

**Language vs. Behavior: The Greater Impact
On Social Skills in Children with Autism Spectrum Disorder**

Claire O'Connor
Sacred Heart University
HN 300
Dr. Stannard and Prof. Little

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Introduction

According to the *American Psychiatric Association*, Autism Spectrum Disorder is a neurodevelopmental disorder that causes impairment in social interaction as well as verbal and nonverbal communication. Autism begins to emerge between ages two and three in children when they stop acquiring new skills or lose any skills they have gained before reaching toddlerhood (APA n.d.). Children with autism may not reach certain milestones, i.e. saying their first word, speaking in sentences, learning how to sit quietly in one spot, and using appropriate gestures when talking, until much later in their development. The severity of deficits ranges on a spectrum; children can either be diagnosed with Asperger's syndrome, pervasive developmental disorder, and low functioning ASD. Clinicians compare their development to typically developing children to point out specific language and behavioral deficits.

The primary goal for children with ASD is to promote independence and autonomy once they reach adulthood. In doing so, there are a range of healthcare professionals who work together to identify the course of treatment the child needs to improve their language and behavior. Similar to Reis' study describing intervention effects on communication skills and sensory regulation in children with ASD, the speech-language pathologist in this study worked with children on their symbolic communication by matching certain gestures to their pragmatic categories. The clinical psychologist worked on the children's' joint-attention skills by using play as a method to open and close as much communication circles as possible (Reis, Periera, & Almeida 2018).

Despite both clinicians working together to form a diagnosis, there is one component that holds greater impact on social skills in children with autism. When someone sees a child with ASD, the first thing they notice is their behavior; but what elicits this behavior? Behind those

actions lies the message that the child is trying to express but cannot due to their cognitive deficiencies and restricted motor movement. Although behavior does play a role in communication, language holds greater impact on social skills in children with autism; it allows for initiation of thought and comprehension of one's actions.

Social Skills in Children with Autism

Social skills involve the understanding of messages expressed and appropriately reciprocating those messages based on the current context (Guivarch et al. 2017). Children can either use language to communicate their thoughts, or they can use gestures and other forms of movement. Language in social communication revolves around pragmatics which is the appropriate language used based on the context it is used in. Children who are typically developing start to acquire pragmatic forms such as verbal turn taking and gesturing after their first year of development. Once they begin to reach toddlerhood, they start acquiring informative, imaginative, and heuristic language functions. When children do not display these pragmatic traits at this age, concerns begin to rise regarding their neurological development.

Parents may not recognize ASD attributes this early on however, if those children are in an environment with other peers, their deficits may appear to be more prominent. Children with ASD need structure when surrounded by other people; whether they are with their parents, teachers or peers, structure is key when keeping them align with everyone else. Past studies have used methods such as group play to elicit cooperation and interaction between peers with and without ASD (Chester et al. 2019). Typically developing children who reach preschool age will begin to engage in longer dialogue and use indirect requests compared to children with ASD, who may only have minimal verbality and understand few pragmatic gestures.

Some children who show delays in their development may seek early intervention that can better combat behavioral and language deficits before it progresses. Dr. Paul has reviewed past intervention strategies on improving communication and found that fluency and flexibility of expressive language has helped identify where children fall on the autism spectrum. Behavior plays an important role in eliciting expressive language (Paul 2008). However, language determines where children fall on the spectrum in order to decide what the best course of treatment would be to better their social skills.

Methods of a Speech-Language Pathologist

A Speech-Language Pathologist is a licensed practitioner who works with individuals who may have a communication delay or disorder. When working on social skills in children with autism, SLPs will focus on the verbal communication of their client. Language is an important indicator of a child's level of social interaction due to their awareness of what they are saying as well as the complexity of their vocabulary (Syriopoulou-Delli, Agaliotis, & Papaefstathiou 2018). Children begin to develop language from what they hear by storing words in their internal dictionary called a "lexicon". Once children are able to attach meaning to the words they hear, they use those words when trying to communicate a message. Children with autism tend to have a more condensed lexicon; their ability to retain the language they see and hear is lower than for children who are typically developing. When assessing the level of language a child uses, it is important to take into account the five building blocks of language differentiating one word from another: phonology, morphology, syntax, semantics, pragmatics.

Looking at social skills in a child with ASD, SLPs will focus on their pragmatic development. Pragmatics is the appropriate language used based on the context it is used in; SLPs assess pragmatic development by seeing how the child maintains a conversation, the

context of their message (requesting or providing information), and how often they stay focused on the person they are talking to. Once children reach toddlerhood, it is a critical period for pragmatic development. When children are at least a year old, they begin to gain a sense of conversation schema which teaches them to initiate and sustain a conversation. This milestone is essential when determining whether a child is diagnosed with ASD. When parents see that their children are not at the same level as their peers, concerns will arise and that will lead them to seek help from an SLP. The SLP will provide the child with an intervention that assesses their level of communication. If the child continues to lack pragmatic attributes such as sustaining or initiating a conversation, they may require a course of treatment that can better their social interaction.

When coming up with an intervention strategy, SLPs will not only use the results of a standard assessment but they will also incorporate the parent's perspective on their child's communication. Out of all individuals who have worked with these children, the best source of judgement when it comes to obtaining subjective information about a child's communicative development are their parents and caregivers. They are the ones who raise their children; they are the ones who best understand their children. Although standard assessments provide quantitative data on a child's performance, an interview with a parent or caregiver can provide an explanation as to why their child's scores are above or below average.

In addition to obtaining information from the parents when figuring out the best course of treatment, there are behavioral components that influence the production of language. When children communicate, they will sometimes use hand gestures, or they may display unwanted behaviors of what they are trying to say that is not applicable to their abilities. Behavior does play a role in social interaction however, the intent of what the child is trying to say lies within

the language they express. For example, if an SLP uses Picture Exchange Communication System (PECS) as an intervention, the goal of this assessment is not to just have the child use gestures to exchange each picture, it is to obtain more language and give them the opportunity to say the correct name of each picture shown (Hsieh, Lynch & Madison 2018). Most assessments do have behavioral components; however, the behavior required to perform the tasks of the assessments given have the same goal; to elicit more language.

Methods of a Clinical Psychologist

A clinical psychologist provides counseling services to treat mental, emotional, and behavioral disorders (APA n.d.). In addition to the lack of verbality, children with autism also lack regulation of movement and joint attention. The clinical psychologist plays an important role in assessing and treating children with ASD. When conducting an assessment, the clinical psychologist can formulate an approach that can point out what the child may be lacking in. A common intervention that has been used to improve social skills in children with ASD is Applied Behavior Analysis; this is the understanding of how behavior is affected by the environment (Locke et al. 2014). When assessing social skills in children with autism, it is important to look at how they respond to questions, maintain a conversation, express their wants and needs, and how they participate in conversations (Radley et al. 2017). Yet, before assessing physical behavior, making sure children with ASD are focusing on the subject of a conversation is crucial when determining social deficits.

Children with ASD tend to have repetitive behaviors when in a certain setting or while trying to interact with others. These repetitive behaviors may include fidgeting, body rocking, repeated sounds or phrases and constant gesturing that can affect their everyday function.

Clinical psychologists help children with ASD overcome these repetitive behaviors by teaching

them how to change their thought process when these behaviors occur. When searching for an intervention, they use information from the parents of the client to identify the child's strengths and weaknesses (APA n.d.). They incorporate more of the parental perspective into making their clinical decision because having their parents observe their behaviors at home can reveal what lead them to having these repetitive behaviors. Going back to Reis' study on describing intervention effects on communication skills and sensory regulation in children with ASD, the clinical psychologist involved in this study train the participant's parents to teach their children how they can help them maintain good joint attention. It was easier for the participants in this study to improve their joint attention due to the bond they already have with their parent. Despite the treatment clinicians provide for their clients, having someone close to them provide that therapy can elicit a more desired outcome (Reis, Periera, & Almeida 2018).

Joint attention is when the child focuses their attention on something that the other person is also focused on (Gernsbacher 2008). Clinical psychologists work on the level of joint attention in children with autism by identifying how often they use hand gestures, how often they use eye gazes to focus on what they are talking about, how often they vocalize. For example, if the adult says "Look!" and then points to an object, it is up to the child to look at what they are pointing to (Chohan & Jones 2019). Participating and initiating joint attention are preverbal behaviors that help identify what the child is trying to say or the intent behind their message. Despite the behavioral component being prominent in improving social skills, it is important that clinical psychologists are aware of what the child is trying to say; they may use certain gestures that may have no relevance to what they are trying to say.

Behavior can initiate what the child wants to say; however, it is language that composes the purpose of the child's message. Clinical psychologists use methods such as structured play to

get the child to interact with others. Chester et al.'s study on group based social skills training with play gave children with ASD an opportunity to work with their typically developing peers on a narrative they had to create and then perform in front of a large crowd. The goal of this method was not only to increase verbal communication, but it was also used to teach children how to follow directions in a semi-structured environment (Chester et al. 2018). In addition to using group therapy as a method to improve social skills, other studies have supported group therapy methods that includes parents; having children's parents reinforce their progress can help them maintain social behavior (DeRosier 2011). Group therapy has been shown to be effective in improving social skills in children with ASD; it helps to increase joint attention and gives children with ASD the opportunity to expand on their pragmatic judgment.

Clinical psychologists use this method of practice to prompt the child to eventually use expressive language to share their thoughts.

The Interprofessional Relationship

Despite differences in the two fields, both SLPs and clinical psychologists work as a team in figuring out the course of treatment when improving social skills in children with autism. Language and behavior are both components that go hand in hand when assessing an individual's level of social interaction. One study compared two types of assessment that revealed a correlation between two subsets of the *Comprehension Assessment of Spoken Language* (CASL) and both domains of the *Vineland Adaptive Behavior Scale* (Reichow 2008). CASL Subsets assessing pragmatic judgement and inferencing showed similar results compared to Vineland's communication and socialization domains. Pragmatics is the main focus when determining the level of social interaction in a child; pragmatics can refer to either a child's body language or the

language the child speaks. Pragmatics are viewed as a necessity in helping children with ASD understand the appropriate language they use when talking to another person.

Children with ASD have difficulty with understanding the context of an interaction. They will act one way and then act in that same way regardless of who they are talking to. For example, they hug their mom goodbye when they go to school, but then they also think it is ok to hug one of their peers without their permission because they do not understand who they are interacting with. Studies on improving social skills in children with autism have used certain motivational techniques eliciting more expressive language. One study used Pivotal Response Training, which is a method used to teach peers the procedure of the treatment and then having them perform that treatment themselves on the subjects rather than having professionals perform them (Harper et al. 2008).

All types of intervention are composed by a team of clinicians who incorporate their specialties into corroborating a diagnosis for the child. The most prominent method used by clinicians of all fields is evidenced based practice. Before making a clinical decision, it is the SLP and psychologist's task to find all internal and external evidence. Internal evidence allows for the clinician to do research on the client's background. They may ask questions including: Has the child ever had an intervention? If so, which one? Has the child ever been diagnosed with a communication or behavioral disorder? Both SLPs and clinical psychologists must understand their client before proceeding any further; if they can get an idea of the client's history, it will help narrow down options for course of treatment. Another form of internal evidence is the clinician's specialty; this allows for the SLP and clinical psychologist to bring together their knowledge and use what they know to provide the best service they can to their client. Their past experience with different intervention methods and therapeutic treatments can be implicated with

the client's case history. For example, the client has been assessed by used PECS and the SLP has used this assessment on past clients. External evidence would be any outside knowledge the clinical psychologist and SLP may not be aware of despite what they already know. Research articles are a way to show both clinicians how effective certain courses of treatment can be on clients. They may have not had experience with certain techniques; however, they can work together and use the information they find to help make a clinical decision. Evidence based practice has been used by many clinicians and has been shown to be effective on children with ASD.

Despite the correlation between the specialties of an SLP and a clinical psychologist, they provide different services when improving social skills in children with autism. SLPs focus on the verbal aspect of communication while clinical psychologists focus on improving behavior. When using pragmatic approaches, such as child-centered therapy, to elicit more expressive language in children with autism, clinicians will focus on the child's preverbal behaviors to make sure they have the opportunity to express the intent of their message (Paul 2008). Behavior may be beneficial in asserting language; however, language is what gives behavior reason. Children would not behave the way they did if they were not trying to say something; those who are nonverbal use other forms of communication because that is their language. Language consists of a set of symbols that are used to express or share thoughts with others. Behavior can impact the way children with ASD may respond or initiate certain messages; however, behavior is used to elicit language.

Field That Has Greater Impact on Social Skills in Children with Autism

Even though both clinicians work together when determining how to improve social skills in children with autism, there is one underlying factor that has greater impact on their

improvement. Behavior is what is visible at first glance however, there is meaning behind this behavior. In most cases, children with autism are nonverbal and the lack of language can cause them to react in certain ways eliciting unwanted behavior. Language is what triggers that unwanted behavior; a child who is trying to speak may feel restricted because they do not know the language to use when speaking to another person. Behavior does have influence over a child's actions however, language is what controls the outcome of that behavior; What is the child trying to say? Who are they talking to? How will they get their message across? Children need to understand how to express what they need and what they want. Preverbal behavior is what pushes children to express more language.

Language is used to measure the level of social interaction in an individual (Reis, Periera, & Almeida 2018). While behavior is used to initiate language in children with ASD, language is also used as an indicator of whether a child needs in class support. Children with ASD who are high functioning tend to not qualify for special services because their exceptionalities do not reach the threshold of other students who require more support. Children who show more distinguished deficits, such as poor language, lack of fluency, inappropriate behaviors, will receive in class support and other services that are provided by their district (Reichow et al. 2008). Pragmatics are overlooked when assessing a child who may show signs of ASD; even though they know certain words and how to put them together in sentences, they may not know how to use those words in a social context.

Children with ASD have difficulty with transitioning; whether it is going to another class at school or talking to another person, they do not fully understand how to take the language they know and apply it to other contexts. SLPs work with these children to make sure they understand how language can be used in other situations. For instance, as children get older, they start to

develop an understanding of how to categorize certain words; children with autism may not be able to grasp this idea until later in their development (Reis, Periera, & Almeida 2018). It is important to point out what they know versus what they apply in other situations. Children with ASD spend a majority of their treatment working with the SLP when expanding their social communication. Clinical psychologists work on their behavior; however, the SLP plays a more optimal role in their treatment because when they work on pragmatics with them; it includes behaviors such as gesturing, body language, and facial expressions. Clinical psychologists use their specialties to incorporate what they know about certain behaviors, while SLPs match those behaviors to their pragmatic categories.

In addition to the role behavior plays in children's development, emotion is another factor that both SLPs and clinical psychologists consider when improving social skills. Language can send a message, but if that message were to convey how that individual was feeling, their message can be better interpreted. Clinical psychologists help regulate emotion in children with ASD however, SLPs take that emotion and turn it into an attitude to help deliver a clear communicated message. When children with ASD use their verbal communication to interact with others, some may lack emotion when sharing their thoughts; for example, they may be excited about something but, the other person is not aware because the message they convey does not indicate how they feel about it. SLPs help children with ASD share their ideas with an attitude that best represents how they feel. It is important for the speaker to indicate their feelings when sharing a message; whether it is the change in their tone, the word choice that is used, or the speed in which these words are said, it will not only help children with ASD get their message across to others, but it can help them strengthen relationships.

When SLPs and clinical psychologists work together to figure out the best course of treatment for the child, it is for the same purpose: to get the child to communicate efficiently. Both clinicians take all the information they have gathered on the client and discuss possible explanations as to why they have not reached certain milestones in their development. Although they offer each other different approaches that can be useful, the SLP's approach can have a more substantial impact on making a clinical decision. One of the main goals of refining their social skills is making sure that the child is able to express how they feel and what they want. Psychologists will offer guidance on how to maintain appropriate behaviors through games and activities the child would participate in. But when it comes to following instructions of the games and activities the psychologist uses, it is to get the child to engage in complex conversation (Reis, Periera, & Almeida 2018).

SLPs contribute all they can to bettering social interaction in children with autism. While there may be certain components of social communication that require the specialties of other professionals, SLPs will have the greater impact when treating children with autism. Achieving adequate social interaction means acquiring the language needed to share an individual's thoughts to the other person. Behaviors such as gesturing are used to help children with ASD understand how certain words are used in different contexts. Emotion is another important factor that helps define the language used by the individual. In the end, no matter how much clinical psychologists contribute to improving behavior in children with autism, it is all for one purpose: to produce language.

Conclusion

Autism Spectrum Disorder is a social communication disorder that effects behavioral and language development in children. The goal for improving social skills in children with autism is

to have them gain a sense of independence once they reach adulthood. Despite behavior impacting social communication, language is the driving force for how children with ASD communicate with one another. Behavior is what is first noticed when seeing a child with ASD, however, the intent behind that behavior is what the child is trying to say. SLPs work on improving language in their communication while clinical psychologists focus more on the behavioral aspect of their communication; behaviors include gesturing and joint attention. Although, behavior is used to elicit more language in children with autism, the specialties of the SLP are more prominent in course of treatment due to their practice of taking the behaviors they learn and matching them to their pragmatic categories. Once children with ASD have an understanding of the appropriate behaviors to use in different social contexts, it will bring forth the words they are trying to say. The interprofessional relationship between psychologists and SLPs is crucial when making a clinical decision for course of treatment. Using different branches of knowledge from other health professions will produce more treatment approaches for bettering social skills as well as more insight on each specialty. Despite all that is contributed in cultivating a therapeutic approach for improving social communication in children with ASD, language has the greater impact on how children with autism communicate with others.

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