



Thompson Center

For Autism & Neurodevelopmental Disorders

University of Missouri

Autism Symptomology: Subtleties of the Spectrum

Understanding Nuanced Autism Symptomology in
Students with
High Functioning Autism and Females

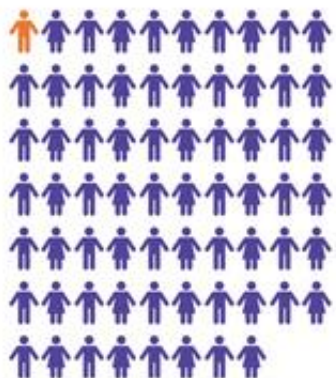
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Overview

- Autism Spectrum Disorder (ASD)
- Subtle subgroups of ASD
 - Autism in Females
 - High Functioning Autism (HFA)
- Special considerations for schools
- Tools

Autism Spectrum Disorder (ASD)

NUMBER OF CHILDREN
IDENTIFIED WITH ASD



1 in 68



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

- Neurodevelopmental Disorder- Impairments of development of brain or central nervous system
- No medical test or cure
- Cause unknown (genetic and environmental risk factors)
- Reported to occur in all racial and ethnic groups
- Symptoms can be mild to severe

Autism Spectrum Disorder (ASD)

Two main domains where people with ASD show persistent deficits

1. Social communication and social interaction
2. Restricted and repetitive patterns of behavior (RRBs)

Deficits in Social Communication

For example:

- Deficits in social-emotional reciprocity
- Deficits in nonverbal communication used for social interaction
 - Gestures
 - Eye contact
 - Facial expression
- Deficits in developing, maintaining, understanding relationships
- Understanding and responding appropriately to social situations
- Difficulty with abstract language
- Unusual language or tone

RRBs

For example:

- Stereotyped or repetitive motor movements, use of objects, or speech
 - Lining
 - Focusing on parts of objects
 - Nonfunctional use of objects
- Insistence on sameness, rigid routines, ritualized verbal or nonverbal behavior
 - May have negative response to changes
- Highly restricted, fixated interests that are abnormal in intensity or focus
- Unusual sensory interests and/or aversions

Autism in Females

Females with ASD: Stats

Boys were 4.5 times more likely to be identified with ASD than girls.



- Average ASD ratio is **4:1** male to female
- With Intellectual Disability, ratio is **2:1** male to female
- Females diagnosed at a later age than boys; especially females with average intelligence
 - Leads to delayed interventions
- Often have other prior diagnoses

Females with ASD: Why lower rates?

- Leading theories for the prevalence rate difference
 - Genetics: “Female Protective Effect”
 - Females with ASD larger genetic load/effect than males with ASD
 - Female Autism Phenotype
 - ASD symptoms can look different in some girls

Disclaimer: New and evolving information, and it is difficult to research an undiagnosed population

Female ASD Phenotype: Social

- Compared to males with ASD, females with ASD may:
 - Be more verbal and interactive
 - Show more subtle social deficits on the playground
 - Stay close and talk to peers, weave in and out of groups
 - Show more typical play styles
 - Have closer friendships
 - BUT, have difficulty keeping friendships and handling conflict
 - Social deficits more likely to be overlooked

Female ASD Phenotype: RRBs

- Females often have fewer and less severe RRBs
- Less likely to:
 - Line up toys
 - Have large stores of factual information
 - Present with preoccupation with parts of objects
 - Have rigid routines or rituals
 - Exhibit stereotyped mannerisms
- Different topics of interests, girls' more socially acceptable
 - Boys: dinosaurs, technology, transportation
 - Girls: animals, reading/books, art, music

Females with ASD: Behavior

- Boys with ASD → more externalizing behaviors
 - Inattention and hyperactivity
- Girls with ASD → more internalizing behaviors
 - Anxiety and depression
 - Internalizing behaviors are less likely to get noticed and referred for supports
- Techniques used by girls with ASD to avoid and social struggles can be misinterpreted as anxiety
- Girls with ASD may more difficulty with executive functioning and daily living skills than boys with ASD

Females with ASD: Camouflaging

- Females are more likely to mask ASD symptoms by:
 - Mimicking others
 - Social scripting
 - Suppressing “stimming” and sensory behaviors
 - Forcing eye contact, appropriate facial expressions or gestures
- Camouflaging is less successful as get older and social situations become more complex
- Can contribute to underdiagnoses

High Functioning Autism

High Functioning Autism (HFA)

- Average to above average intelligence
- Likely to have average academic abilities
- Many students with HFA also diagnosed with psychiatric concerns
 - Especially ADHD, Anxiety, OCD, Depression
 - Common for these to be diagnosed before ASD
 - Which can result in delay of appropriate interventions

HFA: Possible Social Subtleties

- Can be very likable!
- Eye contact not always impaired
- Strong expressive language skills (sometimes higher than receptive)
- May desire friendships and romantic relationships
- May not be socially avoidant
 - “Socially Active but Odd” presentation

HFA: Possible Social Subtleties ctd.

- May be good at either responding OR initiating with others
- May appear socially appropriate in structured interactions (such as standardized testing)
- Can score well on standardized pragmatic language assessments
 - Know rote responses but struggle to apply
- Theory of Mind deficits can be subtle

HFA: Possible RRB Subtleties

- Unusual motor behaviors can be subtle
 - Posturing (hand, fingers, body)
- Quick and discrete sensory seeking/avoidance
- Scripting can be used appropriately
- Age appropriate (intense) circumscribed interests
 - Ex: You Tube, Star Wars, Legos, video games
- Interests in fact-based information/topics

Special Considerations for Schools

Females & HFA: Schools

- Less likely to be referred for supports due to:
 - Bias against females having ASD due to prevalence rate
 - Internalizing behaviors less likely to be referred
 - Average expressive language and academic skills
- Considerations of “educational impact” NOT JUST ACADEMIC
 - Include social skills, relationships, adaptive behavior, internalizing concerns, executive functioning

Females with ASD: Schools

- Females with ASD are at high risk for victimization and sexual assault
- Females with ASD underserved due to subtle symptoms or masking of symptoms
 - May be less likely to get social skills instruction
 - May be less like to get speech and language

Tools to Support Identification of ASD and Social Needs

Assessing ASD Symptomology

Gold Standard Tools

Autism Diagnostic Observation Schedule 2 (ADOS-2)

- Semi-structured assessment of communication, social interaction and play 5 modules to meet particular age, developmental, and language level
- Administered in about 40-60 minutes by trained evaluator

Autism Diagnostic Interview-Revised (ADI-R)

- Interview regarding development and behavior with primary caregiver
- Administered in about 2 hours by trained evaluator

Social History Interview

TEAM Autism Social History Supplement

Supplemental Form: Social History Autism Specific Information

Communication

Describe the student's use of language/communication (e.g., speaks in short phrases, non-verbal speech, uses communication device):

Does/did the student engage in any repetitive speech or echolalia?

Describe the student's ability to engage in a conversation with others:

Does/did the student use communicative gestures when they speak or interact with others (e.g., pointing, descriptive movements with hands)?

Do you have any concerns relating to the student's communication skills?

Social Interaction

Does/did the student take interest in other children? Describe their interactions and relationships with peers (if any):

Does/did the student enjoy playing social games (e.g., peekaboo/hide-seek)?

Social History Interview

TEAM Autism Social History Checklist

Autism Social History Interview Checklist

Use this checklist as a reminder of what areas to inquire about during a social history interview for an ASD evaluation.

	Major concerns
	Early developmental milestones (speech and motor)
	Means of requesting (consider eye contact and use of another's body to communicate)
	Pointing for purpose of showing
	Use of gestures (ex: nodding and shaking head)
	Stereotyped utterances and echolalia
	Verbal rituals
	Reciprocal conversation
	Inappropriate questions or statements
	Direct gaze
	Range of facial expressions
	Social responses (familiar and unfamiliar adults and peers)
	Social smiling
	Shared enjoyment
	Directing attention of others
	Offering comfort
	Play (types of playthings and manner of use)
	Spontaneous imitation

Structured Observation Form

University of Missouri Thompson Center –TEAM social-communication observation form

TRAINING EXPERTS IN AUTISM FOR MISSOURI (TEAM)

EDUCATION PROGRAM

Structured Observation Form: Social-Communication Skills

Watch for the following behaviors and rate each based on the provided scale. On the lines provided for each item, give examples of the behavior observed.

1. Approached peers and adults with appropriate body proximity.

<i>Not observed</i>	<i>Used appropriately multiple times</i>	<i>Used appropriately but not consistently</i>	<i>Used inappropriately</i>	<i>Not demonstrated</i>
<input type="checkbox"/> n/a	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

2. Approached peers and adults with appropriate (matched) facial expression and tone.

<i>Not observed</i>	<i>Used appropriately multiple times</i>	<i>Used appropriately but not consistently</i>	<i>Used inappropriately</i>	<i>Not demonstrated</i>
<input type="checkbox"/> n/a	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3

Discrepancy Analysis

- Consider environment and social expectations
 - Be sure to watch for presence of atypical behavior (things student does) and absence of appropriate behaviors (things student does NOT do)
- Identify what a typical peer (of same gender) does in that environment (social behavior) and what your target student does
- This will help identify the skills/adaptations needed for your target student

<i>Discrepancy Analysis</i>		
Environment:		Activity:
Typical Peer	Target Student	Skills to teach or areas for adaptation
1)	1)	1)
2)	2)	2)
3)	3)	3)

Discrepancy Analysis

<i>Discrepancy Analysis</i>		
Environment: Homeroom		Activity: Transition time (Unstructured time before bell)
Typical Peer	Target Student	Skills to teach or areas for adaptation
1) Body oriented to peers	1) Inconsistently oriented to peers	1) Increased orientation to group
2) Nods along with conversation	2) Interrupted/spoke over peers	2) Appropriate conversational interjection
3) Added in 2 on topic comments	3) Made an on topic comment then guided conversation to his preferred topic	3) Following peer lead on conversational topic
4) Smiled and laughed	4) Had a serious/flat expression	4) Varied facial expression to match conversation

Contact Information

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Thank you!

Questions?