DIAGNOSTIC DILEMMAS IN AUTISM SPECTRUM DISORDER

Julie Kellett, PhD & Heather Wolf, PhD
Division of Psychology, GHS Children’s Hospital
OVERVIEW

- Diagnostic Criteria for Autism Spectrum Disorder (ASD)
- Prevalence
- Early Identification
- Identification in Older Children
- Differential Diagnosis
- Co-morbid Diagnosis
Currently, or by history, must meet criteria A, B, C, and D

A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays, and manifest by all 3 of the following:

1. Deficits in social-emotional reciprocity
2. Deficits in nonverbal communicative behaviors used for social interaction
3. Deficits in developing and maintaining relationships
B. Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following:

- 1. Stereotyped or repetitive speech, motor movements, or use of objects
- 2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change
- 3. Highly restricted, fixated interests that are abnormal in intensity or focus
- 4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment;
C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities)

D. Symptoms together limit and impair everyday functioning
OTHER CHANGES

- Inclusion of Specifiers, such as:
  - “Associated with Known Medical or Genetic Condition or Environmental Factor” (e.g., Fragile X, VCFS, intrauterine valproate exposure)
  - Verbal abilities
  - Cognitive abilities
  - Severity of symptoms in the two domains

- Text description to include symptoms unique to various ages/developmental stages and verbal abilities
A. Persistent difficulties in the social use of verbal and nonverbal communication as manifest by deficits in the following:

- 1) Using communication for social purposes, such as greeting and sharing information, in a manner that is appropriate for the social context;
- 2) Changing communication to match context or the needs of the listener, such as speaking differently in a classroom than on a playground, communicating differently to a child than to an adult, and avoiding use of overly formal language.
SOCIAL COMMUNICATION DISORDER

- B. Deficits result in functional limitations in effective communication, social participation, social relationships, academic achievement, or occupational performance.
- C. Onset in the early developmental period (but deficits may not become fully manifest until social communication demands exceed limited capacities).
- D. Deficits are not better explained by low abilities in the domains of word structure and grammar, or by intellectual disability, global developmental delay, Autism Spectrum Disorder, or another mental or neurologic disorder.
PREVALENCE OF ASD

- About 1 in 88 children
- Occur in all racial, ethnic, and socioeconomic groups
- 5 times more common in boys (1 in 54) than girls (1 in 252)
- Average prevalence in U.S. about 1%
- ASDs occur more often in certain genetic or chromosomal conditions
  - About 10% identified with Down syndrome, fragile X syndrome, tuberous sclerosis, and other genetic and chromosomal disorders

IDENTIFICATION INFLUENCES

- Changes in diagnostic criteria over time
- Increased awareness in the community
  - From a severe disorder to a wide spectrum
- Changes in availability of services
  - Parents as advocates
  - Development of specialty services
  - Training of professionals
- Recognition that ASDs occur across spectrum of intellectual functioning and other medical and psychiatric disorders
- Improved identification among some groups
- Improved early identification
EARLY IDENTIFICATION

- Diagnosis of ASD at age 2 reliable, valid, stable
- More children are being diagnosed at earlier ages
  - 18% of them by age 3.
  - Most not diagnosed until after age 4.
- Parents notice a developmental problem before first birthday
  - Concerns about vision and hearing often reported in first year
  - Differences in social, communication, and fine motor skills evident from 6 months of age

Kleinman et al. (2008); Lord et al. (2006)
EARLY SIGNS & SYMPTOMS

- Autism caught in infancy (by 18 months of age), treatment highly effective
  - “Rewire” the brain and reverse symptoms
- ASD hard to diagnose before 24 months
- Symptoms often surface between 12 and 18 months
- Earliest signs
  - Absence of normal behaviors—not the presence of abnormal ones (tough to spot)
  - Sometimes earliest symptoms misinterpreted as signs of a “good baby” (quiet, independent, undemanding)
  - Don't respond to cuddling, reach out to be picked up, or look at mothers when being fed

Bolton et al. (2012); Kozlowski et al. (2011)
EARLY SIGNS & SYMPTOMS

- Doesn’t make eye contact (e.g. look at you when being fed)
- Doesn’t smile when smiled at
- Doesn't respond to his or her name or to sound of a familiar voice
- Doesn’t follow objects visually
- Doesn't point or wave goodbye or use other gestures to communicate
- Doesn’t follow gesture when you point things out

Smith et al. (2013)
EARLY SIGNS & SYMPTOMS

- Doesn’t make noises to get your attention
- Doesn’t initiate or respond to cuddling
- Doesn’t imitate your movements and facial expressions
- Doesn’t reach out to be picked up
- Doesn’t play with other people or share interest and enjoyment
- Doesn’t ask for help or make other basic requests
EARLY SIGNS & SYMPTOMS

“Red Flags” that child is at risk

- No big smiles or other warm, joyful expressions by six months or thereafter
- No back-and-forth sharing of sounds, smiles or other facial expressions by nine months
- No babbling by 12 months
- No back-and-forth gestures such as pointing, showing, reaching or waving by 12 months
- No words by 16 months
- No meaningful, two-word phrases (not including imitating or repeating) by 24 months
- Any loss of speech, babbling or social skills at any age
EARLY SIGNS & SYMPTOMS

“Red Flags” for ASD in 2nd year

- Impairment in Social Interaction/Communication, Repetitive Behaviors & Restricted Interests:
  - Lack of appropriate eye gaze
  - Lack of warm, joyful expressions
  - Lack of sharing interest or enjoyment
  - Lack of response to name
  - Lack of showing gestures
  - Lack of coordination of nonverbal communication
  - Unusual prosody (little variation in pitch, odd intonation, irregular rhythm, unusual voice quality)
  - Repetitive movements with objects
  - Repetitive movements or posturing of body, arms, hands, or fingers

Wetherby et al. (2004)
EARLY SCREENING FOR ASD

- Earlier an ASD diagnosed, the sooner treatment services begin.
- American Academy of Pediatrics (AAP) recommends children screened specifically for ASDs during regular well-child doctor visits at:
  - 18 months
  - 24 months
- Additional screening needed if child at high risk for ASDs
  - Preterm, low birth weight
  - Having sibling or parent with an ASD
  - Symptoms are present
IDENTIFICATION OF ASD IN OLDER CHILDREN

- Signs and symptoms of autism in older children
  - As children get older, the red flags for autism become more diverse
  - Many warning signs and symptoms
  - Typically revolve around impaired
    - Social skills
    - Speech and language difficulties
    - Non-verbal communication difficulties
    - Inflexible behavior

Plauche et al. (2007)
IDENTIFICATION OF ASD IN OLDER CHILDREN

- Signs and symptoms of social difficulties in autism
  - Basic social interaction can be difficult
  - Prefer to live in own world, aloof and detached from others
  - Appears disinterested or unaware of other people or what’s going on around them
  - Doesn’t know how to connect with others, play, or make friends
  - Prefers not to be touched, held, or cuddled
  - Doesn’t play "pretend" games, engage in group games, imitate others, or use toys in creative ways
  - Has trouble understanding or talking about feelings
  - Doesn’t seem to hear when others talk to him or her
  - Doesn't share interests or achievements with others (drawings, toys)
IDENTIFICATION OF ASD IN OLDER CHILDREN

- Signs and symptoms of speech and language difficulties in autism
  - Difficulty with speech and language
  - Start talking late
  - Speaks in an abnormal tone of voice, or with an odd rhythm or pitch (e.g. ends every sentence as if asking a question)
  - Repeats the same words or phrases over and over
  - Responds to a question by repeating it, rather than answering it
  - Refers to themselves in the third person
  - Uses language incorrectly (grammatical errors, wrong words)
  - Has difficulty communicating needs or desires
  - Doesn’t understand simple directions, statements, or questions
  - Takes what is said too literally (misses undertones of humor, irony, and sarcasm)
Identification of ASD in Older Children

- Signs and symptoms of nonverbal communication difficulties in autism
  - Trouble picking up on subtle nonverbal cues and using body language
  - “Give-and-take" of social interaction very difficult.
  - Avoids eye contact
  - Uses facial expressions that don't match what he or she is saying
  - Doesn’t pick up on other people’s facial expressions, tone of voice, and gestures
  - Makes very few gestures (such as pointing). May come across as cold or “robot-like”
  - Reacts unusually to sights, smells, textures, and sounds. May be especially sensitive to loud noises
  - Abnormal posture, clumsiness, or eccentric ways of moving (e.g. walking exclusively on tiptoe)
IDENTIFICATION OF ASD IN OLDER CHILDREN

- Signs and symptoms of inflexibility in autism
  - Often restricted, inflexible, and even obsessive in their behaviors, activities, and interests
  - Follows a rigid routine (e.g. insists on taking a specific route to school)
  - Has difficulty adapting to any changes in schedule or environment (e.g. throws a tantrum if the furniture is rearranged or bedtime is at a different time than usual)
  - Unusual attachments to toys or strange objects such as keys, light switches, or rubber bands
  - Obsessively lines things up or arranges them in a certain order
  - Preoccupation with a narrow topic of interest, often involving numbers or symbols (e.g. memorizing and reciting facts about maps, train schedules, or sports statistics)
  - Spends long periods of time arranging toys in specific ways, watching moving objects such as a ceiling fan, or focusing on one specific part of an object such as the wheels of a toy car
  - Repeats the same actions or movements over and over again, such as flapping hands, rocking, or twirling (known as self-stimulatory behavior, or “stimming”)
IDENTIFICATION OF ASD IN OLDER CHILDREN

- Common self-stimulatory behaviors:
  - Hand flapping
  - Rocking back and forth
  - Spinning in a circle
  - Finger flicking
  - Head banging
  - Staring at lights
  - Moving fingers in front of the eyes
  - Snapping fingers
  - Tapping ears
  - Scratching
  - Lining up toys
  - Spinning objects
  - Wheel spinning
  - Watching moving objects
  - Flicking light switches on and off
  - Repeating words or noises
Many tools to assess ASD
No single tool used as basis for diagnosis
Rely on two main sources of information
- Parents’ or caregivers’ descriptions of child’s development
- Professional’s observation of child’s behavior.
Primary care provider might refer to a specialist for further assessment and diagnosis
- Neurodevelopmental pediatricians, developmental-behavioral pediatricians, child neurologists, geneticists, and early intervention programs
DIFFERENTIAL DIAGNOSIS

- Importance:
  - Accurate diagnosis is critical due to effectiveness of early intervention in ASD
  - Behavioral diagnosis
  - Formal scales for assisting in diagnosis are still of relatively recent origin
DIFFERENTIAL DIAGNOSIS

- Developmental Delay/Intellectual Disability
- Speech/Language Disorder
- Selective Mutism
- Psychosocial/Neglect/Attachment Disorders
- Genetic Conditions
- Hearing Impairment
- Mental Health Conditions
DEVELOPMENTAL DELAY/ INTELLECTUAL DISABILITY

- ASD overrepresented in individuals diagnosed with severe/profound ID
- Both populations demonstrate stereotyped/restricted/repetitive patterns of behavior
DEVELOPMENTAL DELAY/ INTELLECTUAL DISABILITY

- Studies have suggested that older children with IDs and ASDs have more difficulty initiating and sustaining peer relationships, poorer nonverbal communication skills, and greater deficits in seeking to share interests and poor social/emotional reciprocity.
SPEECH/LANGUAGE DISORDER

- Some social difficulties may be observed as a result of communication problems
- Expect to see compensation with *nonverbal* forms of communication (e.g., pointing, gestures)
SELECTIVE MUTISM

- Rare childhood disorder characterized by the persistent failure to speak in specific contexts where speech is typically expected, despite hearing and speaking in other contexts.
- Prevalence of 0.47 to 0.76 percent.
- Onset usually between 3 and 6 years.
- More common in girls.
PSYCHOSOCIAL FACTORS/NEGLECT/ATTACHMENT ISSUES

- Children with a history of significant abuse or neglect may be withdrawn and wary of interaction with others

- Reactive Attachment Disorder
  - Rare but serious condition in which infants and young children don't establish healthy bonds with parents or caregivers
  - Typically begins before age 5
  - Signs and symptoms of the disorder may begin when the child is still an infant
REACTIVE ATTACHMENT DISORDER SYMPTOMS

- In infants:
  - Withdrawn, sad and listless appearance
  - Failure to smile
  - Lack of the normal tendency to follow others in the room with the eyes
  - Failure to reach out when picked up
  - No interest in playing peekaboo or other interactive games
  - No interest in playing with toys
  - Engaging in self-soothing behavior, such as rocking or self-stroking
  - Calm when left alone
In toddlers, older children and adolescents:

- Withdrawing from others
- Avoiding or dismissing comforting comments or gestures
- Acting aggressively toward peers
- Watching others closely but not engaging in social interaction
- Failing to ask for support or assistance
- Obvious and consistent awkwardness or discomfort
- Masking feelings of anger or distress
- Alcohol or drug abuse in adolescents
GENETIC CONDITIONS

- Fragile X
- Tuberous Sclerosis
- Landau-Kleffner Syndrome
- Rett Syndrome
FRAGILE X

- Prevalence rate of 1 in 2500 to 1 in 4000 males
- Leading known cause of inherited intellectual disability
- Associated with significant cognitive and behavioral challenges
- Physical characteristics:
  - Macrocephaly
  - Large ears
  - Large testicles
  - Hypotonia
  - Joint hyperextensibility
FXS AND ASD

- FXS is the leading known genetic cause of autism
- 25-50% of individuals with FXS meet DSM criteria for autistic disorder
- Elevated autistic symptoms in FXS associated with poorer developmental outcomes
TUBEROUS SCLEROSIS

- Hypopigmented macules
- CNS hamartomas
- Seizures
- Intellectual disability
LANDAU-KLEFFNER SYNDROME

- Rare childhood neurological disorder characterized by the sudden or gradual development of aphasia (the inability to understand or express language) and an abnormal electro-encephalogram (EEG)
- Usually occurs in children between the ages of 5 and 7 years
- Typically, children with LKS develop normally but then lose their language skills for no apparent reason
- Sometimes associated seizures, some do not
- Frequently misdiagnosed as ASD
RET T SYNDROME

- Primarily seen in girls
- Apparently normal development for first 5 months of life
- Normal head circumference at birth
- Deceleration of head growth from 5-48 months
- Loss of hand skills
- Hand-wrping stereotypies
- Seizures
HEARING IMPAIRMENT

- May be a history of recurrent otitis media
- Often accompanying speech delays, but will typically use **compensatory nonverbal forms of communication**
- Typical eye contact and facial expressions
CO-MORBID DIAGNOSIS

- ASD commonly co-occurs with other
  - Developmental (83%)
  - Psychiatric (10%)
- May have been alternatively “labeled” as having behavioral concerns (e.g., hyperactivity, inattention, aggressiveness, mood disturbances) or a learning disorder
- Some will not have ASD diagnosis by elementary school
- May lose diagnosis over time, naturally or through therapy
- No longer meet criteria for classification

Levy et al. (2010); Leyfer et al. (2006)
**CO-MORBID DIAGNOSIS**

- Can have more than one
- Can manifest later
- May sometimes be diagnosed before ASD.
- Can highlight the most difficult aspect of ASD
- Can be more stigmatizing or socially isolating than autism.
- Include some features of ASD that may make it difficult to distinguish what is causing the differences

Harrington (2013); Simonoff et al. (2008)
COMORBID DIAGNOSIS

- Intellectual Disability
- Language Disorder
- Anxiety and Phobias
- Obsessive Compulsive Disorder (OCD)
- Attention-Deficit Hyperactivity Disorder (ADHD)
- Disruptive Behaviors
- Learning Disability
- Depression
- Bipolar Disorder
- Schizophrenia
ANXIETY AND PHOBIAS

- Most common among children with ASD
- Prevalence between 11% and 84%
- Majority have more than one phobia and/or anxiety related to objects or situations
- Becomes more pronounced with age
  - Adolescents with ASD may be particularly prone to anxiety disorders

Matson & Nebel-Schwalm (2007)
ANXIETY AND PHOBIAS

- Common anxiety disorders include
  - Social phobia
    - Not commonly diagnosed in ASD because symptoms are better explained by ASD itself
  - Separation anxiety
  - Extreme fears
    - E.g., needles and/or shots, crowds, loud noises, thunderstorms, dark places, closed places, etc.
ANXIETY AND PHOBIAS

- High-functioning individuals on the spectrum experience higher rates of anxiety disorders.
- Higher intelligence linked with social anxiety
  - Worries stem from acute awareness of difficulties
  - Social anxiety may contribute to
    - Avoidance of social situations
    - Awkward interactions with peers
    - Promote further isolation from same-age peers
- Lower intelligence
  - More separation anxiety
  - More dependent on their parents
ANXIETY AND PHOBIAS

- Symptoms part of ASD or a co-occurring anxiety problem?
- Symptoms are likely affected by age, level of cognitive functioning, degree of social impairment, and ASD-specific difficulties
- Anxiety experienced with ASD associated with:
  - Need for rigidity in schedules
  - Fear of change
  - Response to awareness of social expectations
  - Trouble initiating or maintaining a conversation
  - Adherence to strict rituals or schedules
  - Need for consistency, repetition, and predictability
OBSESSIVE COMPULSIVE DISORDER (OCD)

- Second most common
- Characterized by recurrent obsessional thoughts or compulsive acts that cause anxiety
- About 30% with ASD also have OCD
- Tendency to become fixated and obsessive over certain ideas, objects and activities
- More common among teens and adults with ASD than in the general population
  - Prevalence of OCD in the general population is about 2 percent.

Levy et al. (2010); Matson & Nebel-Schwalm (2007)
OCD OR ASD?

- Both exhibit “stereotyped” or repetitive behaviors (e.g., following rigid routines, inflexibility, self-stimulatory behaviors, etc.)
- Often display “obsessive” behaviors or interests in specific things
- Focus on unusual objects or activities for extended periods of time
- Increased anxiety when a routine or ritual is interrupted
  - May make other daily activities difficult to participate in
- Participation in routine or ritual aids in regulation of behavior
## Differences

<table>
<thead>
<tr>
<th>OCD</th>
<th>ASD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Focus of thoughts and behaviors:</strong> are often contamination (excessive hand washing), violent/sexual, checking (locks, switches, etc.), hoarding, counting, etc...</td>
<td><strong>Focus of thoughts and behaviors:</strong> are often on repeating things (spinning objects, rocking back and forth), due to an “obsessive need for sameness,” and memorizing details of a specific interest (highways on maps).</td>
</tr>
<tr>
<td><strong>Bothered by thoughts and behaviors:</strong> They would like to stop their bad thought from occurring and realize that their behaviors are odd. In addition, they are usually unhappy about their inability to control these symptoms.</td>
<td><strong>Not bothered by thoughts and behaviors:</strong> They do not want or try to stop having the thoughts. Unlike a compulsive disorder, they are not invasive or annoying. The individual may really enjoy their interest or obsession and therefore, not have the desire to resist it.</td>
</tr>
<tr>
<td><strong>Social:</strong> They frequently feel ashamed of the rituals and are concerned with how others will view them.</td>
<td><strong>Social:</strong> They have social interaction difficulties, don’t seem to be bothered by what others think of their behavior.</td>
</tr>
</tbody>
</table>
### OCD

**Motivation:** Behaviors and rituals are highly driven by the need to reduce anxiety or the fear that something bad will happen if the behavior is not completed.

**Interrupted rituals:** Often cause anxiety due to a fear of what will happen if the ritual is not completed.

**Obsessions are bad:** They interfere with the person’s functioning. When severe, they can interfere socially, occupationally, academically, etc...

### ASD

**Motivation:** Repetitive behaviors can reduce anxiety, but their purpose is not to reduce anxiety.

**Interrupted rituals:** Frustration may be the result of disappointment at not being able to complete a pleasurable activity.

**Obsessions are not bad:** Obsessions may be used by both the individual and those working with the person to help them to learn new ideas, learn a trade or skill. (Ex: an obsession with computers may allow for a career in technology)
**Attention-Deficit Hyperactivity Disorder (ADHD)**

- Third common co-occurring condition in ASD
- Diagnosed in up to 62%
- DSM-IV did not allow co-occurring diagnosis of ASD and ADHD
- Autism symptoms not common in ADHD
- ADHD-like symptoms common in ASD
  - Difficulty settling down (e.g., hyperactivity)
  - Social awkwardness
  - Impulsivity
  - Focus only on things that interest them (e.g., inattention)
- ASD misdiagnosed as ADHD due to overlapping symptoms

Levy et al. (2010); Simonoff et al. (2008)
Kids with ADHD

- Struggle socially
- Early social development intact
  - Turn-taking play
  - Gesture language
  - Responding to names
  - Imaginative play
- Traits like appropriate facial affect (e.g., facial expression reflects his or her current emotional experience), humor, and empathy unaffected
- Not able to stick to turn-taking play, but understand it
- Not respond when called because of attention problems, but are socially engaged and recognize name and what it means
ADHD OR ASD?

Similarities

- Inattention
  - Difficulties paying attention
  - Tendency to hyperfocus, intense focus upon select topics or interests

- Hyperactivity
  - Fidgety, restless, constantly on the go, talking excessively

- Impulsivity
  - Not recognizing consequences of actions, interrupting others, engaging in risky or dangerous behavior, and/or aggression

Behavior Problems

- Behavioral challenges that set them apart from peers
- Interfere with learning and making friends

Impaired Social Skills

- Difficulty making friends, fitting in at school
- Inability to figure out rules of social interaction and engagement
ADHD or ASD?

- Differences
  - Communication skills more impaired
    - Great challenges in deciphering body language, facial expressions, tone of voice, sarcasm, and other elements of non-verbal communication
    - Difficulty with pragmatic language skills or those aspects of interpersonal communication such as all the unwritten rules of how to carry on a conversation
  - Lack “theory of mind”
    - Ability to imagine other people’s mind states including their thoughts, feelings, and intentions in order to anticipate how others will react or feel to certain events or actions
  - Less capable of engaging and connecting with others
    - Limited to no eye contact, no desire to share, and difficulties with joint attention
LEARNING DISABILITY

- Highly co-morbid in individuals with an ASD
- Approximately 25–75%
- Children with ASD learn differently
- Dyslexia
- Hyperlexia (the ability to read at an extremely young age)
- Very tough time gaining basic math skills
- Mathematical "savants," achieving far beyond their grade level

Close et al. (2012)
DISRUPTIVE BEHAVIORS

- Not very common in ASD
- Do not understand concepts of spitefulness, vindictiveness, and intentionality, including deliberately annoying others and blaming others for one’s behavior and mistakes
- Aggression, self-injurious behaviors, property destruction, and conduct problems
- Common – but not universal – for ASD to have difficulty regulating emotions
  - “Immature” behavior (e.g., crying or having outbursts in inappropriate situations)
  - Lead to disruptive and physically aggressive behavior
  - Tendency to “lose control” may be particularly pronounced in unfamiliar, overwhelming or frustrating situations
  - Frustration can also result in self-injurious behaviors such as head banging, hair pulling or self-biting

Leyfer et al. (2006)
DEPRESSION

- More common in adolescents and adults with ASD
- Manifest in older children with ASD when they become more aware of their isolation and differences
  - In middle school,
    - Pressure to conform is strong
    - Low tolerance for being different
  - Feel different, or worse, may be teased and taunted
  - Find it difficult to fit in
  - Begin to withdraw, and exhibit early signs of moodiness and depression
  - Develop if they feel they do not relate to a specific peer group

Harrington (2013)
DEPRESSION

- Presentation of depression in ASDs depends on level of cognitive functioning
  - Lower functioning children displaying more behavior issues
  - Higher functioning children displaying more traditional depressive symptoms
- Develop and occur more in high-functioning individuals during adolescence
  - Develop greater insight into their differences from others
DEPRESSION

- Difficult to diagnose
  - Communication difficulties (limited to no speech)
  - Less likely to express the feelings typically used to diagnose depression (e.g., depressed, worthless, unable to concentrate or suicidal)
  - Signs include neglect in personal hygiene and other self-care activities
  - Show little facial emotion

- Ask about other symptoms that sometimes flag depression
  - Changes in appetite or sleep – either increased or decreased
  - Drop in energy or lost ability to take pleasure in activities that had been enjoyable
  - Overall decrease in interests and motivation
  - Measure changes in weight and hours of sleep
**DEPRESSION**

- **Overlap in symptoms (stem from autism rather than depression)**
  - Flat or depressed affect (facial expression), reduced appetite, sleep disturbance, low energy, reduced motivation, social withdrawal and reduced desire to communicate with others

- **Most common presenting symptoms**
  - Irritability and agitation
  - Sadness
  - Aggressive or temper outbursts
  - Suicidal or self-injurious behavior

- **Worsening autistic features (e.g., reappearance of hand flapping, increased echolalia)**
Bipolar Disorder

- Relatively common among children and adults with ASD
- However, can be mistakenly over-diagnosed
- Overlapping and similar symptoms
- Recognizing mania in ASD
  - Inflated self-esteem or grandiosity
  - Decreased need for sleep
  - More talkative than usual or pressure to keep talking
  - Flight of ideas or subjective experience that thoughts are racing
  - Distractibility
  - Increase in goal-directed activity or psychomotor agitation
  - Excessive involvement in pleasurable activities that have a high potential for painful consequences
**Bipolar Disorder**

- Strong association between autistic traits and later psychotic experiences in adolescence
- Cycle rapidly through rages
- Have decreased need for sleep along with a manic-like hyperactivity
- Abnormally high-energy alternating with depression
- If not depression, then alternates with calmer or “normal” period
- Characterized by a variety of symptoms
  - Feeling elated, irritable or angry or fluctuating between happy and irritable throughout the day
- Individuals with ASD
  - Abrupt increases in “pressured speech” (rapid, loud and virtually nonstop talking), pacing, impulsivity, irritability and insomnia

Harrington (2013)
Schizophrenia

- Initially, autism was viewed as a childhood-onset form of schizophrenia
  - Diagnosis would be changed from Autism to Schizophrenia at age 18
  - Now, ASD is understood as a lifelong disorder
  - Schizophrenia can now sometimes be identified in childhood

Psychosis

- Negative symptoms (flattened affect, attention difficulties) share overlap with ASD
- Positive symptoms (hallucinations, delusions) do not overlap with ASD
- Must consider whether psychosis is due to a mood disorder vs. schizophrenia

Harrington (2013)
Schizophrenia

- Usually develops after a period of normal, or near normal, development
- Go through a “prodromal” state
  - Social impairment and atypical interests and beliefs occur
- Individuals with ASD can be concrete in their interpretation of questions regarding key features of schizophrenia
- ASD noted to speak to themselves and may have an “internal” conversation
- Misdiagnosis of schizophrenia in children is all too common
  - Distinguished from autism by the persistence of hallucinations and delusions for at least 6 months, and a later age of onset-7 years or older
THANK YOU!

Questions, comments?