Characteristics of Individuals with an Autism Spectrum Disorder (ASD)

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While individuals with an autism spectrum disorder (ASD) are unique as anyone else, some common global characteristics exist within the population. These characteristics vary in intensity, degree, and amount, and manifest differently from person to person and over time. The following characteristics associated with ASD are loosely based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5™) and should be used to gain a better understanding of individuals identified with ASD, design a program, or facilitate discussion.

Social Communication Impairments

All individuals with ASD exhibit social communication impairments. In the first few years of life, salient signs of autism include lack of appropriate eye contact and inability to initiate or respond to joint attention (i.e., sharing social experiences with a communication partner). Common social difficulties include:

- Demonstrating appropriate play skills, such as cooperative play with others. Some children with ASD may appear uninterested in playing with peers.
- Some may reject or ignore the social approaches of others.
- Responding to and initiating joint attention for social purposes. For example, many individuals with ASD are skilled at requesting items but are less likely to communicate for the purpose of sharing a social experience. Some individuals with ASD may lack interest in conversations that do not include topics of interests.
- Using and interpreting body language. For example, individuals with ASD may have challenges understanding tone of voice or facial expression in social situations.
- Staying on topic, turn-taking, and asking related or appropriate questions during conversations.
- Taking their communication partner’s perspective, checking for understanding, or predicting what information may already be known about a concept or situation during conversations.

Speech/Language Impairments

Persons with ASD may have specific difficulties in the areas of receptive and expressive language. Receptive language is the comprehension of language (e.g., following directions), while expressive language is the ability to express desires and thoughts to other persons. Some individuals with ASD express their thoughts verbally, while others may be nonverbal and require a communication device.

Those who are nonverbal may demonstrate the following:

- Delay in, or lack of, spoken speech/language, impacting approximately 20-30% of the population.
Lack of an effective way to communicate may lead to the need for the use of alternative augmentative communication (AAC), such as sign language, pictures, or a voice output device.

Those who are **verbal** may demonstrate the following:

- Delayed or immediate echolalia as a means of conversation with others, for self-management, or for self-stimulation. For example, a dialogue from television programs or videos may be used as a means of conversation.
- Stereotyped or repetitive use of non-echolalic language routines that serve various functions such as initiating or sustaining a conversation.
- Use of idiosyncratic speech (e.g., inappropriate word use).
- Grammatical structure which may appear immature (i.e., telegraphic speech, improper tense or use of pronouns) or grammatical structure which may appear pedantic (e.g., monologue, advanced vocabulary in an area of interest).
- Abnormal use of pitch, intonation, rhythm or stress. For example, speech may be monotone or hypernasal, and declarative sentences may end with a rising tone to signal the asking of a question.

Both verbal and nonverbal individuals may demonstrate difficulties with receptive language such as:

- Delayed vocabulary development;
- Difficulty following directions;
- Difficulty understanding abstract concepts; and
- Difficulty interpreting social language, such as sarcasm and jokes.

**Restricted Repetitive and Stereotyped Patterns of Behavior, Interests, and Activities**

Although people with ASD may enjoy the same activities as typical same-age peers, the intensity and focus of their interests may differ. This may be due to the fact that some have a limited repertoire of alternative behaviors, or that they prefer and feel comfortable repeatedly performing certain tasks. Behavior under this category include:

- Stereotyped or repetitive motor movements such as hand flapping or finger flicking, use of objects such as spinning coins or lining up toys, or use of speech such as echolalia (delayed or immediate parroting of heard words), use of “you” when referring to self or stereotyped use of words or phrases.
- Excessive adherences to routines and sameness such as being distressed by changes in the schedule, insisting on adherence to rules, or having inflexible thinking.
- Ritualized patterns of behavior such as repetitive questioning or pacing.
- Highly restricted, fixated interests that are abnormal in intensity or focus. A toddler may have a parent’s belt that they carry everywhere, a child may have a preoccupation with vacuums, or an adult may spend hours memorizing facts about their favorite baseball team.

In the DSM-5, sensory differences are categorized under restricted repetitive behaviors. Individuals with sensory differences will be under (hypo) or over (hyper) sensitive to a variety of sensory inputs:
• Visual input sensitivities are staring at spinning objects, being bothered by fluorescent lights, or having trouble with keeping their place when reading.
• Auditory input sensitivities are covering ears during loud noises, preferring loud music or none at all in the car, or not being able to respond to verbal prompts when in a noisy area.
• Tactile input sensitivities are disliking getting hands or feet messy, avoiding/preferring certain surfaces, textures, or fabrics, or finding specific types of touch aversive (light touch on the shoulder vs. deep pressure hug).
• Taste/Smell sensitivities are not eating certain foods, licking or tasting non-food items, or finding strong perfume or cologne aversive.
• Proprioceptive Input sensitivities are difficulties interpreting sensations from muscles, joints, ligaments, and tendons (e.g., putting too much pressure on pencil when writing or falling/crashing into things).
• Vestibular input sensitivities are over or under sensitivities to balance and movement sensations, such as having trouble staying seated, constantly leaning head on hands and arms, or easily losing balance.

**Executive Function Impairments**

Executive functioning refers to advanced cognitive skills, such as attention, working memory, planning, reasoning, sequencing, and flexible thinking. In typically developing people, these skills benefit not only social interactions but also academics, learning, self-regulation, and activities of daily living.

• Individuals with ASD may have difficulty with a wide range of executive functioning tasks, such as sequencing the order in which to dress themselves, tie their shoes, pack for a trip, or complete a homework assignment.
• Rigid, inflexible thinking is a common characteristic of individuals with ASD, and therefore individuals may have trouble problem-solving or generating more than one solution to a problem.
• Individuals with ASD may have executive functioning difficulties at more basic levels, such as sustaining prolonged attention to an activity, or dividing their attention between two activities at once.

**Common Learning Characteristics**

Although no two people with ASD are alike, many demonstrate common learning characteristics. Those involved in working with the individual with ASD will need basic information about these characteristics and how they impact learning.

• Individuals with ASD often demonstrate exceptional rote memory skills; however, their working memory or the time it takes to process information, especially processing several pieces of information at one time, can be difficult for people with ASD.
• Many individuals with ASD are able to better process information when presented visually. They may benefit from pictures, modeling the behaviors of others, hands-on activities, and concrete examples.
• Unstructured time or extensive waiting can be difficult for many. Schedules or checklists can help ease the anxiety or confusion surrounding unstructured time. Educators may also consider having a box of wait time activities, such as books, toys, or sensory items.
• Individuals with ASD often have difficulty generalizing learned skills from one setting to another. Educators may need to teach skills across different settings, people, and activities.
• Organization of materials and activities can be problematic for individuals with ASD. Educators may need to teach individuals with ASD how to organize their materials for different classes, keep their lockers tidy, how to use an agenda, and gather materials for homework.
• Individuals with ASD typically perform unevenly within and across academic skill areas.
• Some individuals with ASD are high-achieving in all areas, some have high word recognition skills, but poor comprehension, others have high calculation skills, but poor applied math problem skills, and a proportion are low in all areas.

Additional Considerations

For some individuals with ASD, additional conditions further impact their ability to successfully learn and live in society. These conditions include:

• Current or previous seizure activity.
• The use of medication for seizure activity, mental health disorders, behaviors, or other conditions.
• Eating problems such as pica, overeating, and eating only particular foods.
• Current or previous sleeping or toileting problems.
• Self-injurious behavior such as head-hitting, self-biting, face slapping, and severe scratching.