-Advocacy Skills

• asking for help

• Understanding their needs and the ability to express them

• Creating independence for the future
Social Skills

• Teach to female specific topics:
  • How to make a friend
  • How to recognize if someone is not really your friend
• Use strategies that play to their strengths:
  • Video modeling
  • Role play
  • Scripting
  • Using books and in the internet

It’s ok to be sad, but instead of crying I can say “I am sad that the center I want is taken”. 
Internalizing and Hidden Anxiety:

• Check in with her regularly.
• Get to know her.
• Establish a safe haven or quiet place for her to access in the classroom or on the playground and provide her with a discreet exit strategy to access these when needed.
• Allow her to have her comfort items close to hand
Peer Relationships

• Work with her to choose a classroom and playground buddy
Create a culture at the school that promotes inclusion for all
• Provide explicit teaching
• Understand she might find it easier to connect with students who are older or younger than herself rather than students her own age.
Bullying and Exclusion:

• Ensure she has a ‘safe’ person and place
• Empower her to access this support group through a variety of methods
• Be aware of the different types of bullying. It can be less obvious for females and often takes more ‘covert’ forms
• Actively promote positive, inclusive attitudes through a whole school approach that actively involves students, staff and parents.
Group Work:

• Facilitate the allocation of groups rather than asking students to get themselves into teams.
• Allocate specific roles within the group and play to her strengths.
• Balance the amount of group work in the day with individual work to allow her downtime.
Completing Tasks and Executive Functioning:

• Provide her with clear written or visual instructions
• Regularly check for understanding of verbal and written instructions
• Give her the big picture
• Help her understand time.
• Help her get organized
• Discuss with your tablemates how this information impacts you
• Ideas you have moving forward
References