SOCIAL SKILLS AND AUTISM SPECTRUM DISORDER

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CONTENTS

CHAPTER 1

A BRIEF INTRODUCTION ABOUT SOCIAL SKILLS DEFICITS

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ABSTRACT:

Lack of socialemotional reciprocity, poor nonverbal communication, and problems forming and sustaining relationships are all examples of social impairments. It might be due to a lack of information, such as the inability to learn new skills, or to a competence deficiency. Sometimes a person knows how to execute a social skill but struggles to do so due to insufficient practice or feedback. Comorbidities including anxiety disorders and intellectual disabilities are frequent. In this chapter author is discusses the specific areas of social disturbance.

KEYWORDS:

Autism, Brain, Children, Disorder, Social.

INTRODUCTION

Reports of wild or feral children and other youngsters who we could now know as having autism started to emerge in the 1800s, but it wasn't until Leo Kanner and Hans Asperger's findings in the 1940s that autism spectrum disorder became properly understood. Both Asperger and Kanner used the term autism in their publications to describe a unique social interaction challenge they saw in the individuals they studied. The peculiar social aspect of autism has been more widely acknowledged throughout time, and significant advancements have been achieved in our understanding of probable processes and the most effective therapeutic modalities at the level of fundamental research [1]. Once it became obvious that autism was a brainbased condition with a very strong genetic foundation, as seen by the much higher concordance rates in monozygotic twins, the early disagreement over the nature of autism started to change in the 1970s. It also became obvious that organized interventions performed better than unstructured psychotherapy in treating autism. Since autism was recognized formally in 1980, research has proliferated. Many people with autism and other problems are now functioning independently in public situations thanks to early discovery and care, and in some cases, as adults, they even seem to no longer have the condition.

In this article, we just look at a few elements of the distinctive constellation of social difficulties associated with autism and related ASD, both in terms of how they appear clinically and how they could be connected to certain brain systems. In summarizing these findings, we propose a new conceptualization of autism that places a strong emphasis on these social learning issues as its core. We should point out that the fact that this study is unable to be anything other than selective in the space given, emphasizing the features of social difficulties that seem to us to be most relevant in terms of clinical or research significance, is a credit to the area. Throughout time, several definitions of autistic social dysfunction have been developed. Rutter emphasized delayed and deviant social development, NOT only the functioning of overall developmental delay, in his very important summary of Kanner's initial findings and subsequent studies. Similar

early researchers recognized social issues as a key diagnostic trait. The DSMIII and its numerous predecessors continued this practice.

While efforts at a more thorough classification have proved challenging, it is generally agreed that autism the profound social disability is the distinguishing trait of ASD. Complications result from changes with age and developmental stage, as well as significant variations in methods. The discipline has struggled with social issue quantification for a very long time. On the one hand, screening and diagnostic tools that consider the severity of autism or CARS represent efforts to evaluate degrees of severity. On the other hand, other methodologies evaluate social levels based on normative social processes, such as normed face memory tests or Vineland Adaptive Behavior Scales assessments of socializing abilities. As we will note below, a number of novel measurements have recently been created as part of research on how the brain processes social information and may provide alternatives.

For instance, research from the first Who's Afraid of Virginia Wolff movie clips eye tracking experiments conducted at Yale indicated significant variations in how more cognitively capable persons with autism observed the social panorama, as measured by infrared cameras. There was almost no overlap between the groups in that first research when it came to concentrating on eyes in the scenarios. Also making progress is the field of genetics. It has become evident that several genes may be at play, with a more widespread form of autism likely displaying some, but not all, of the characteristics of people with more typical autism. While it is still unclear how social vulnerabilities relate to genetic vulnerabilities, study employing increasingly accurate and advanced animal models is now under progress [2].

DISCUSSION

Attachment

The purpose of the attachment process is to provide the growing newborn with opportunity to form bonds and intricate social links with main caregivers. This process, which is extremely strong in usually developing children and lasts their whole lives, becomes most notable around the time when newborns reach the age of 9 to 10 months, when they start to become more at ease with their parents and more apprehensive of outsiders. Strong emotional ties and maintaining close closeness to caregivers are only two actions that show signs of attachment. Early assumptions that there was no parental connection in autism were shown to be false as a number of studies revealed some relationship to parents, although sometimes in unusual ways.

Recognizing Faces

For a baby, faces have a specific significance. Several other social skills depend heavily on the ability to observe faces and interpret meaning and information from facial expression. There are obviously other approaches. For instance, social skills are often developed by blind newborns in traditional ways, but with reasonable delays in certain areas, including joint attention. A typically developing child's interest in faces appears to be innate as evidenced by their early preference for looking at faces or facelike stimuli, their relatively quick recognition of their parents' faces, their use of the top half of the face as a source of more information, and their activation of particular brain regions for certain aspects of facial recognition. Over the first year of life, facial recognition and face processing become more sophisticated. By the time they turn one, children who are usually developing are acutely sensitive to both known and unfamiliar faces and have

trouble comprehending faces when they are presented upside down. At this age, face processing is fluid and quick, and it keeps improving throughout the following years [3].

There is now a sizable corpus of research on the difficulties with face perception in people with ASD. This research employs a variety of methodologies based on neuroanatomy, behavioral reactions, and neurophysiological correlations. Clinically, these challenges show themselves as early beginnings of gaze issues, difficulty controlling and deriving meaning from facial expressions during social interactions, and a lack of eye contact. In terms of behavior, these issues also manifest as a reduction in socialemotional reactions to others. Reduced eye contact, shared attention, social orienting, deficiencies in face imita tion and face recognition, attenuated reactions to others' emotional outbursts, gaze behaviors, and diminished eye contact are only a few of these impairments.

These may also have implications for general imitation. Early research with young children often depended on looking back at videotapes. Osterling and Dawson, for instance, found that children with ASD were substantially less attentive to faces than typically developing peers. Other work with elderly people has included a variety of techniques. For instance, behavioral studies have shown challenges with faceprocessing tasks, some variations in processing inverted faces, and a lack of some of the typical early hallmarks of developed facial perception in autism, such as the absence of the facial inversion effect.

These issues also include issues with accurately seeing and being aware of people by using the emotional information sent by a person's face. There are variations in the facial recognition process according to studies. For instance, normally developing children look at things using a piecemeal processing technique, but not faces. Although in ASD, processing of faces while gazing at items is more similar to that of a regular youngster [4].

As we'll go over in more detail below, a growing body of research has used EEG and fMRI techniques to shed light on the neurophysiological and neuroanatomical correlates of these skills. Additionally, new experimental procedures have been employed to shed light on the precise differences in processes like face perception in much more detail. As a practical fact, the nonsocial world has far more significance for the growing autistic kid, a characteristic Kanner underlined forcefully in his first report on the condition.

Eye Contact and Gaze Patterns

Parents usually mention restricted or poor eye contact and unusual characteristics of gaze as some of the early indications of autism. These procedures are directly connected to several facets of social development, such as facial processing. Both the ability to perceive others' emotions and attentional focus, as well as the capacity to participate in the back and forth of communication in social encounters, depend on the ability to engage in reciprocal gaze. Similar to face processing, newborns who are ordinarily developing begin to show interest in others at a young age. In contrast, infants with autism spectrum disorders have strikingly lower levels of reciprocal gaze. Statistics on the age at which this may be initially exhibited are a little contradictory; some research suggests it can be seen as early as 6 months, while other study suggests it is less obvious until about 18 months. The different approaches used in this study and others are probably crucial. The most persuasive evidence of early differences has probably come from eye tracking data.

Imitation

Early in typical development, the drive to copy is evident. The basis for many other abilities, including communication, is laid via imitation. Significant deficits in imitation, in all of its manifestations, have been found in autism, according to a large body of research on the development of imitation. These challenges are linked to other key social skills including play, joint attention, and nascent communication skills. It has been suggested that challenges in this area are a fundamental feature of autism. While there is still theoretical disagreement on this matter, it is widely accepted that early intervention that strengthens social attention and imitation in autistic young children is crucial. The several types of imitational activities, such as object imitation, motor imitation, gestural imitation, and overall imitation, have been the focus of interventions for imitation issues. Few studies have specifically addressed this issue, despite the general assumption that improvements in imitation skills will lead to improvements in other domains. However, the work that has been done so far points to significant improvements in domains like communication, play, joint attention, and general cognitive abilities. For example, the Early Start Denver Model of Rogers, Dawson, and Vismara, Pivotal Response Training, and applied behavior analytic models all focus on imitation as a crucial developmental ability for young children with autism. Encouraging imitation is readily included into interventions that focus on other skills like shared attention and play.

Game Skills

Even though it's hard to describe, play is a crucial aspect of childhood. It incorporates significant cognitive, physical, and social components, becomes symbolic, and serves as a crucial building block for other abilities. Play starts off with basic object manipulation, moves on to functional play, and eventually develops into far more symbolic and complicated play. A little cup, for instance, may be first used for banging or sniffing before being used for functional play, such feeding a doll, before becoming quite unrestricted and taking on a variety of symbolic functions. Play is a key component of children's life throughout preschool and acts as a practice ground for pretending as well as an enjoyable shared joint experience with parents, siblings, and friends. Understanding play requires consideration of crucial cultural and environmental variables. Piaget stressed the value of play in the formation of the brain [5].

Symbolic Play Challenges in ASD

well known since the 1970s. The absence of symbolic play in early autistic children was verified by further research. Instead, play in these children tended to be stereotypical and repetitive, with issues extending to both nonsymbolic and symbolic play. Even when general cognitive capacity is within control, these challenges extend to the simplest types of play, delaying and/or causing deviations in the development of both sensorimotor and functional play abilities. According to intervention research, play skills may be improved using a variety of techniques. They include using peers to enhance play skills as well as direct instruction as well as more realistic methods of instruction.

Processing Social Information from a Neural Perspective

Up until recently, social and emotional processing was a relatively underappreciated area of cognitive psychology. It was widely accepted that attention, memory, and other basic cognitive functions could be used to explain how sophisticated social behaviors emerged. Nevertheless,

coordinated research efforts in the 1970s and 1980s produced a series of results that disputed this conventional wisdom and promoted the idea of specific cognitive processes for processing social information. Specialized mechanisms for this kind of social perception were indicated by behavioral investigations of face processing and biological mobility. Similar to this, Cosmides and Tooby followed a research agenda that made a strong case for specific social reasoning systems. Science at the time was unable to investigate the neural underpinnings of such function in healthy individuals, but studies of brain damaged patients, developmental disorders, and electrophysiological studies of nonhuman primates all started to point to specific neural mechanisms for a variety of social processes.

The phrase social brain was first used in a major essay by Brothers that brought all of this study together. Brothers said that the data indicated that social information processing specializations are evolutionarily advantageous and that, by the standards of the day, social information processing constituted a cognitive module an intrinsically specialized and encapsulated neurocognitive mechanism. The promotion of social cognition to modular status put it on level with language in the hierarchy of cognitive psychology and sparked a research program into the neurological underpinnings of social cognition that is still ongoing today. Researchers began looking into ASD at the time because they realized it was predominantly a problem of social cognition. In fact, the increased understanding of and interest in ASD has improved the study of social cognition and elevated it from a specialized research area to one with significant public health implications. This research benefited from concurrent advancements in techniques for studying the human brain, most notably fMRI [6].

fMRI employs strong magnetic fields to image localized variations in blood oxygenation. These alterations are assumed to be caused by neurons' fluctuating metabolic requirements, which are a result of their activity. Individuals are exposed to stimuli as part of a typical fMRI experiment, and the blood oxygenationdependent signal is then measured. As a result of the stimuli or task, variations in the BOLD signal are interpreted as variations in the underlying brain activity to those signals. As fMRI is noninvasive, it gave researchers the chance to examine different aspects of brain activity in healthy volunteers. High spatial precision was one of the benefits of fMRI over other noninvasive techniques like EEG and ERP. Researchers looking for and collecting the neural correlates of different cognitive modules were especially drawn to this spatial resolution, and social cognition was no different in this regard.

Important Centers for Social Cognition in Healthy People

The orbitofrontal cortex, the temporal cortex, and the amygdala are some of the cortical and subcortical nodes of the social brain that Brothers discovered. Using electrophysiological and artificially produced lesions, nonhuman monkeys were studied for evidence implicating these areas. Early fMRI research on humans mostly confirmed the basic conceptualization of the social brain. Two subsets of the temporal cortex were found on the fusiform gyrus and the supra temporal sulcus in a series of early investigations of face processing. A region on the fusiform gyrus on the ventral surface of the temporal lobe known as the fusiform face area was activated by simple contrasts of static face vs nonfacial stimuli. A lateral and posterior surface of the temporal lobe in the superior temporal sulcus has a tendency to become activated in response to more complex facial stimuli that capture the dynamic elements of a face in motion. According to the social brain idea, the amygdala is often activated by facial expressions of emotion, particularly negative affect. Mentalization and emotional arousal were linked to the orbitofrontal

cortex, which extends dorsally over the medial surface of the prefrontal cortex and the dorsal medial prefrontal cortex [7].

New areas and functions, however, were also being found. For instance, unpleasant faces stimulated the insula, which was also active during the sensation of disgust, whereas scared faces activated the amygdala in addition to the FFA. The first idea needed to be expanded in order to account for perception of bodies and activities. The sense of bodies stimulated parts of the posterior temporal cortex. The STS was also shown to be responsive to how people perceive their own physical movements and how those views are influenced by the activities' social and psychological import. The temporoparietal junction was also engaged during activities involving mentalization and theory of mind, which has led to a vibrant and continuing discussion over how functional functions are distributed across different areas.

An Unexpected Addition to The Group of Social

Areas originated from nonhuman primate electrical investigations. Researchers discovered neurons that activated in response to both the execution and observation of certain movements when examining the response characteristics of motor neurons. These neurons are now known as mirror neurons. Since they could indicate a method by which an emotional or cognitive state that is concealed from direct observation might be tied to specific information about one's own emotions and cognition, the response characteristics of mirror neurons are intriguing. For instance, while representing the continuous specifics of a physical motion during action perception, a significant amount of relevant and predictive information regarding the motivation behind the movement is missed. Decoding possible motivating aims, beliefs, and feelings from those acts presents an extra computing difficulty for the observer. Mirror neurons were proposed to have a more direct link with the aims, beliefs, and behaviors that the observer themselves would have while activating that action plan since they looked to be involved in the selfgeneration of actions. Hence, if they were to become active during observation, the observer may then become aware of any mental states that the actor could have.

Complex evidence supports the existence of a mirror neuron system in human neuroimaging. Mirror neuronlike patterns of activity were identified in several investigations. Yet, according to other research, mirror neurons are not necessary to make any cognitive inferences linking an action to an underlying mental purpose. Yet, the idea that social representations of other people grow from one's own selfrepresentation has a long history in social and developmental psychology. Physical mimicry, for instance, which may be seen in very early newborns, was formerly believed to be a forerunner to more complex social learning and even abstract social cognitive processes detached from solely physical embodiment, such empathy and theory of mind. Mirror neurons were proposed as a possible mechanism for at least the first phases of this evolution, and their identification sparked research into the neural underpinnings of these highly complex social phenomena. The number of possible areas identified as components of the mirror neuron system has increased from a very limited list, as has been the case with many social cognitive neuroscience initiatives [8].

ASDs and Social Neuroscience

From the outset, ASDs have been a central topic of debate in many social neuroscience conversations. Autism was used as support for the modularity of the social processing system in Brothers' paper. Since then, almost every facet of social cognition in ASD populations has been

studied in some capacity. Differences in brain activity between persons on the autism spectrum and healthy controls were discovered with regard to social perception and face/body motion perception. These abnormalities are typically congruent with the behavioral issues reported in these individuals. For instance, early research indicates that the fusiform, as well as the STS during action perception, are less selectively activated in ASD than in healthy controls. Similar absence of selective activation was seen in the dmPFC and TPJ during mentalization tasks in people with ASD. Similar results have been observed in other social cognition domains. As a consequence, one of the most recurrent findings from this research has been that the central circuits for social cognition are rather unspecialized. Other discoveries, however, are equally important to take into account. Here, we'll use the continuing research on face processing as an example.

There were signs of more than just a lack of specialization in the ASD samples even in the early fMRI investigations of face processing. According to studies, people on the spectrum recruited brain areas other than the fusiform more than healthy controls. This implies two potential outcomes, which are not necessarily different. First, it's possible that a largescale, intrinsic reconfiguration of the cortical circuitry that involves both regional increases and declines in activity during social cognition tasks underlies the association between ASD and this disorder. Current research on extensive cortical networks supports this theory, which demonstrates a somewhat wide variation in the pattern of connectivity in ASD. The likelihood that discrepancies are the result of different explicit methods is decreased since these data are often gathered when the subject is at rest. Differently from usually developing controls, people with ASD participate in social tasks strategically or selectively. For instance, people with ASD often glance away from the eyes while gazing at faces.

The subsequent brain activity would be anticipated to be affected by this unequal engagement. In one research, controls and people with ASD were made to pay attention to areas of a face that correlated to more or less eye contact in order to experimentally influence input selection. Those with ASD showed relatively typical levels of fusiform activation under intense eye contact situations. These findings imply that preserved function may be available by topdown strategic modification of behavior in socially selected locations. It is yet to be determined if such results are reliable or can forecast social function in people. Key Restrictions in The literature review highlights the main advantages and disadvantages of using neuroimaging to research ASD. First of all, hardly many outcomes have been reliably repeated. In comparison to normally developing people, research have shown that people with ASD have hypo, hyper, and normal activity in the fusiform gyrus during various face processing tasks. The great heterogeneity that the illness itself has contributes to this variability. Yet, it is also a result of methodological differences across laboratories in the selection of task and condition contrast, as well as the small sample sizes characteristic in neuroimaging research.

Theory Based Models

There have been several suggested general theoretical frameworks to explain the social challenges in autism. They have proposed deficiencies in theory of mind, difficulties with executive functioning, central coherence, the extreme masculine brain, and an active mind at a more general level. While they have their flaws and often considerably overlap to some extent, these ideas have really proven useful in promoting research. There have been a variety of theories put out at a more detailed theoretical level. This endeavor has put a lot of work into

figuring out how different people see faces and how they look at people. Many competing models have been put forward. For instance, it has been suggested that eye contact and gaze are actively avoided because they are perceived as aversive, that eye contact is not associated with a positive social experience due to hypoactivation of structures like the amygdala, that eye contact is much less salient and therefore interferes with social communication, or that it is disturbed due to difficulties in subcortical and cortical brain systems pathways that process social information.

Treatment Implications

Autism's difficulties with social learning have long been recognized as requiring significant therapeutic attention. The National Research Council's extremely important study on educating young children with autism put a focus on the value of increased social interaction for academic and developmental advancement. Many methods for improving social skills in general and those related to certain social processes in particular have been developed throughout time. Generally, there are many different approaches to teaching social skills. On a more general level, methods for improving social skills change a little with age. For instance, peer involvement is beneficial, especially for preschoolers and young schoolage children. Social skills groups are employed as children become older, and individual work becomes more prevalent as adolescents and adults. A growing corpus of research has made use of many evidencebased techniques that have been established for processes as varied as joint attention, video modeling, imitation, theory of mind skills, etc. Some comprehensive models place an emphasis on learning critical social skills. While the limits of the existing research are unfortunate, they are just as significant as the advancements accomplished. Individualized ways to teaching social skills and social communication abilities, acceptance of current therapeutic modalities, and peer inclusion models continue to be crucial. Sadly, there is still very little material on adults and adolescents accessible.

CONCLUSION

According to research, ASD is an earlyonset neurodevelopmental condition that is marked from the start by a severe social handicap. This affects the growing child's drive and capacity to undemand others and create connections that are really reciprocal. It has a significant influence on how people learn and absorb information. Although while progress has been made in identifying probable neural pathways, our understanding of the condition's neurological underpinnings in the brain is still somewhat limited. Yet, some of the possible downstream effects of this social handicap have been shown in the work that is now accessible. In some ways, it could be preferable to think of autism and other comparable disorders as social learning disabilities. From a practical standpoint, it is evident that the fundamental principles of treatment are to maximize, to the extent possible, both more norma tive developmental processes and alternative pathways to social learning. These negative aspects of autism and their impact on learning are to be minimized. A corpus of intervention research has now emerged, similar to fundamental research on brain systems, and, alas, not all of it shows that individual outcomes are improving. We have discussed various neural processes as well as the clinical signs of social dysfunction in autism in this article. In relation to this topic, we have also outlined various intervention and theoretical aspects. Delineating what is likely to be a very diverse social phenotype more precisely has been a primary subject across this whole body of work, it is clear. Ideally, development will continue and lead to more thoroughly thorough theories with improvements in better ways of characterization and the application of more ecologically reliable

methodologies for analyzing particular mechanisms of social dysfunction. For this to be accomplished, future work must actually be inter disciplinary and trans disciplinary.

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CHAPTER 2

EMBRACING JOY: THE PATH TO ASSERTIVE LIVING

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ABSTRACT:

When you're prepared to defend your rights and speak out for your opinions, being assertive demonstrates that you value yourself. Also, it shows that you respect others' rights and are eager to cooperate in settling disputes.A functional evaluation procedure is required to assist comprehend an individual's troubling behaviours. It is critical to discover acceptable and beneficial teaching tactics and interventions that will assist the person in obtaining the desired quality of life. In this chapter author is discusses the Assessment and Functional Analysis of diseases of children.

KEYWORDS:

Behaviour, Children, Depression, Health, Mental.

INTRODUCTION

Skinner and Mental Health

The wide picture of behavior analytic approaches to behavior that Skinner's Science and Human Behavior depicts includes sections on mental health. Skinner said that society primarily governs human behavior in relation to main reinforcers via punishment, such as through parental behaviors, governmental policies, religious beliefs, and educational institutions. Parents can effectively stop a child from stealing food by spanking them and sending them to bed without dinner; teachers can effectively stop their students by reprimanding, paddling, and suspending them and religions can effectively stop people from participating in their religion by threatening excommunication, shunning, and other forms of religious time out. Such measures come at a high cost, but they are effective at stopping undesirable conduct and may help a culture survive. Via dissimulation, lying, and avoidance, people may learn to avoid the punisher and its associated sensations as well as the punishment. They can also learn to express painelicited hostility and operant aggressiveness to put a stop to further punishment.

Discriminative cues for punishment also tend to inhibit more persistent operant behavior, and ultimately we learn to only display the minimum amount of activity necessary to avoid further punishment. We risk becoming the apathetic kind that only complies but does nothing more. In addition to being emotionally distressing for the offender, punishment also elicits operant, adaptive behavior that is interfered with. Some individuals develop the ability to cope with such misery by abusing alcohol, legally obtained drugs, and illegal substances; these behaviors further spiral into unpleasant and perhaps deadly lifestyles. Some kinds of discipline result in bodily harm. Lastly, in certain circumstances, the punisher's addiction to punishment leads to societal settings that are harmful to everyone. A behavior support plan that involves increasing levels of

punishment without implementing efficient positive alternatives in sterile, uncaring, and disrespectful environments, for instance, or a couple that lives in separate parts of the same house without communicating with one another aside from heated arguments and fights[1].

Skinner noted that many individuals handle this circumstance pretty effectively by using the ad hoc strategies indicated in the preceding sentence. If you have a problem with your landlord, Skinner suggests that you either leave or go visit him to resolve the issue! By extension, it is wrong for you to live in an apartment without heat, divert yourself from the emotional impacts of the circumstance, smoke, drink, and whine about it. Selfmanagement, according to Skinner, is the intentional use of techniques to influence one's own behavior. This includes engaging in controlling activity that changes the likelihood that a controlled action will occur in the future. To guarantee that one wakes up on time the remainder of the week, one learns to set the alarm clock on Sunday. By doing this, one not only wakes up on time but also and probably more importantly enjoys a leisurely, enjoyable breakfast and arrives at work calm and in a good attitude. Also, one avoids hurrying and becoming frustrated in traffic and ending up at work in a poor mood. Skinner utilized these techniques on himself to live a happy, healthy, and successful life well into his 90s. Skinner outlined seven selfmanagement techniques.

The first method of constraint is physical. For instance, we fold our hands to prevent fidgeting or we leave an awkward situation, both of which help us escape the related social rejection and shame. By reducing discriminative inputs that encourage competitive activity, for as by offering enticing sweets to our willing buddies, we may affect future behavior. By scheduling workout dates with others and setting reminders for ourselves, we also provide discriminative cues for the activity we wish to participate in. Finally, we sometimes use deprivation and satiation of reinforcers. We refrain from eating lowquality snacks so that we may later really enjoy a satisfying supper. We also drink a glass of water before to the workplace party to prevent overindulging and humiliating ourselves. Fourth, by eliminating the stimuli that cause unfavorable emotional states, we may modify emotional states.

We remove images of deceased family members off display and replace them with pictures from weddings on the mantel. By taking a few deep breaths before responding to an insult, we are able to prevent the damaging impacts of rage. Finally, when we selfrecord and are forced to review an unfinished todo list at the conclusion of a careless, unorganized day, we consciously set up painful consequences for our own conduct that we wish to diminish. Sixth, when we use drugs and have a heavy drink before facing the music, we alter our future conduct and emotional states. Then we move on to avoid doing anything unpleasant by averting our eyes, changing the subject of a discussion, or being extra kind to someone we don't like to avoid a confrontation. We might think of selfmanagement as a decision between acting impulsively and acting in a controlled manner[2].

Skinner continued by applying behavior analysis to the study of mental health conditions like depression. He uses the example of a college graduate whose previous conduct is worthless in his new profession as a general behavioral case scenario. Due to the unpleasant emotional side effects of his behavior going through operant extinction, the student feels uncertain and frustrated. Since he is unaware of how to avoid punishment in his new profession, he is uneasy and uncertain. Due to the fact that his conduct is no longer rewarded, he lacks a feeling of success and feels guilty and humiliated since in the past, unproductive and lazy behavior was penalized. It is tempting to provide sound counsel to folks who are in this circumstance when

you come across them. We advise others not to make any significant choices right quickly after a loss.

Since the other person could reject our guidance and because it does not promote the other person's independence and selfmanagement, Skinner urged therapists to refrain from doing this. Instead, Skinner suggests that the therapist's role is to help the patient develop a broad repertoire of selfmanagement skills to handle life's challenges. Although while Skinner refrained from advocating specific treatment plans, he did advise using selfrecording to help clients start altering their behavior and seeing how their environment affects them. Thus the college graduate may write, It's funny, but I had a fantastic time on Thursday afternoon when I strolled by the pet shop and simply adored the ani mals in there, following a week of selfrecording behavior and mood. The therapist can inquire, What do you make of that? rather than telling him to go out and get a dog. or What might you do to improve your mood a little next week? Following work on behavioral case formulation and behavioral activation for depression is necessitated by this analysis.

Gratitude, Sadness, and Loneliness

In Beckett's play Happy Days, Winnie chats interminably about very little while sporadically toying with a pistol she borrows from her handbag, which is the only thing she has on hand. In Act One, Winnie is up to her waist in debris from life; in Act Two, she is up to her neck as her body slowly sinks into the earth that will eventually swallow us all up. Winnie nearly succeeds in avoiding the horrible condition she finds herself in. It's amazing that she can go on speaking while being buried up to her neck. Highrate verbal behavior was cited by Skinner as a common illustration of avoidance of things much more unpleasant than the trivia that so many of us are continuously talking about. In a similar way, Talking Heads' lonely characters, played by Bennett, continually recite monologues while avoiding their inevitable negative circumstances. The problems of life are shown in the program as being a middleaged widow and mother who has been abandoned by her heartless thieving son and dealing with her daughter's tumultuous connection with her late husband. Bennett's protagonists take a tablet, spending a lot of time talking to themselves in order to block out their own emotional suffering.

The issues that people with intellectual and developmental impairments confront are comparable to those that the rest of us face, but they often come with less resources and lower social and selfmanagement skills. Like everyone else, persons with IDD go through stressful life events. These events often include losses, a history of punishment, including stigmatization, bullying, and abuse, as well as the extinguishment of their adaptive behavior, as when other people shun and ignore them.

Many people with moderate IDD are also very externally driven or socially sensitive, which makes them more susceptible to social circumstances like extinction[3]. A increasing body of research on depression has been devoted to proving that people with IDD may experience depression, which has prompted the creation of screening and diagnostic assessment tools as well as early behavioral and pharmacological therapy trials for those with IDD.

Research has increased dramatically over the last 20 years, with evaluations of particular disorders such Down syndrome, ASD, and older persons among them. As a result, this section will just illustrate broad tendencies rather than attempting to conduct a thorough analysis of the relevant literature.

Commonality and Risk Factors

Among people with IDD, the incidence of depression varies from 3 to 6%, and in persons over 50, it may even reach as high as 79%. They are quite different from one another, reflecting issues with case definition, case detection, change of diagnostic criteria, including the use of purported behavioral depression equivalents, accuracy of self vs proxy reports of mental health, and population sampling. Indepth studies have been conducted on the risk factors for depression in the general population in relation to particular situations including old age, a variety of chronic health problems, pregnancy, and disability. Hence, the frequent risk factors for depression are well established and include stressful life events, particularly those involving losses, limited social support, weak social skills, and adverse living situations, such as chronic medical issues and conditions that pose a serious danger to life.

The following risk variables have been identified in research looking at depression risk factors in people with IDDs Greater sensitivity to criticism than people without IDD weak social support and amount of negative social support deficits in social skills, including excessive seeking of reassurance and negative social interactions from others; nonverbal social skills quality and frequency of social support social strain stressful life events, including losses, illness, and bullying; number and intensity of life events disruptive life events; and victorious events. As many of these factors covary and interact, it may be challenging to gauge their relative size both generally and casebycase. For instance, it may be difficult to determine the causal connections between social strain, poor social skills, a lack of social support, and unfavorable social interactions. Contrary to structural aspects like age, gender, and the severity of IDD, these variables may be incorporated in clinical case formulations and are adaptable, which is a favorable aspect of this research. So, a client or practitioner may be able to encourage happiness and lessen their depressive behavior if they can identify the governing factors and set up the environment to adjust those variables[4].

DISCUSSION

Assessment and Functional Analysis

Screening, diagnosis, prognosis, communication among experts, explanation of presenting issues, determination of service eligibility, prediction of successful and ineffective treatments, and evaluation of response to treatments are just a few of the many purposes that assessments fulfill. Many publications have reported doing a depression screening on people with IDD. Chaplin et alevaluation of a selfassessment screening tool for anxiety and sadness in individuals with mild and moderate IDD provides an intriguing example. The majority of people who were sent for selfassessment were able to complete the process with satisfactory concurrent validity with alreadyinuse psychometric measures of anxiety and depression, according to the authors. A second example comes from Brown, Jacobstein, Yoon, and Bullock, who created a districtwide approach to proactively monitor people's health, including screening for depression, as part of a settlement agreement in a class action deinstitutionalization federal case. Just 59% of the sample, according to their assessment, had completed depression screenings. In response, Brown et al. created a modified Glasgow Depression Scale, made it available to nurses, and made it more accessible by posting it online.

There are currently several psychometric tools available for assessing depression in people with IDD, including screening tools, depression scales integrated into lengthier psychopathology

assessments, standalone depression scales, and semistructured diagnostic interviews. These measurements may also be used in clinical trials and individual clinical work to assess progress and make diagnoses[5].The necessity for selfreport of symptoms in the Diagnostic and Statistical Manual for Mental Disorders and the International Classification of Diseases would likely prevent the identification of mood disorders in the majority of people with IDD. Two solutions have been offered to this issue. First, writers have altered the diagnostic criteria by deleting elements that they believe are less relevant to people with IDD, such reduced sexual function, rewording the criteria, and/or altering the cutoff scores. The second is the addition of problematic conduct as behavioral counterparts. Case formulation, functional evaluation, and analysis are the last aspects of assessment. Practitioners and academics have employed functional evaluation and analysis to comprehend and direct treatment of depression, despite the fact that it has historically been linked to challenging behavior, such as violence. For instance, to distinguish between women with depression who just had social skills impairments and women who only had illogical thoughts, McKnight, Nelson, Hayes, and Jarrett performed functional evaluations based on observations of social interactions and selfreports of thinking.

Each woman reacted better to the therapy that matched the function of her sad behavior on measures of mood and cognition when McKnight et al. conducted social skills training or cognitive treatment in a multielement design with each woman. Johansson et al. recently compared standardized online cognitive behavior therapy, customized CBT, and an active depression treatment control. Both cognitive and behavioral tactics, such as goalsetting and selfrecording, are used in cognitive behavioral therapy (CBT). Cognitive strategies include identifying and modifying maladaptive thought patterns among other things. There were 121 persons who participated, the majority of them had severe depression and were now using or had previously used psychotropic medications.

The personalized group also got a customized treatment plan created by researchers based on the diagnostic and selfreport data available. Both CBT groups received online depression training modules that had previously been shown to be helpful. Results usually supported personalized treatments, particularly for cases with more severe depression, which produced better results than the standard therapy on depression and quality of life measures. In order to treat depression in the general population on an individual, functionbased basis, the concepts and techniques of functional evaluation and analysis may be employed as a guide[6].

TREATMENT AND PREVENTION

Increasing Happiness

Preventing depression in the first place is the greatest approach to handle it. Living a joyful life is one method to do this. This has been covered in a number of applied behavior analysis research. In five persons with substantial IDD, Green and Reid operationalized and consistently observed behavioral markers of enjoyment and sadness. Smiling and looking away were indicators of unhappiness, whereas sobbing and crying were examples of happiness. They discovered that the behavioral mood indicators were accurate. Whether these individuals seemed pleased or dissatisfied, both known and unfamiliar raters agreed with the behavioral indices. After conducting preference evaluations, they looked at how behavioral mood indicators changed in response to the presence of preferred and nonpreferred stimuli. These methods are highly effective in raising behavioral measures of pleasure, despite some limitations.

When they employed activities chosen to encourage positive affective behavior and assessments of good and negative mood in individuals living in group homes, Carr, Magito McLaughlin, Giacobbe Grieco, and Smith built on this previous research. After that, they altered affective behavior by adding happymaking activities like preferred leisure pursuits, which led to a decrease in challenging conduct. Moreover, this was true even in the presence of stimulating cues like requests, which elicited difficult behavior.This is an intriguing strategy for improving pleasure and comprehending emotional behavior. Since that it is similar to behavioral activation techniques used in the general population and with people who have borderline and moderate IDD, it shouldn't be discounted as only a technique that can be used to those with severe or profound IDD. One significant distinction between this strategy and behavioral activation is that in the former, caregivers provide various preferred and nonpreferred stimuli, while in the latter, the individual selfmanages utilizing procedures like goalsetting, selfrecording, and scheduling. Future studies might assess how these selfmanagement techniques affect behavioral mood markers[7].

More than just providing the appropriate stimuli is required to promote pleasure and avoid sadness in those with IDD. The existence of a program or lifestyle of activities that are useful to the IDD sufferer individually, as well as the ease and regularity of participation in these activities, are equally crucial. To alleviate pain and promote health, the person must also have a healthy lifestyle that includes a balanced diet, regular exercise, and early medical attention. Aversive stimulation must be reduced by the services and family members, whether it takes the form of nagging, forceful relationships, violence, aggressiveness in the home, or abuse. Although unpleasant stimulation offers the chance to develop resiliency abilities, it is impossible to totally eradicate it from anyone's life. In fact, doing so may not even be desired. Caretakers should thus provide training chances to learn how to handle unpleasant stimuli in addition to handling aversive stimulus. While caregiver behavior may primarily be used to create these processes and results, this is not the preferred strategy. Instead, it is better to encourage autonomy by giving students a broad range of selfmanagement skills since this frees them from having to restrict their conduct according to societal norms. Mastering this behavioral repertoire is a lifelong endeavor that starts early in infancy and lasts the whole length of one's life.

Depression Treatment

Throughout the last 40 years, there has been significant growth in the body of knowledge on depression therapy. While these research were constrained in terms of proving response and stimulus generalization and persistence, early behavioral studies examined social skill training in cases studies and some small N trials. The participants in both trials had average IQs, but a recent assessment of social skills training groups with ASD patients showed evidence from two studies, one prepost test design and one randomized control trial, suggesting social skills may improve sadness, anxiety, and stress. A lady with IDD and a mood illness was treated for depressionrelated behavior according to Lindauer et al. in a manner that is comparable. Her mental condition had previously only partly improved with psychiatric drugs. A small N trial by Lindauer et al. revealed that the availability of favored leisure items decreased selfharm and negative affective behavior.

As was already said, CBT involves both cognitive and behavioral therapy techniques. The behavioral activation component of CBT for depression includes values clarity, goal formulation, selfreflection, and gradual activation in keeping with one's values. According to research,

behavioral activation is the key element of CBT for depression and is essentially the same as the whole CBT program. Therefore, a functional evaluation and even a functional analysis of depression are easily accessible. As a result, behavioral activation has been used to the treatment of depression in IDD patients. Jahoda et al. showed in a feasibility pilot research that behavioral activation may be used to treat subclinical and clinical depression in people with IDD, and other nonexperimental case studies have also shown the effectiveness of behavioral activation in treating depression. Now, a controlled trial is being conducted. Component analysis of the CBT package provides further proof of the efficacy of behavioral activation. For 70 people with moderate IDD and varied levels of subclinical and clinical depression, McGillivray and Kershaw examined the effects of mostly cognitive methods, primarily behavioral strategies, and combination cognitive and behavioral techniques on depressed mood. All three groups' participants improved, and there were little disparities between them. The size of the observed significant differences was modest. Those who received mostly cognitive tactics, for instance, reported having less automatic negative thoughts.

As a result, there is growing evidence that behavioral activation may be effective for people with IDD. Despite the fact that there is not currently a lot of research involving people with IDD, what there is known about behavioral activation in the general population is far more extensive[8].

CBT for depression in people with IDD has been studied in a number of group design trials. The application of CBT to this population has almost always been altered in a variety of ways, such as slowerpaced sessions, more repetition, simpler spoken and written language, more concrete presentation, participation of caretakers in sessions and homework assignments, use of visual supports, and takehome booklets at the conclusion of a course of treatment that record accomplishments and subtly include reminders to use treatment. For instance, Unwin, Tsimopoulou, Kroese, and Azmi published a systematic review of CBT for depression or anxiety in people with intellectual and developmental disabilities. They found four RCTs for depression, three for anxiety, and four for mixed depression/anxiety, some of which included outcome information on depression separately. In these trials, there was evidence of a decrease in autonomic negative thoughts and self and otherreported depression, while findings on maintenance were inconsistent, with some studies indicating posttreatment relapse.

Twelve studies were discovered in a recent systematic review and metaanalysis, but no significant effects were reported on behavioral issues, depression, anxiety, quality of life, functioning, or behavioral difficulties, as well as a moderate but not significant Cohen's d of 0.49 for depression.

The authors noted that research ranged in quality from relatively good to variable. Notwithstanding the limitations of the available research, these two systematic reviews show that CBT for depression can be implemented and may even be helpful in certain situations. In this literature, there are a number of noteworthy contemporary trends. These are research on treatment outcomes for depression in people with ASD. There are also accounts of various forms of therapy, including electroconvulsive therapy, light therapy, and mindfulness meditation. These treatments are used to treat a range of issues, including mood disorders. In certain research, transdiagnostic group CBT has been used. Lastly, initiatives that can be handled by normal workers have received more attention. As a result, the body of research on treating depression in people with IDD has expanded significantly[9].

Anxiety

Most of us sometimes dread rejection, criticism, social failure, and the unknown, and we should all fear lifethreatening threats, harm, suffering, and death in order to rouse ourselves to take protective measures. Being courageous in the face of peril is often highly appreciated and valuable, while certain forms of fear are extremely adaptive. It's common to see the lack of terror as strange or even patho logical. Some people with IDD may be more vulnerable to social prejudice and discrimination, have excessively protective caretakers who restrict their chances to practice courage, and have less resources to deal with such pressures and traumatic situations.

Commonality and Risk Factors

There have been a wide range of estimates of the incidence of anxiety disorders in individuals with IDD and ASD. For instance, Cooper and colleagues identified a point prevalence of around 23% for anxiety disorders and approximately 0.20.7% for obsessive compulsive disorder in a large sample of over 1000 persons with IDD. There is some evidence to suggest that children with IDD have a slightly increased risk of developing anxiety problems than normal kids do. For instance, Emerson performed a secondary study on a big national dataset on children's and adolescents' mental health. In order to determine the likelihood that a certain subgroup of the data will experience anxiety when compared to all participants, researchers used odds ratios. They discovered that 3.6% of kids without IDD and 8.7% of kids with IDD had some kind of anxiety problem. While some types of anxiety disorders were relatively uncommon, children with IDD were more likely to have separation anxiety, agoraphobia, and posttraumatic stress disorder. Several studies that looked at older persons with and without IDD found similar findings.

Disorders of anxiety

those who have ASD. Simonoff et al. found a prevalence of any anxiety/phobic condition to be 41.9% in a very large sample of over 57,000 children with ASD. Generalized anxiety disorders, separation anxiety disorder, panic disorder, agoraphobia, social anxiety disorder, simple phobia, and OCD were the most common types of particular anxiety disorders. In a related research, Kim, Szatmari, Bryson, Streiner, and Wilson showed that separation anxiety and too anxious behavior were far more prevalent than among children and adolescents in the general population, at 13.6% and 8.5%, respectively. These example studies demonstrate that people with IDD and ASD are more likely to have anxiety problems than those without IDD and ASD. Second, compared to those with IDD alone, people with ASD have an even higher prevalence of anxiety disorders.

Analysis of the Assessment and Functional

Three parts of fear and anxiety should be distinguished: overt afraid behavior, physiological reactions, and observed fearful behavior. Motor avoidance and avoidant verbal speech are two examples of observable scared behavior. Some people use alcohol, prescription medications, and both legal and illicit narcotics to reduce their exposure to unpleasant physiological components of fear. Moreover, fear might prevent people from doing continuous adaptive activity because when someone is really afraid, they freeze and remain immobile. Autonomic arousal, which includes sweating, racing heartbeat, tense muscles and tensioninducing postures, flushing, redistribution of blood to major muscle groups and skin, and gastrointestinal motility, are all

physiological elements of dread and anxiety. Such physiological symptoms of dread and worry might sometimes manifest as overt behavior.

Last but not least, hidden anxious and scared behavior comprises a variety of ideas about terrible outcomes as well as mental states and sentiments, such as anxiety, foreboding, or doom. When someone acts boldly but is still physically stimulated in the first stages of flooding sessions, these three characteristics of fear may not always coexist. There are several psychometric tests for anxiety and dread, including tests designed especially for people with IDD/ASD and tests that utilize or modify general population tests. The Glasgow Anxiety Measure for Individuals with an Intellectual Disability, a 27item scale, serves as an example. The GASID was created especially for use with patients with IDD. It distinguishes between those who experience anxiety and has a strong correlation with other psychometric and physiological markers of anxiety. The research by Hermans and colleagues found 14 comparable measures but came to the conclusion that the GASID was the best one because of its better psychometric features. The Anxiety, Depression, and Mood Scale was also mentioned as a potential tool in this review, but one with maybe somewhat less outstanding psychometric qualities to measure anxiety[10].

In behavioral evaluation and therapy of anxiety, observational methods have been employed extensively. Distance between the person and the feared object, steps of an exposure hierarchy successfully completed, fearful vocalizations, time spent with or near a feared object, increasing adaptive behavior such as increasing social initiations in socially avoidant children, improving academic performance in the presence of fearful stimuli, increases in nonfearful speech to a stranger, and holding an arm out without moving while frightened are examples of such observational measures. Although many people with IDD or ASD may exhibit unique behavioral symptoms of anxiety, these measures have sometimes been complemented with social validity evaluations such as ratings of perceived fearfulness. Hence, some studies have identified behavioral indicators of anxiety such as reassurance from caregivers and persistence on certain subjects.

Since the 1970s, physiological measures of anxiety have been used often in research, but in clinical settings and with people who have IDD or ASD, they have gotten less attention. Heart rate variability and change, skin conductance, and hormone levels are examples of common study metrics. The validation of the GASID using pulse oximetry and research on heart rate change are two exceptions to this generality. Telemetric physiological measurements may be utilized more easily and conveniently in practice as they become more accessible. While there is a sizable body of literature on the behavioral therapy of fear and anxiety, functional studies have received far less attention. Jones and Friman's comparison of the impact of three situations on the insect phobiarelated behavior of Mike, a 14yearold boy, provides a simple illustration of this. The three conditions were live bugs in the classroom, removing bugs from the classroom and declaring, There are no bugs anywhere in this room, and declaring, There are no bugs anywhere in this room. The number of math problems successfully completed served as a proxy for the degree of phobic behavior.

Mike, as anticipated, finished the most arithmetic questions in the final condition and the fewest in the first. The authors demonstrated multielement experimental regulation of phobic behavior. It has been often discussed how anxiety and arousal relate to difficult conduct. Arousal, for instance, might be an establishing process. Arousal may thus interact with other factors; for instance, arousal combined with a discriminative input, such a demand, may cause challenging

behavior and escape, whereas arousal or demand alone may not. This was experimentally shown by Moskowitz et al. in three children with ASD and a DSMIV anxiety disorder who were between the ages of 6 and 9. The authors of this research employed ratings, behavioral observation, and psychophysiological measurements to evaluate anxiety in a multimodal manner. The authors selected typical low and high anxiety events for each kid and presented them in their typical setting.

They discovered that times when nervous behavior occurred were consistently assessed as being very anxious. Also, two out of three people had greater heart rates under stressful circumstances. Moreover, all three youngsters consistently displayed more problematic conduct in situations with greater anxiety. As a result, anxiety manipulation as an EO regulated problem behavior. These experiments demonstrate that by manipulating arousal in highfear circumstances and employing childspecific antecedents, frightened behavior may be submitted to a functional analysis. These findings also suggest that professionals should use the same fundamental techniques for functional assessment and behavior analysis to comprehend scared and phobic behavior in people with IDD/ASD and create individualized, functionbased behavior support strategies.

Being Assertive and Courageous

Being courageous in the face of difficulty is one way to overcome fear. Do we freeze, misuse anxiolytic medicines, or act fearlessly and assertively in the face of probable impending danger when Estes and Skinner's warning signal stops continuing operant behavior? Wolpe's response was unambiguous: expose yourself to the conditioned stimuli and behave in a comfortable, courageous, and forceful manner around them. Learning assertiveness is one way to develop bravery. 16 individuals with mild to moderate IDD were taught these skills by Bates, including how to identify themselves, strike up a conversation, ask for assistance, dispute with others, and react to criticism. Instruction, modeling, rehearsal, feedback, and coaching were used to teach these abilities over the course of three weekly group sessions spread out over a period of four weeks. Bates demonstrated the effectiveness of the assertiveness training by using a combined multiple baseline and independent groups design to teach these individuals assertive skills. Similar techniques were utilized by Sievert, Cuvo, and Davis to educate eight persons with mild IDD aggressive answers to situations when their rights were being violated, such as safeguarding the privacy of medical information. Teaching assertive, selfassured social skills may thus contribute to the reduction of fear. Systematic exposure to problems throughout the course of a person's life may also play a role in this, giving chances for the development and maintenance of these talents.

Treating Anxiety

Systematic evaluations of anxieties and phobias in people with IDD/ASD have generally come to the same conclusions exposure, modeling, and reinforcement of approach behavior are effective therapy modalities. For instance, Jennet and Hagopian investigated 13 studies treating phobias in people with IDD and discovered that the therapy was very effective, satisfying the standards set out by the American Psychiatric Association for an empirically supported treatment. Similar comprehensive reviews of the treatment of phobias and anxieties in people with ASD and lower functioning autism have come to largely identical results. This strategy has been expanded to include functional analysis and OCD therapy. There aren't any alternative therapies available right now that have enough supporting data to meet the standards for evidencebased practices for

these groups. A comprehensive review of the research supporting CBT for anxiety disorders in people with ASD was undertaken by Lang, Regester, Lauderdale, Ashbaugh, and Haring. They discovered nine trials with a total of 110 ASD patients, ranging in age from 9 to 23. Nine out of 20 people with an ASD diagnosis were classified as high functioning, and 75 participants had the Asperger syndrome diagnosis. With the exception of one case study, all research employed psychometric measures of anxiety. While every trial reported at least one favorable result, only one RCT was judged to be of a high enough caliber to enable trust in its findings. As a result, despite evidence from several trials supporting CBT's efficacy in treating anxiety disorders in people with Asperger syndrome, this data is constrained by lowquality studies and a dearth of studies including autistic people. Lang et al. also pointed out that behavioral parts of CBT, such as training social and other adaptive skills, were prioritized in these CBT research above techniques that required introspection. All of these therapy trials have the drawback of concentrating on simple phobias rather than agoraphobia and social anxiety.

Suicide

Suicide, according to Skinner, is a certain method to alter a behavior's likelihood to occur in the future. The example is not being used in jest; rather, it is meant to encourage us to think about suicide as an act of selfcontrol and to use selfcontrol as a strategy to stop suicidal behavior. Work on dialectic behavior therapy by Linehan and others makes good use of behavioral concepts in a commonsensical fashion. The concept of chain analysis, or more precisely, a stimulusresponse chain, implies that, like other stimulusresponse chains, suicide conduct may sometimes be a final reaction, and that intervention early in the response chain is an effective approach to influence the terminal behavior. Moreover, choosing selfrestraint over impulsivity early in the stimulusresponse chain is a helpful strategy for identifying and altering behavior.In the past, it was thought that IDD served as a barrier to suicidality. It was also believed that people with IDD were relatively resistant to triggering circumstances; however, further empirical study has shown that this is false. Despite the fact that there have been several evaluations of this subject, there is still a dearth of literature on suicide and IDD. For instance, a recent systematic review by Dodd and colleagues only found 24 studies, most of which focused on risk variables such concomitant mental health diagnosis and were typically of poor quality.

It is helpful to distinguish between intentional selfharm, such as selfcutting and selfinjury, and suicidal thoughts, threats, attempts, and completion while considering cases and reading the research. Suicidal behavior prevalence estimates are often comparable to those for the general population.For instance, Patja, Iicvanainen, Raitasio, and Loonquist found that rates of suicide were comparable to the general population in women with IDD but were only onethird as high in males with IDD in a prospective, 35year analysis of a nationally representative sample in Finland. As compared to men and women without IDD, the suicide rates were 13.0 and 19.3 per 100,000 personyears, respectively, while they were 13.2 and 52.9 for both sexes in the general population. Nine of the ten suicides included mild IDD, while one involved moderate IDD. The majority committed suicide by hanging or drowning, with just one case involving alcohol. Most were between the ages of 30 and 60. Similar findings on the prevalence of suicide ideas and actions have been produced by other studies, which also note that these rates are lower than those of several other mental diseases including depression and specific personality disorders.

In contrast, individuals who need specialized care or who have a number of risk factors for suicide often have suicidal thoughts and threats. In a study of 98 persons with IDD, for instance,

Lunsky discovered that nearly half were treatment users in a community clinic, that roughly a third of the sample had felt that life was not worth living, and that 11% of the sample had attempted suicide. According to reports by Burge et al. and Waters, Barrett, Knapp, and Borden, over half of inpatient hospitalizations for people with IDD contain suicide thoughts and conduct. In addition, 21% of 90 consecutive admissions to an inpatient unit involved suicidal behavior. These latter findings are quite significant since practitioners in these areas should be knowledgeable about identifying, screening, assessing, and successfully treating this issue. Those with IDD who have numerous risk factors have greater rates of suicide thoughts and actions. For instance, Mayes et al. discovered that 14% of the sample had suicide thoughts or behaviors sometimes or very frequently, which was 28 times greater than for normally developing children. The sample consisted of 791 people with autism aged 1 to 16 years. Male, black or Hispanic, at least 10 years old, and having a lower socioeconomic position were among the demographic risk factors. Seventyone percent of people who had all four risk variables considered or did something suicidal. Several studies, although not all, have shown somewhat higher rates of suicide ideas and actions among people with ASD, including those with Asperger syndrome.

According to some studies, stressful life events include losing a parent through death, being adopted or placed away from home, being physically and sexually abused, having less family and social support, having poorer quality relationships, being rejected, having coexisting physical health issues, feeling lonely and stressed out. Similar findings were made by PaquetteSmith et al. who studied a sample of 50 Asperger syndrome sufferers, 18 of whom had a history of suicidal attempts. They discovered that those who had attempted suicide were more likely to have a history of depression, more severe autism symptoms, weaker social skills, and issues with shifting attention when compared to those who had not. Considering the small body of literature, practitioners have little direction as to how to start. There was no specific instrument or procedure for assessing suicide risk in people with IDD, and existing instruments for other populations were too complex in terms of text, readability, and use of abstract language, according to Ludi et al. who reviewed screening procedures. However, some dual diagnosis instruments contained one or two items related to selfharm that might be useful in screening. Future research should thus create similar processes.

There are few reports of suicide therapy among people with IDD, and there is little evidence to recommend treatment. Practitioners must thus carefully assess the adoption of various treatments and utilise current information from other populations. The treatment of suicide threats in a man with moderate IDD led to several hospitalizations to a distant inpatient facility and significant disturbance to the guy's life, according to a case study Sturmey reported. According to a functional evaluation, admittance to an inpatient facility and unintentional attention from medical and nursing personnel seem to be what maintains suicide threats and attempts rather than being connected to depression. The result was a reduction in suicidal threats, attempts, and admissions to inpatient treatment by using periods of around 24 hours of continuous, supervised isolation to keep the patient safe.

During the course of seven months, the intervention was successful. Teaching selfmanagement techniques based on Linehan et aldialectiv behavior therapy, which has a strong track record of decreasing selfharm and suicide when used with other groups, is another option for treatment. Dialective behavior therapy has been modified in a number of research with people who have IDD, and practitioners might utilize these studies as treatment models.

CONCLUSION

Are you suicidal, sad, lonely, or anxious? Instead, have a fantastic day! By employing Skinnerian methods of selfmanagement, we can all accomplish this. This may be done early on in life to develop a broad repertoire of selfmanagement skills as a better way to live and as a method to avoid a variety of issues with life, such as depression and anxiety. Moreover, behavioral selfmanagement is an excellent course of therapy for those who suffer from clinical and subclinical depression, anxiety, and suicidal thoughts, and it may be the beneficial mechanism behind many evidencebased interventions.

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CHAPTER 3

BULLYING AMONG YOUTH WITH AUTISM SPECTRUM DISORDERS

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ABSTRACT:

Developmental impairment known as autism spectrum disorder (ASD) is brought on by variations in the brain. Some ASD sufferers have a recognized distinction, such a genetic disorder. Some factors are yet unknown. According to researchers, ASD is caused by a number of factors that work together to alter how individuals typically grow. In this chapter author is discusses the prevalence of cyberbullying.

KEYWORDS:

Autism, Children, Cyberbullying, Disorder, Victim, Youth.

INTRODUCTION

Compared to their counterparts without ASD, students with impairments and/or autistic spectrum disorders are more likely to be engaged in bullying. According to studies, children with ASD are more likely to engage in bullying as a bully, a victim, or a bullyvictim. It is uncertain, nevertheless, whether children with ASD1 understand bullying and victimization in the same manner as children who are normally developing owing to the nature of their impairment. According to most researchers, bullying is defined by three factors harmful behaviors that are taken time and time again, and in interpersonal relationships where there is an imbalance of power. There are many types of bullying, including relational, verbal, and physical. Cyberbullying is one of the more contemporary types of bullying. Several researchers have questioned the capacity of children with ASD to consistently and legitimately identify and report on bullying and victimization due to deficits in social understanding, interaction, and communication as well as challenges with generalization.

For instance, Nowell et al. examined 50 verbally proficient ASD children's comprehension of bullying by gathering qualitative data from them. Just half of the 20 kids who said they had experienced bullying could provide an example that demonstrated a precise description or comprehension of the experience. The authors contend that certain ASD youngsters have erroneous perceptions of what constitutes bullying. Several research have shown similar results. The authors emphasize that teenagers with ASD may not be able to abstractly link their particular bullying experiences to examples provided on questionnaires since people with Autism often struggle with abstract cognition and generalization. Hence, it's possible that children with ASD won't report particular incidents of bullying that haven't been given as examples in survey study [1].

Nonetheless, it may also be claimed that children with ASD are able to recognize and report bullying and maltreatment. For instance, teenagers with ASD were as capable of properly

identifying bullying in video clips of social interactions as their peers who were developing normally. Also, boys with highfunctioning ASD showed a comprehension of bullying that was in line with more general literature. Moreover, studies reveal that selfreports of teenagers with ASD about bullying and victimization are similar to those of typical developing adolescents. They exhibit excellent internal consistency, agree with accounts from parents, teachers, and peers, and have a comparable relationship to other factors that have been linked to bullying and victimization in studies of young people who are usually developing. Yet, some deficits that are typical among people with ASD may affect how they comprehend bullying and victimization, even if the data generally supports that kids with ASD consistently and legitimately perceive and report on bullying and victimization.

To shed light on how young people with ASD understand, experience, and report bullying, further study is required. Adolescents with ASD were just as capable of seeing and reporting on bullying in video clips when they assumed the position of an observer. When they are directly engaged in bullying scenarios, however, it is questionable whether children with ASD are equally able to notice and report on these instances. Future study would thus be interesting in examining how young people with ASD experience and describe bullying in practical settings. The boys with highfunctioning ASD who made up the sample also showed comprehension of bullying that was in line with definitions found in the literature and in the larger community. Future studies might benefit from a closer look at how young people with ASD spontaneously define bullying, the impact of giving young people with a definition of bullying when asking them for selfreports, and any potential changes based on age and sex.

Prevalence

It is challenging to determine the prevalence of bullying and victimization among kids with ASD since research widely differ in their sample characteristics and data collecting techniques. Nonetheless, several research and evaluations consistently show that, in both general and special education settings, kids with ASD report greater rates of victimization than their normally developing peers or peers with additional special needs. Youth with ASD are up to three times more likely to experience general victimization than their normally developing peers, according to recent metaanalyses. According to studies on bullying behavior, children with ASD are just as prone to bully their classmates as their counterparts who are usually developing. Throughout investigations, a prevalence of around 10% was discovered [2].

Few studies have looked at how often bullying occurs among young people with ASD, both as a perpetrator and a victim, or socalled bullyvictims. In terms of the frequency of bullyvictims, the studies that do exist indicate that there are no significant disparities between adolescents with ASD and their peers who are normally developing. This shows that young people with ASD are neither more nor less likely to become bullies or being bullied themselves. The anticipated prevalence rates across the board are 16%. Youth with ASD are particularly vulnerable to being victimized, while the risk of being involved in bullying as a bully or a bullyvictim appears to be similar to typically developing peers. This is despite studies suggesting that youth with ASD are vulnerable to bullying and being involved in bullying both as victim and perpetrator. This shows that although victimization and bullying are significant issues for the general population, they are much more so for young people with ASD. Victimization is highly associated with emotional issues, therefore there is good cause to be concerned in this regard. The frequency of different types of bullying and victimization As was previously said, bullying may take many different

forms, including relational, verbal, and physical bullying. These manifestations are all frequent in usually growing young people. While all types of bullying and victimization have been documented among children with ASD, there hasn't been much study on these issues. Maano et al. found an overall prevalence estimate of 16% for perpetrating physical bullying and an overall prevalence estimate of 33% for physical victimization with regard to physical bullying among young people with ASD. Youth with ASD don't seem to be more likely than normally developing kids to engage in physical bullying, either as bullies or as victims.

Maano et al. discovered an overall prevalence estimate of 50% for verbal victimization across six investigations. Kloosterman et al. assessed the prevalence of perpetration of verbal bullying at 8%. Although it does not seem that kids with ASD are more likely to engage in verbal bullying than their usually developing peers, it has been estimated that they are two times more likely to experience verbal victimization. Maano et al. revealed an overall prevalence estimate of 31% for relational victimization across seven investigations, as well as an overall estimate of 18% for relational bullying perpetration among kids with ASD. Youth with ASD do not seem to be more likely to be involved in relational bullying perpetration or victimization compared to typically developing kids. In addition to bullying and victimization in general, research indicates that bullying in this demographic may take many different forms, just as it has been shown to do in adolescents who are usually developing. For a number of reasons, it is important to comprehend how children and young adults with ASD participate in different types of bullying as bullies, victims, and bullyvictims.

The usage of certain kinds of bullying varies with age, according to studies among usually developing youngsters, however the majority of the current research is focused on early adolescents and those with ASD. Agerelated differences in participation in different types of bullying and victimization may exist due to the observed deficiencies in social comprehension that are typical of children with ASD. Also, the more subtle kinds of relational bullying may be especially relevant to the challenges that young people with ASD encounter with social comprehension. This would imply that engagement in specific relational bullying would vary between young people with ASD and those who are normally developing. Also, studies among adolescents that are usually developing shows that sex differences in bullying participation. Although ASD diagnoses are more common in males than in girls, the impact of sex on participation in different forms of victimization and bullying may vary between typically developing kids and those with ASD. It would be possible to create preventative and intervention strategies that are especially suited for this atrisk demographic and more fully understand the nature and degree of these many types of bullying and victimization among young people with ASD [3].

DISCUSSION

Prevalence of Cyberbullying

Cyberbullying is a particular kind of victimization that has gained increased attention over time. According to studies among young people who are usually developing, 16% and 15% of kids, respectively, engage in cyberbullying as perpetrators or victims. Examining cyberbullying within this particular demographic becomes more and more crucial given that a substantial number of adolescents with ASD utilize technology for studying, socializing, and pleasure, comparable to that of normally developing children. Yet, there hasn't been much study done on this subject. A few studies have looked into cyberbullying among people with different kinds of extra support

requirements, including those with ASD. Didden et al. performed a research to determine the incidence of cyberbullying among Dutch students in special education who have intellectual and developmental disabilities. They discovered that 4% to 9% of young people reported experiencing cyberbullying or victimization at least once per week. Additionally, Kowalski and Fedina discovered that 21% of the kids said they had experienced cyberbullying, and 6% said they had engaged in it themselves at least once in the previous two months. In a separate study, Cross, Piggin, Douglas, and VonkaenelFlatt discovered that 16% of a UK sample of young people with impairments were at risk of longterm, persistent cyberbullying.

Last but not least, a mostly Canadian sample of children with ASD was studied by Cappadocia et al. for cyberbullying. Parents of the children claimed that 6% of them were victims of cyberbullying two to three times per month, and 2% were victims of cybervictimization once a week or more. Crossstudy comparisons with research among typically developing youth suggest a similar risk for involvement in cyberbullying for youth with ASD and typically developing peers, despite Didden et alsuggestion .'s that, generally, students with developmental disabilities seem to have a somewhat lower probability to be involved in cyberbullying and/or cybervictimization. Yet, it has also been proposed that children with ASD are at an increased risk. This may be due to the youths' difficulties with social understanding and generalization, their inability to think through the longterm effects of their actions, and their executive functioning deficits. These traits, which make youth with ASD more susceptible to bullying in the real world, may also increase their vulnerability to engaging in cyberbullying. Further studies are required to clarify the nature and scope of cyberbullying among young people with ASD and to enable comparisons between their experiences and those of their normally developing peers [4].

Reporters

Discrepancies in prevalence estimates of bullying and victimization result from variations in reporting, according to research. Older studies mostly relied on teacher and parent reports, while more recent studies included gathered data from children with ASD who selfreported. Research comparing prevalence estimates from various reports have produced a range of conclusions. According to several research, teachers and parents report more bullying than children with ASD do, with parents reporting more victimization than teachers and teachers reporting more bullying perpetration than parents. Generally speaking, however, it appears that peers report lower prevalence estimates for bullying and victimization of youth with ASD than teachers, parents, and youth with ASD themselves, both in mainstream educational settings and in special education settings. The latter three informants, on the other hand, appear to substantially agree on their reports of bullying and victimization.

In contrast, studies among young people who are usually developing shows that young people typically rate bullying and victimization levels higher than do parents and instructors. It is advised that educators and parents underestimate bullying and victimization among children and adolescents who are generally developing. Peers have been found to be present during the majority of bullying episodes, which suggests that parents and teachers are typically not present when bullying occurs. Teachers also frequently fail to recognize the more subtle and covert forms of bullying, and students frequently fail to report incidents of bullying to adults.

Youth with ASD, however, may experience various processes as a result of their conditionrelated challenges. Parents and educators may pay more attention to vulnerable youth's poor social

experiences. For example, they could watch after ASDaffected adolescents more carefully than generally developing classmates, who are often left in unsupervised circumstances. As a result, parents and teachers may notice more incidents of bullying among children with ASD than among children who are usually developing. Another possible reason is that children with ASD are more inclined to confide in their parents and teachers, while normally developing children may not disclose incidents of bullying to adults. Youth with ASD report having fewer, if any, friends with whom to share information, in contrast to normally developing adolescents who prefer to share more knowledge with peers, particularly as they become older. Also, parents and instructors of children with ASD may communicate more often about the child's growth and experiences. As a result, parents and educators would be better knowledgeable about the experiences of bullying and victimization among children.

It is important to emphasize that no inferences regarding who reports bullying and victimization the best cannot be made. Instead, it is proposed that the accounts of many informants are complimentary, as they are among typically growing kids. For instance, selfviews subjective experiences from the child's own perspective offer a special window into the inner world of young people with ASD. Peer reports, on the other hand, which show consensus among peers on a person's relative status, provide special insights into the social reputation of young people with ASD. Differentially linked to social adjustment are both reports. Peer reports are more highly connected with peerreported adjustment measures such as peer acceptability and perceived popularity, but selfreported bullying and victimization is more strongly associated with selfreported adjustment measures such as internalizing difficulties. Also, the ability to gather information on adolescents throughout the complete range of functioning makes parent and teacher reports particularly valuable. Teachers and parents may provide information about the experiences of lowfunctioning kids with ASD who are unable to participate themselves, in particular. Teachers and parents may also provide students information about bullying and victimization in a variety of settings. As a result, the various reports may depict various facets of bullying and victimization, particularly among young people with ASD [5].

The Social Environment's Function

Since that victimization is now often seen as a collective phenomenon, it is crucial to take the social context into account while doing research on bullying and victimization. Peers seem to perform certain roles, known as participation roles, that either sustain bullying and victimization or put a stop to it in 85% to 88% of all bullying events. Among children and adolescents with normal development, the following participation roles have been identified:

1. Bullies exhibit bullying conduct that is proactive, leaderlike, and energetic.
2. Assistants gladly participate in bullying and behave in a followerlike manner. They intentionally encourage the bully to assault the target.
3. By laughing, applauding, instigating, and/or giving the bully an audience, reinforcers provide the bully positive reinforcement.
4. Outsiders avoid the bullying situation and avoid siding with either side. But, by doing nothing, they run the risk of instigating bullying by subtly conveying that such conduct is acceptable.
5. Defenders take the victim's side by standing up for the victim, making an effort to halt the bullying, and/or offering the victim support and consolation.
6. Attacks are directed towards people who are unable to protect themselves.

Estimates of participant role prevalence among kids with usual development range from 4–14% for bullies to 6–13% for assistants, 1520% for reinforcers, 8–32% for outsiders, 520% for defenders, and 5–14% for victims. These participation roles have also recently been discovered within homogenous groups of young people with ASD who are enrolled in special education. According to Schrooten et al., prevalence estimates for bullies ranged from 3–7%, followers from 8–11%, outsiders from 30–42%, defenders from 16–19%, and victims from 13–14% across the board. Based on these findings, the authors hypothesize that young people with ASD are nonetheless capable of participating in a variety of bullying scenarios despite their social challenges. Begeer et al. did not identify any differences between kids with ASD in special education and normally developing peers in regular school in terms of the rates of peerreported bullying, victimization, and defense. Nevertheless, Schrooten et al. did detect such disparities. In contrast to normally developing boys in regular school, Schrooten et al. identified more outsiders and defenders and less followers among boys with ASD in special education. In contrast to normally developing boys in regular education, who often fail to assist the victim, the authors hypothesized that boys with ASD in special education were more likely to avoid bullying situations or defend the victim.

The authors suggested a few potential causes, such as the fact that prosocial conduct is more overtly rewarded in special education, which makes kids with ASD more inclined to embrace the defender and outsider roles, or the social difficulties that young with ASD experience. The defender role may be taken on more frequently by youth with ASD who do not anticipate that helping a victim might increase the likelihood that they will be victimized themselves, and the outsider role may be taken on more frequently by youth with ASD who do not know how to act, even though they want to. Schrooten et al. also discovered that girls with ASD in special education were more frequently victims than typically developing girls in regular education, which is in contrast to the encouraging results that boys with ASD in special education seem somewhat less actively involved in bullying than boys in regular education. Girls with ASD are more likely to be victimized since they are a minority population in special education, according to one explanation the authors provide. Nonetheless, the victimization rates of children with ASD in special education were lower than those of children with ASD in normal school.

Educational Environment

Together with the participatory roles that peers play in bullying incidents, the larger context must also be taken into account. As kids spend a lot of time in school settings, there is a lot of study on bullying done there. Between standard and special education settings, there are noticeable differences in the peer group's demographics. That is, in regular education settings, the peer group consists of peers who are all typically developing and do not typically experience significant developmental difficulties, whereas in special education settings, the peer group consists of peers who all experience significant developmental difficulties that result in increased support needs. So, whether or not ASD kids enroll in special education as opposed to general school may have an impact on their participation in bullying and victimization.

Yet, there has been a lack of consistency in the research on how bullying and victimization are affected by educational environments. Other studies found no significant differences in the rates of bullying or victimization between youth with ASD in special education and typically developing youth in regular education, contrary to Rose et al review which found that students with disabilities educated in segregated classrooms or schools were victimized more frequently

than students with and without disabilities in regular education. Yet, the bulk of research found that ASD adolescents who attended mainstream schools or normal education classrooms were more likely to experience victimization than their separated counterparts. These results are primarily explained by the fact that young people with ASD are more likely to experience victimization in school settings where they engage with normally developing peers because they stand out for being different. The social and emotional challenges that young people with ASD experience may also lead to misunderstandings between young people with ASD and their normally developing peers. Students with ASD may not be as noticeable to their classmates in special education settings since all children there have extra support requirements, regardless of the variety of issues they exhibit.

Contrarily, the justification of sticking out for being obviously different may also work as a protective force. Regardless of the school context, researchers found that kids with more serious supplementary assistance requirements were less likely to be harassed. This may show that vulnerable children are shielded from harm when they are more obviously different from their classmates, such as when they have more noticeable impairments. Another possibility is that children with more severe ASD are just less likely to interact socially with their classmates, which would make them less vulnerable to victimization. Also, teachers or other adults in their surroundings might keep a closer eye on the ASD youngsters who are more seriously impacted, protecting them from victimization. The comparisons are further complicated by the fact that schools' characteristics differ among educational environments. Smaller class sizes and greater adult supervision in special education, according to some experts, may reduce the likelihood that children with ASD may be bullied at school. Yet, it's interesting to note that parents of children with ASD enrolled in ordinary education claimed that their schools handled bullying incidents more skillfully than parents of children with ASD enrolled in special education. Overall, it seems that these findings point to an increased risk of victimization among young people with highfunctioning ASD, who are more often enrolled in normal education. These adolescents may be less protected and more open to peer victimization in settings where there is less adult supervision due to the greater abilities that they possess.

These youth may also disguise the persistent issues they experience. In their Reciprocal Impacts Peer Interaction Model, Humphrey and Symes outlined the underlying mechanism generating this higher likelihood of victimization. That is, the deficits identified to be present in young people with ASD in combination with those of their typically developing peers result in decreased frequency and quality of peer relationships. In turn, this results in a smaller social network and less support, which increases the risk of victimization for young people with ASD. These procedures seem to be part of a vicious loop wherein young people with ASD lose motivation for future social contacts with peers as a result of their unfavorable social experiences. Much less knowledge and understanding among their classmates who are ordinarily developing results from the avoidant and lonely behaviors that follow in young people with ASD. Youth with ASD, on the other hand, do not appear to differ from typically developing peers in regular education when it comes to their involvement in bullying and victimization. This is true even when they attend special education classes in segregated settings and are surrounded by peers who require additional support. This early research is especially significant in light of the growing number of disabled students, including those with ASD, who spend at least some of their schooldays in mainstream education settings. Even special education kids with ASD are

increasingly being accepted into normal education schools where they may connect with classmates who are typically developing [6].

Further study attempts to discern between individual and environmental aspects in understanding the social experiences of students with ASD would be of considerable interest. When educated in different settings, there is a lot of variation in how much chance adolescents with ASD get to engage with classmates who are usually developing and peers who have additional psychological and/or behavioral issues. Hence, a fascinating and pertinent area for future study is evaluating the perpetration and victimization of kids with ASD attending various school settings. Moreover, similar rates of bullying and victimization were seen in kids with ASD and their normally developing peers in regular education, despite the relatively homogenous makeup of classes in segregated special ASD schools. Another worth while subject for further study is determining which traits of children and young adults with ASD enhance their risk of being bullied and victimized [7], [8].

CONCLUSION

Developmental disabilities like autism last a lifetime. Not every person with autism experiences the disability's hallmarks, such as slow or nonexistent speech development, aversion to social interaction or awareness, and predictable actions, to the same degree. A neurological abnormality called autism spectrum disorder affects how a person sees and interacts with others, which may lead to issues with social interaction and communication. Limited and recurring behavioral patterns are another feature of the illness. Children with autism may often experience a lack of social support networks, career opportunities, and loving connections with their families. All in all, this causes a serious loss of selfesteem. Although the severity of the symptoms tends to decrease with age, independent living is unlikely for the majority of people with severe autism. Autism spectrum disorder has no known cause or therapy that works for everyone. The aim of therapy is to improve your child's functioning by minimizing the symptoms of autism spectrum disorder and fostering growth and learning.

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CHAPTER 4

UNDERSTANDING THE DARK SIDE OF BULLYING PERPETRATION

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ABSTRACT:

Any person who intentionally strives to use technological flaws for illicit objectives is a perpetrator of a digital crime. We also heard about a few of the classifications that hackers might fall into. This includes Blackhats, who intentionally hack targets or organizations in order to benefit themselves. Cyberbullying victimization is characterized as the extent to which a person has been cyberbullied, whereas cyberbullying perpetration is defined as the extent to which a person has been engaged in cyberbullying others.In this chapter author is discusses the friendship in autism spectrum disorder.

KEYWORDS:

Bullying, Children, Diagnosis, Perpetration, Victimization.

INTRODUCTION

The body of research on the risk factors and barriers to bullying and victimization of young people with ASD is expanding. Young people with ASD and normally developing youth have different and similar risk and protective variables, according to studies conducted to far. Kids with ASD often display risk factors for bullying and victimization that reflect traits or behaviors linked to the diagnosis of ASD, and they also lack protective variables linked to lower rates of victimization in adolescents who are normally developing. Nevertheless, as a large portion of research in this field has depended on crosssectional, regressionbased, or qualitative methodologies, care in interpretation is necessary. We cannot conclude causality from these research, despite the fact that directions of effects have been identified. In reality, many associations may be bidirectional. In order to do this, we talk about correlates of bullying and victimization that might serve as risk or protective factors when a certain component is highly correlated with an elevated risk of victimization, a lesser occurrence of that element is correlated with a lowered risk, and vice versa [1].

Relationships to Victimization Many research linking trauma to autism symptomatology, including diminished social skills, social sensitivity, communication issues, and stereotypical behaviors, have shown conflicting findings [2]. On the one hand, research among normally developing peers has shown that adolescents who struggle in these areas are more likely to be victims. On the other hand, youth with ASD who exhibit greater levels of autistic symptoms have been shown to be more at risk for victimization. Nevertheless, young people with ASD who exhibit less severe autistic symptoms have been reported to be more vulnerable to victimization, which may be due to different risk factors than young people who are normally developing. There might be two distinct systems at play here. First, it seems that whether the severity of

autistic symptoms is a risk factor depends in part on the environment. In other words, because of their autistic conduct, children with ASD stand out among their regularly developing classmates. Despite the variety in particular issues, all adolescents exhibit some difficulties, therefore when youth with ASD are surrounded by peers with extra support requirements, they may be less likely to stand out from their peers owing to their autistic behavior.

Second, rather than blatantly demonstrating a linear association between autistic symptomatology and victimization, either at higher or lower levels, autistic symptomatology seems to demonstrate a curvilinear relationship with victimization. In other words, adolescents with ASD are more likely to be rejected or ignored by their peers and to experience victimization if they are viewed as straying from peer group norms as a result of their socially incongruent conduct. This would explain why greater levels of autistic symptomatology have been linked to a higher risk of victimization in several studies. Yet, the likelihood of victimization tends to reduce, and sometimes young with ASD are even shielded from victimization, when autistic symptomatology worsens to the point where peers can clearly recognize the limitations of youth with ASD. This would explain why lower levels of autistic symptomatology are linked to a higher risk of victimization in other research.

Several characteristics of the ASD condition, including as cooccurring disorders, emotional challenges, and behavioral issues, have more consistently been shown to contribute to the likelihood that adolescents with ASD would be assaulted. While these connections were not seen in all research, higher levels of both externalizing and internalizing behavior issues have often been linked to an increased likelihood of victimization. Moreover, comorbid illnesses including ADHD, depression, or multiple diseases have been linked to worsened executive functioning and emotion control, as well as an increased risk for victimization. These investigations provide more evidence that emotional or behavioral issues are risk factors for victimization among young people with ASD, which is in line with what is discovered in young people who are usually developing. The aforementioned elements a child's cognitive, behavioral, and psychological traits have often been regarded as distinct elements [3], [4].

Contextual variables, or elements of the child's surroundings including friends, school, and family, may serve as both risk factors and protective ones. Many studies have shown a link between bullying among peers and a higher risk of victimization in young people with ASD. Having positive social relationships has been found to be associated with less victimization, while negative social relationships have been found to be risk factors for victimization. In particular, difficulties making friends, having fewer friends, conflict in friendships, social exclusion, rejection, and unpopularity among peers have all been found to be risk factors for victimization. Peer difficulties seem to be particularly common among youth with ASD because of their difficulties with social interaction and communication that are inherent to their condition, despite the fact that peer difficulties have also been found to be a risk factor for victimization among youth who are typically developing [5], [6].

School characteristics including educational placement, the provision of special education programs, and the usage of school transportation have all been linked to an increased risk of victimization. The majority of research show that enrolling in a regular school increases your risk of being victimized whereas enrolling in a special school lowers your chance of being bullied. Moreover, greater levels of victimization were linked to the provision of special education needs services inside a mainstream school and the usage of school transportation.

These findings seem to support the notion that young people with less severe ASD are more vulnerable to victimization because they are more functionally independent and are exposed to situations with less adult supervision.

In addition to the more wellknown correlates of victimization among young people with ASD, research has shown a number of other characteristics, including sex, age, ethnicity, socioeconomic position, parental involvement in school, and parental mental health issues. The findings are challenging to interpret since the amount of study on these topics is limited. These studies provide intriguing early proof that familial and demographic variables should be taken into account as possible risk or protective factors for the victimization of children with ASD. However, more research is unquestionably required to determine whether these factors are connected to victimization that is specific to young people with ASD, to examine the distinctions and parallels between risk and protective factors among young people who are typically developing, and to determine the causal directions of effects.

Relationships between Bullying Perpetrators

The risk and protective variables for being a perpetrator or victim of bullying seem to be quite similar, despite the fact that correlates of bullying perpetration have not been studied as thoroughly as correlates of victimization. Studies on the relationship between bullying perpetration and autism symptomatology have shown conflicting findings. Children who exhibit a high level of autistic features are more prone than those who exhibit a low level of these qualities to engage in bullying. In contrast, Rowley et al. discovered that bullying was more common among kids whose social and communication abilities were worse. These conflicting results may be accounted for in a number of ways. Some researchers have hypothesized that youth with more severe ASD are more likely to bully because they are typically more aggressive than their peers who are typically developing, because they mistakenly perceive social communication as hostile, or as a reaction to prior experiences of victimization themselves. Some, however, contend that children with ASD who are more socially adept are more likely to be socially active with their classmates and, as a result, are more likely to have bad social experiences, such as bullying.

Additionally, it has been shown that among young people who are usually developing, the offenders deliberately choose victims over whom they have an advantage. Young people with ASD who have a more sophisticated social knowledge may also utilize these talents to bully their classmates. Considering these conflicting findings and interpretations, it is worthwhile to do more study to determine whether characteristics of autism symptomatology are connected to bullying. Bullying has also been connected to other characteristics of the ASD diagnosis, such as comorbid illnesses and emotional issues. Examples of externalizing comorbid conditions that have been linked to an increased likelihood of perpetration include conduct disorder, oppositional defiant disorder, and ADHD. Moreover, bul lying perpetration has been linked to diminished feelings of guilt, increased emotions of wrath and anxiety, increased depressive symptomatology, increased rates of general emotional regulation issues, and diminished selfesteem. These studies show that while internalizing issues have also been linked to bullying perpetration, externalizing issues and issues with emotion regulation appear to be particularly significant correlates of bullying perpetration, which is in line with what is observed in young people who are typically developing. Contextual variables have also been linked to bullying perpetration in addition to individual ones. In particular, peer difficulties and participation with

peers, which are often seen as positives for young people with ASD, have been linked to a higher risk of bullying. This could be as a result of the enhanced social opportunities for bullying engagement that kids with ASD who are more active with peers also face. Some researches, however, have shown links between perpetration and less positive peer experiences, such having trouble making friends and peer rejection. These contradictory findings are challenging to explain and show that additional understanding of peer dynamics is required to determine how social interactions between kids with ASD and their peers may affect the likelihood that they would engage in bullying [7].

DISCUSSION

Prevention and Intervention

There is presently a dearth of knowledge on the best ways to lower the victimization rates among young people with ASD. The body of knowledge on bullying prevention among usually developing adolescents is often built upon by research that makes recommendations for prevention and intervention. Systematic reviews and metaanalyses of research among the general population have shown that, although some interventions only resulted in modest positive outcomes, these reductions were generally seen. Bullying must be addressed on many different levels in order for preventative and intervention programs to be effective. That is to say, not only should parents be informed of what bullying is and how to deal with it, but so should other members of the school community, including students, teachers, and support staff. Bullying prevention and onthespot intervention should include the whole school community. These preventive and intervention programs need to be longlasting and rigorous in order to minimize perpetration and victimization among kids.

This is likely because it takes time to create a strong antibullying school atmosphere that is supported by all members of the school community. Effective components of wholeschool bullying prevention and intervention programs include: adult encouragement of children's healthy and positive relationships; clear and consistent antibullying policies involving nonphysical disciplinary measures to address perpetrator behaviors classroom management focused on identifying and addressing bullying and active supervision of students. Youth with ASD may experience less bullying and victimization thanks to excellent preventative and intervention programs designed for adolescents with normal development. To accommodate the requirements of young people with ASD, it is recommended that a number of aspects on each level be strengthened or introduced. For these kids to be less likely to stand out among their classmates, it is first necessary to tackle the fundamental impairments of ASD and comorbid issues on an individual basis. In order to do this, young people with ASD may be taught social skills and alternative behaviors that they may utilize to constructively interact with their peers and substitute uncomfortable social habits. Moreover, given that children with ASD may misperceive bullying scenarios and friendships, therapies may wish to concentrate some of their efforts on fostering young views and understandings of good and bad social conduct [8].

Second, it's important to encourage inclusivity and improve understanding about ASD at the level of the peer group. Raising awareness helps boost the empathy and social skills of usually developing peers toward children with ASD as well as their ability to comprehend why someone would behave differently than they do. Young people with ASD may become more included into protective peer groups as a consequence of inclusion promotion. Due to contradictory results regarding peer involvement among normally developing kids, some studies also advise against

particular peer engagement practices including peer mentorship, befriending, and buddying programs. Finally, instructors may actively explain children's talents and challenges while also showing empathy, respect, and a positive attitude toward kids with ASD and other impairments on the level of teachers and support workers. Teachers actively encourage inclusivity by modeling for pupils how to interact with others who are different and by acting as good role models. Teachers and support personnel must flexibly adapt and alter educational techniques in keeping with this atmosphere of promoting individuality and uniqueness since conventional pedagogical approaches often fail to engage children with ASD. Also, more rigorous adult assistance is required when a kid is assaulted, particularly when that student has an ASD.

That is to say, kids with ASD may need assistance in managing their emotions and behavior, coping with challenging circumstances, communicating assertively, finding constructive solutions to problems, and/or interacting with supportive peers. Yet, there have been conflicting findings on the provision of extra help by support personnel like teaching assistants. Support workers may improve the academic performance of teenagers with ASD, but their presence may also cause them to become more isolated from their classmates, increasing their vulnerability to victimization. Last but not least, on the scale of the overall school environment, all members of the school community should support respect for diversity and differences in all its manifestations. Also, a number of structural changes might be done to provide young people with ASD the chance to productively connect with peers or to disengage from social contacts as necessary. Strong schoolhome mechanisms should be established to track how bullying affects children with ASD, particularly in light of the fact that children with ASD are rumored to underreport bullying and victimization to both parents and teachers. Although some of the proposed preventative and intervention strategies have previously been used with adolescents who have ASD, further research is still needed to determine how well they work in preventing bullying and victimization.

The effectiveness of contemporary evidencebased programs among ordinarily developing adolescents must also be compared to their suitability for populations in special education. There have been attempts to adapt wholeschool strategies to similar situations, but their impacts on victimization and bullying have not yet been fully examined. The development of sufficient cognitive, linguistic, and social abilities in normal development depend heavily on children having friends. Although though the majority of people with autism spectrum condition have serious issues making friends, this issue is still seldom discussed. Consequently, there is a critical need for indepth study of friendship processes in ASD. We describe the kind, value, and significance of friendship in ASD throughout developmental stages, from preschool through adulthood, in this article. We also provide a description of the kids who become friends with ASD kids and point out personal, parental, and environmental factors that can influence friendship development in ASD. Lastly, we provide some suggestions for further research on friendship. The presentation of novel data will be based on quantitative and qualitative multidimensional assessment processes, including semistructured and spontaneous observations of friendship, as well as selfreports and other people's reports, integrating current and longitudinal assessments of friendship.

Friendship Development in Preschoolers with Autism Spectrum Disorder

For toddlers who are usually developing, stable friendships that are built on mutual af fection and that provide emotional support have been extensively established. More social complexity and

intersubjectivity are shown in encounters with friends as intimate and emotive alterations than in interactions with acquaintances. In contrast to earlier research, which focused on friendship among children with special needs, recent studies have started to particularly study friendship throughout preschool with reference to ASD. Hence, nothing is known about the friendship of young ASD children. We will examine recent findings on friendship among preschoolers with ASD in terms of the number of friends identified, the kind and quality of relationship, the friend's traits, and projections on the factors of friendship.

Friends Number

Only Chang et al. give data on the number of friends who have been identified for ASD kids. Using an adaption of Howes' criterion, more children were reported as having friends by parents and teachers than were recognized as having friends by observational data. Parents reported friends from settings other than school, such as family friends, extracurricular activities, and the neighborhood. Nine pairs of parents and teachers recognized the same friends. In order to bridge the gap between parental/teacher accounts and observational data, further research on the number of friends preschoolers with ASD have is still required.

Characteristics and Qualities of Friendship

For children with high functioning autism spectrum disorder, BaumingerZviely and AgamBenArtzi reported sameage, samesex, stable and longlasting friendships with no deviations from conventional relationship. Teachers' reports show that preschoolaged children with HFASD and normally developing children had different relationship durations. Moreover, none of the usually developing children had a buddy who had HFASD, in contrast to the majority of children with HFASD. Maternal reports indicate that HFASD and TYP had comparable meeting places; however, instructors report that 65.4% of friends exclusively hung together during preschool. In a number of research conducted at Baumingerlab, Zviley's the quality of preschoolers' friendships was studied. These studies contrasted the quality of relationship between individuals with HFASD and those who are developing typically, between interactions with friends and acquaintances, and, for individuals with ASD, between mixed and nonmixed interactions.

Each target kid was recorded at preschool engaging in three social settings with a friend partner and a nonfriend partner. In addition to a general assessment of each dyad on the dimensions of closeness, shared enjoyment, and coen gagement, minutebyminute categories for each individual target child's positive social interactions and play behaviors were examined using the friendship observation scale young. Sharing, social interaction, good affect, and cooperative pretend play all showed group differences, with normally developing target children doing better than children with HFASD. In each of the three global dyadic categories closeness, shared enjoyment, and reciprocity typical dyads outperformed children with HFASD in terms of their dyadic friendship quality. It is crucial to highlight that the groups did not significantly vary on a number of crucial positive socialinteractive behaviors, including solitary pretend play, parallel, social, and collaborative play, and cooperative, prosocial, and nonverbal behaviors. As a result, although the HFASD target children did exhibit some positive social interaction behaviors, normally developing target children did exhibit greater relationship quality with their peers.

Results of the quality of friendships among children with HFASD were particularly instructive when compared between interactions with friends and interactions with nonfriends. Both target children with HFASD and those with standard development had greater levels of positive affect,

more socially coordinated play, and a higher frequency of collaborative pretend play, the most complicated kind of peerplay, when engaging with peers. Also, for both groups, the friend dyads scored better on the three dyadic friendship traits than the nonfriend dyads. As a result, sophisticated play and interaction abilities, as well as a high degree of intersubjectivity and intimacy, are all associated to friendship for kids with HFASD. The same sample was used in a subsequent research that reproduced these findings using a different social collaboration task. In Kimhi and Baumingerresearch, Zviely's dyads of kids with HFASD and kids with usual development worked together to find a collaborative solution in which they had to put a pair of blocks that varied in color and weight on a scale to balance it. When it came to their performance on the collaborative problemsolving activity, HFASD preschoolers performed worse than the normally developing group because they were slower, used more irrelevant behaviors, shared less, and made less coordinated gestures.

According to the General Dyadic Quality Evaluation, a comprehensive evaluation that evaluated the quality of the interaction between the children throughout the problemsolving scenario, the HFASD group was more responsive, had more fun, and displayed a higher level of reciprocity when they interacted with friends as opposed to nonfriends. Another research using a comparable sample and an indepth analysis of pragmatic skills produced results that were consistent with the first, highlighting the benefits of social connection with friends over interactions with strangers. According to this study, interactions with friends performed better than interactions with strangers when it came to crucial pragmatic skills like reciprocal conversation, responsiveness to the interlocutor, coregulating the conversation, appropriate reference to the other's emotions, appropriate use of facial expressions and eye contact, and a lower use of stereotyping, regardless of group differences. Also, both HFASD and standard friend dyads showed higher verbal competence, more conversational exchanges, and greater reactivity to information elicited by the partner during conversations with friends vs nonfriends. Furthermore, compared to nonfriend dyads, HFASD friend dyads exhibit more pragmatically intact and coregulated interactional behaviors [9].

Children's use of speech actions, which are essential parts of their conversational skills, was compared across groups and with relation to the partner in more nuanced indepth research of pragmatics and friendship with a comparable sample. The major findings were consistent with earlier findings for this sample, with normally developing children exhibiting a greater quantity and variety of SAs than the group of children with HFASD. Yet, engagement with a friend fared better than interaction with an unfriend in both groups. The HFASD group showed particular issues with forceful behaviors and declarations, organizing tools, object dubbing, pretend play, and speech that was more stereotypical. Some categories, however, performed better with friends than with strangers. As a result, the results imply that friend dyads with HFASD exhibit interactional behaviors that are more pragmatically intact and coregulated than nonfriend dyads. It is essential to remember that pragmatics is seen as a significant impairment in ASD. As a result, friendship may be a crucial protective element and a positive social setting for children with HFASD to improve their verbal abilities. The current Diagnostic and Statistical Manual of Mental Disorders definition of ASD, which integrates social and communication skills into one factor that diagnoses the disease, fits well with the intimate association between peer relationships and language.

One reason for the variation in friendship quality in ASD is a problem with the sort of relationship that exists between mixed and nonmixed friends. It's interesting to note that this

comparison offered less insight into how friendship functions in ASD. Even while mixed interactions with normal friends tend to display more social complexity than nonmixed interactions, only a small number of positive interactive social and play behaviors showed significant differences. For instance, greater levels of reciprocity, cooperative pretend play, and cooperative conduct were seen in mixed friendships compared to nonmixed friendships in BaumingerZviely and AgamBenArtzi. Just one key conclusion emerged from BaumingerZviely et alresearch on mixed dyads showed a wider range of SAs than nonmixed dyads. As a result, when toddlers speak in mixed dyads, their discussions seem more fertile and rich [10]. Our results suggest that early friendships provide viable and worthwhile experiences for kids with ASD, which may have a significant impact on the development of their sociolinguistic abilities. Yet, friendship is another major obstacle for kids with ASD, and not all kids are able to make friends. What is known about preschoolers with ASD who have friends will be covered in the section after this one.

CONCLUSION

In conclusion, the bulk of research on the correlations between bullying and victimization has been on the victimization of young people with ASD. This makes sense given that bullies target children with ASD more often than classmates who are normally developing, and that these kids are more likely to become victims themselves. According to the evidence that is currently available, autistic symptomatology, associated internalizing disorders, and obvious difficulty in forming and sustaining social interactions with peers are the primary risk factors for victimization. The school setting seems to be quite important for victimization of young people with ASD. Conversely, it seems that externalizing issues are predominantly associated to vulnerability for bullying perpetration, whereas correlations with autism symptomatology and peer difficulties are less clearcut. Research on the risk and protective variables of victimization and bullying among young people with ASD is still in its early stages. In order to overcome the issues with generalizability often discovered in prior studies, research with bigger samples is required. Moreover, a multiinformant method should be used, as is advised in the larger area of bullying, to provide more reliable findings than singleinformant measurements. While investigating bullying and victimization among adolescents with ASD, diverse educational contexts should be taken into account since research shows that these youth's experiences vary throughout mainstream and special education settings, as well as across different spaces within and outside of school. Finally, and perhaps most significantly, longitudinal data on possible risk and protective variables should be gathered for future study to explore the causes and effects of both bullying and victimization among children with ASD.

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CHAPTER 5

CHARACTERISTICS OF FRIENDS MAKING CHILDREN

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ABSTRACT:

Opportunity and likeness are essential components for developing friendships in young children. Children, like adults, are attracted to individuals who have similar interests, and they want regular chances to connect, play, and spend time together.A good buddy must be truthful. Always convey the truth to their friends and never conceal anything from them. In this chapter author is discusses the characteristics of friendships.

KEYWORDS:

Adolescent, Autism, Children, Disorder, Friendship.

INTRODUCTION

When comparing preschoolers with friends versus preschoolers without friends, just one recent research has looked at spontaneous social interactions and play. During free play, children with friends were more likely than those without friends to be cooperatively engaged with their peers and to utilize greater levels of cooperative attention. According to these results, Freeman et al. investigated the impact of shared attention and play on the quality of friendship among 40 children as assessed by parent and child accounts five years later. The researchers discovered that kids with stronger joint attention skills at age three reported having closer friendships and fewer conflicts when they were eight years old. More diversity and flexibility in symbolic play, in particular, were associated with improved play skills in general and higher levels of helpfulness in friendships.

These results downplay the value of early intervention in areas like shared attention and the growth of symbolic play, which may raise kids' social drive and interest and make them more sociable later in life. These findings are significant because they show how basic problems in ASD affect subsequent friendship development. Additional research has connected intellectual ability, linguistic skill, and chronological age to better friendship traits, but these results are not definitive and do not always distinguish between children who form friends and those who do not. Also, it's crucial to remember that highfunctioning kids were included in every study that looked at friendship throughout the preschool years; as a result, the results may have obscured the impact of IQ on friendship formation. In fact, we currently know very little about the friendships between less gifted children on the spectrum.

Partners' Qualities

The kind of preschool partner has not been specifically studied in any data. We questioned mothers and instructors on the elements that contributed to the establishment of friendship throughout preschool as part of Baumingerlab Zviely's experiment on preschool friendship.

Close closeness, parental mediation, and the child's traits were ranked in order of importance by mothers of children with HFASD as being the most significant factors. The least significant characteristics, according to moms, were the shared references of the children and staff mediation. Regarding the significance of attending the same preschool, the teachers agreed with the moms, but they gave the children's shared choice and staff mediation a higher rating than the mothers did. Parents' mediation was seen by teachers as the least significant influencing element.

These are preliminary data, therefore they need to be interpreted with care. Yet, it must be remembered that young children rely on their parents to set up encounters, therefore partner choices may be impacted by parental desires to get to know the partner's parents. kids in schools that have Autism Boys' friendships throughout the school years are often characterized by physical roughandtumble group activities, or surfacelevel activities, which foster friendship reciprocity, which encompasses both behavioral and emotional reciprocity. A key element in the reciprocal friendships between male students of school age is affective interaction. Mendelson, Gates, and Lerner discovered that boys with ASD do create reciprocal friendships in which they participate in emotional sharing, although of lesser quality, in a metaanalytic research that examined the friendships of schoolaged boys with ASD.

Amount of Friends Several studies of schoolaged children have reported data on the number of recognized buddies. Mazurek and Kanne carried out the largest research, looking at a sample of 1202 kids between the ages of 4 and 17. According to the ADIR item measuring friendship status, parents reported dyadic friendship. For instance, one or more relationships with a peer who is the same age that involve sharing personal activities and seeing the person outside of prearranged groups; one or more relationships that involve some shared activities outside of prearranged groups and some initiation, but may be limited in interests or reciprocity; personal relationships with others that include seeking contact, but only in groups, school, or work; and no peer relationships that involve these activities. The findings revealed that 15.2% of the kids had unambiguous, mutually beneficial connections [1].

37 boys and 8 girls between the ages of 6.4 and 10.4 years participated in a big research that examined schoolage friendships in terms of reciprocity and mutuality. Among the ASD group, 49% were in nonmixed friendship pairs and 51% were in mixed friendship pairs. The Friendship Quality Questionnaire was used to gauge the quality of each relationship, and each friend from each dyad responded on a threepoint scale. The friendships were categorized as best, regular, or nonfriendship based on the responses. According to the findings, friendships between mixed and nonmixed dyads were reciprocated in 89% of cases. Best friends had a reciprocation rate of 19%, mixed dyads had a rate of 15%, and nonmixed dyads had a rate of 24%. Regular friends had a rate of 55%, mixed dyads had a rate of 54%, and nonmixed dyads had a rate of 62%.

DISCUSSION

Characteristics of Friendships

One of the first studies to look at the friendships of kids with HFASD also looked at the connection between loneliness and friendship and whether or not friendship helped these kids feel less lonely. In a study of 22 HFASD children who reported having at least one close friend, loneliness and friendship were evaluated in comparison to children with average development who were matched on IQ, CA, mother's education, gender, and ethnicity. The results demonstrated that having a best friend did not lessen the children with HFASD's feelings of

loneliness, despite the fact that they had a social desire to interact with others and felt lonely. They assessed their friendships as equal in terms of closeness, although ranking them lower in quality than their usually developing peers' in terms of companionship, security, and helpfulness. High levels of intimacy, according to the scientists, should make up for feelings of loneliness, which were seen in the youngsters in the control group. This didn't happen among the kids in the research group.

In a binational, multidimensional research, the friendship traits of 44 children and preadolescents with HFASD were evaluated, and they were contrasted with those of 38 matched usually developing children. Most of the friendships were with people who had the same gender and/or were the same age. There were friendships between two pairings from the ASD population and a relative. 16 pairings acknowledged friendships with a partner who is disabled. The Friendship Observation Scale, an interactional coding system created to evaluate both minutebyminute and global evaluations of the target child's friendship manifestations, including behaviors, verbalizations, and affect, and the Dyadic Relationships QSet, which evaluates dyadic behavioral dimensions, were used to analyze the friendships' characteristics. The kids engaged in two play activities that they may either do alone in parallel or collaboratively as a group. The Friendship Characteristics Scale was used to evaluate the aspects of the child's stated friendship. In compared to their classmates who were usually developing, the friends often had less friendshiprelated behaviors, such as goal directedness and pleasant affect.

In both situations, they also engaged in less natural conversation and social interaction. Moreover, the HFASD children had decreased selfreports of intimacy and closeness as well as fewer pleasant affective expressions, shared enjoyment, and degrees of intimacy. The intimacy and value of their friendships were evaluated by the kids as being restricted in their relationships. Yet, the scientists also noted certain significant traits that were similar to those of kids with usual growth. Longlasting friendships with their spouses were reported by the children with HFASD this information was corroborated by both the moms of the children and their friends. An egalitarian relationship with a low prevalence of dominating behaviors and a balanced leaderfollower connection between the spouses also appeared as a trait. Even though the majority of the HFASD dyads had a companion who had usual development, this nevertheless happened. The authors came to the conclusion that autism affects how the friendship exchanges between the dyad members. The children with HFASD had comparable nonverbal responses when each social setting was examined separately, including shared eye contact, smiles, and sharing of experiences, attention, and emotions [2].

To determine the differences between the friendship dyads with mixed autism and normal development, as well as the nonmixed dyads in comparison to typical development, a detailed analysis of the same sample was carried out. As was seen with preschoolers, several facets of friendship were shown to be considerably different. In compared to the nonmixed dyads, the findings revealed that the mixed dyads were more consistent with usual friendships. The kids' friendships were more enduring and secure, and they had better attitudes toward one another. They had stronger positive social orientation and cohesiveness, and they were more receptive to one another. Also, they displayed more intricate coordinated play than the nonmixed dyads. In conclusion, the mixed dyads demonstrated more intricate and responsive communication within the relationship itself.

Gender is an important but sometimes overlooked factor when investigating the features of friendships in ASD. Dean et al. focused on how gender affects social preferences, acceptance, social connections, reciprocal friendships, and rejection in their peer nomination study of 50 elementary school children with HFASD in compared to typically developing peers. Male and female children with ASD tended to be excluded from different social circles and had fewer playmates who had usual development. One sobering observation about females with ASD was that they often went unnoticed in social situations. The authors discovered that many females were either off the social grid or neither accepted nor rejected, which was a startling discovery with negative social and emotional repercussions. Boys with ASD, in contrast to females, were often openly rejected, making their social isolation easier to see. The authors contend that since there are differences between the societal expectations of each gender, intervention should be organized appropriately. Female friendships and relationships take into account subtleties like closeness and group conformity, while male friendships and relationships call for a lower level of linguistic proficiency as well as a knowledge of competitive play. As verbal interactions predominate in female relationships, females may actually be more negatively impacted by the fundamental deficiencies of ASD.

Features of Children Who Form Friendships

There seems to be no evident or direct correlation between behavioral displays of mentalizing and the capacity to make friends, which is one of the key hypotheses about the features of children with ASD who do so. Several studies have, however, made an effort to identify the elements and traits that seem to promote and foster friendships. The urge for interpersonal involvement revealed as a crucial feature in parents' and teachers' evaluations of the children's traits, indicating their strong desire to form friendships, in a research that evaluated what friendship meant to children with ASD in inclusive settings [3]. The significance of significant socialemotional characteristics, socialcognitive abilities, and developmental factors in seen and perceived friendships of children with HFASD and usual development was explored indepth by Bauminger et al. Overall, the authors discovered that friendship predictors and developmental patterns, such as chronological age, verbal IQ, security of attachment, motherchild relationship quality, and ToM, were comparable in HFASD and usual development.

Higher language talents, in particular, seemed to be crucial for the friendship traits of coordinated play and responsiveness. A higher standard of motherchild connections seemed to directly contribute to the feeling of closeness, intimacy, and companionship seen in friendships. In addition, all observed friendship attributes tended to become better with age. Consequently, aspects of growth and relationships had the greatest influence on the observed behavior mongst friends. The relationships between the predictors imply that ToM and security of attachment provide methods for amplifying and compensating for friendship traits. Moreover, closeness and companionship in friendship seem to be compensated for by security of attachment, particularly in the context of ASD and intimacy, highlighting the need of a highquality motherchild relationship for children with ASD to form personal friendships. Measures of attachment security and connections that developed between measures of attachment security and parentchild relationship characteristics with friendship development were also consistent across research groups. These results, according to the authors, suggest that internal working models and the attachment security construct may be applied to ASD, and that attachment security may even help to social development in more profound ways than friendship.

Their Partners' Qualities

Teachers said that when friendships form, peers often play a crucial part in keeping them together and are frequently praised for being warm, kind, and socially mature. Conn discovered that friends of ASD children were often reported as being on the same wavelength, attentive to the children with autism, and frequently being highly innovative, creative, and extraordinarily supportive [4].

Adolescents and Adults with ASD and Friendship

The social issues that people with ASD often experience worsen throughout puberty. In contrast to teenagers with other impairments, Rossetti claims that these people and adolescents with intellectual and developmental problems are among those who are least likely to form friendships. They often get left out and ostracized, and their social networks are of poorer quality. The friendships themselves are often portrayed as significant and mutual, despite the fact that their connections have a lesser quality in terms of companionship, security, and helpfulness. Adolescent friendships should take into account both same and differentgender elements. Hence, in this part, we'll go into more detail about this subject.

Adult friendships are challenging to evaluate since there is a dearth of research in this area, as shown by the poor quality and limited quantity of adult intervention studies in general, including studies of friendship and social intervention. Due to the social isolation that most young people with ASD experience relative to other groups, this issue is exacerbated. In a structured means analysis of 443 persons with ASD and adults with other developmental disabilities, Mehling and Tasse evaluated social outcomes. Although participating in the community at rates comparable to those of the group with developmental disabilities, the authors discovered that persons with ASD had fewer friendships. These findings highlight that inclusion or immersion without a targeted intervention is less successful and, for the most part, does not result in friendships for people with ASD of all ages.

Friends

Many research on adolescence have provided the quantity of recognized pals. In a research that looked at the friendship reports of 91 ASDaffected adolescents and their parents, 96% of the teenagers said they had at least one buddy, and 86% of the parents said the same. In contrast to their parents, the teenagers named much more friends; agreement between the teenagers and their parents was 60% for the teenager's best friend and 24% for the teenager's three closest friends. The teenagers who reported different acquaintances had more severe autistic symptoms than those who claimed at least one friend who was comparable to their parents' assessment, which is an intriguing finding. According to sociometric data from a research that looked at the quality of reciprocated friendships among students with special needs, 65 teenagers reported having at least one buddy who was usually developing. The teenagers were asked to choose their best friends in class, and friendship was defined as a nomination that was also made by the other person [5].

Colleagues Looked into the Friendships

Among seven teenagers with HFASD, everyone said their greatest buddy was a teenager with ASD. Ten male and thirteen female teenagers in special education needssegregated schools reported having at least one close buddy at school, according to another research that used semistructured interviews to examine friendship. In one of the few studies to date that looked at

friendship in a sample of 108 adults with ASD, it was discovered that 60.2% of the participants said they had a best friend. This represents an improvement over an earlier study that looked at the friendships of 235 adolescents and adults with autism and discovered that only 8.1% of the sample had at least one close reciprocal friendship.

Characteristics and Qualities of Friendship

Despite the fact that friendships in people with ASD are thought to be of lesser quality and are marked by shorter encounters and less frequent gatherings, some encouraging traits have surfaced about reciprocal connections in people with ASD. 57% of the teenagers in Kuo et alstudy .'s said they met up with friends on weekdays and weekends for an average of 3.1 hours on any given day. Rossetti examined the friendships of teenagers with ASD in a qualitative research and found that the relationships were reciprocal, meaningful, and enjoyable. The individuals tried to make the most of their contacts and shown internal drive. They expressed their feelings and worked together to include comedy in their shared experiences. The authors of a second research that examined companionship, intimacy, and support in reciprocal friendships among teenagers with ASD discovered that these adolescents did not vary from normally developing adolescents in how they perceived companionship, closeness, and support. Additionally, as compared to their usually developing peers, adolescents with ASD did not vary in their perceptions of security, conflict, and closeness with their best friends while having considerably worse friendship traits in terms of companionship and helpfulness.

The main conclusion of a research that looked at the social participation of 108 young people with ASD who were able to complete assessments independently was very high levels of social isolation. Nonetheless, 60% of the participants claimed to have a best or close buddy. More over 50% of respondents said they met their buddy only seldom, and a similar percentage said they spoke via phone. Nonetheless, 50% of those surveyed said they spoke electronically with a buddy at least once daily and often. The author examined the motivations for utilizing social networking sites indepth in another research that used the same sample. According to the findings, 79.2% of those who had friends said they used it for social purposes. This data, according to the author, points to a potentially beneficial function for social media among adults with ASD. Adult relationship traits were also connected to a reduction in loneliness. The author came to the conclusion that friendship plays a crucial role in emotional functioning as a result of the strong relationship between friendshiprelated factors like having a close friend and the size of the friendship social network and loneliness in individuals with ASD [6].

Gender disparities in teenage friendships have only been the subject of a small number of research. One of the few research that looked at this problem examined gender differences in teenage boys and girls with and without ASD in terms of social drive and friendship experiences. All participants received a Statement of Exceptional Education Needs and attended special schools. The Friendship Characteristics Scale was completed by the teenagers, and it evaluated how they perceived the nature of their friendship with a named best friend. Intriguingly, the findings revealed that, with the exception of having less conflict in their friendships, the girls with ASD and the nonautistic girls had friendship qualities that were comparable in character in terms of companionship, help, closeness, and security. As opposed to their typically developing classmates, autistic males regarded their friendships as being less intimate, less secure, and having less conflict as well as lower levels of helpful actions. Less closeness and greater activity were also noticed in the guys with ASD's relationships.

According to Kuo and colleagues, the majority of teenagers reported having friends who were also of the same gender but few who were of the opposing gender. Although female adolescents were more likely to converse with friends, male teenagers were more likely to play video games or watch television with friends activities that entail less direct social engagement than others. Physical activity was the area in which both male and female teenagers interacted with peers the most, coming in third to discussions for males and video games for females.

The respondents mostly reported participating in physical activities with their oppositegender companions, such playing sports or swimming, which often have set rules and a coach or teacher. In comparison to previous research on normal development, boys and girls less commonly hung out with friends, participated in creative activities, listened to music, visited, or read. Both male and female adolescents with ASD experienced more intimacy and assistance from their female friends than from their male friends in both same and oppositegender friendships, similar to adolescents who are normally developing. According to Sedgewick et alresults, teenagers with ASD felt their friendships were less contentious.

Characteristics of Adolescents and Adults

Identification of the traits of kids who form friendships is crucial for promoting friendships. Conn looked at the experiences of friendship in the autobiographies of people with ASD and discovered that the people described their desire to only have one friend at a time and a preference for older or younger friends because younger kids are easier to follow while older kids can participate in serious conversations.

In a large sample of kids and teens with ASD, friendship rates did not substantially vary depending on gender; nevertheless, kids and teens with lower IQ levels had worse peer relationships. Moreover, there was a strong correlation between friendship and the severity of ASD symptoms the less likely someone was to have friends, the more severe their ASD symptomatology.

According to Bauminger et al., it's possible that people with ASD who form friendships have somewhat better overall social emotional skills than those with ASD who don't have reciprocal connections. Some teenagers with higher functioning ASD are conscious of their social status and crave reciprocal high quality connections, but many are also conscious of their social restrictions and overall social deficiencies.

Mazurek and Kanne discovered that friendships among people with ASD were linked to greater levels of anxiety and despair. This finding contrasts with normal development, in which friendship often promotes the wellbeing of the friends. The most anxiety and unhappiness were seen in adolescents with ASD who said they had one or more friends. Interestingly, higherquality friendships were linked to higher levels of anxiety and despair, suggesting that having friends did not reduce anxiety.

This result supports the findings of Bauminger, Shulman, and Agam, who found that children with ASD had higher levels of loneliness than their typically developing peers and a weaker correlation between social interaction and loneliness, indicating a poorer understanding of the connections between loneliness and social interaction. Adolescent females with ASD have greater social skills and more social drive than boys, engage in girl talk, and are able to form more close connections than boys with ASD. This is true regardless of gender [7].

Partner Characteristics

To improve the friendships of teenagers with ASD, it is essential to recognize the characteristics of adolescent companions. Teenagers starting high school are often less tolerant and accommodating than younger people, and their interests differ. The most fundamental aspect of friendship is closeness, which is one of the most challenging things for people with ASD to do. Teenagers with ASD thus often experience social exclusion. Teenage ASD friendships in general and their partners in particular revealed that many of the partners were younger than the adolescents with ASD, which is consistent with Conn's results. Even though crossgender friendships are distinctive of adolescence in healthy development, the majority were of the same gender. In addition, ASD was the most common handicap among the buddies, who made about half of the group.

Rossetti claims that when friendships do form in adolescence, the partners are often responsible, not part of a clique, and sympathetic to their friends who have autism spectrum disorder. Most of the time, this support is given with the ease and assurance that is often seen in family members rather than peers. In friendships between people of the same gender or of other genders, female friends are more likely to provide assistance [8].

CONCLUSION

Children's emotional and social development is supported by learning how to navigate friendships. A child's potential for empathy and generosity is increased through friendships. Having friends fosters a good attitude on life and increases happiness, wellbeing, and selfconfidence. Friends discuss issues, provide guidance, and boost one another's confidence. The social and emotional growth of kids depends greatly on their ability to make friends. Their sense of individuality and selfconfidence grow as they learn to get along with friends. Also crucial to physical wellness are friends. One of the strongest links in a person's life is their friendship. Trust, loyalty, and faith serve as the cornerstones of a strong connection. No friendship can last for a long time without love and feelings. We need to cultivate enduring relationships throughout our lives.

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CHAPTER 6

SOCIAL SKILLS IN AUTISM SPECTRUM DISORDER

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ABSTRACT:

The autism spectrum disorder skill is a highly organized behavioral observation tool for evaluating play, communication, play relationships, and creative toy usage. On a scale from 0 to 3, each skill is graded. Based on a person's age and degree of language development, the autism spectrum disorder skill five modules are administered. In this chapter author is discusses the issues in standardized assessment of social skills.

KEYWORDS:

Autism, Children, Development, Friendship, Screening.

INTRODUCTION

It is critical to emphasize that interpersonal skills are required for an individual to create and sustain friendships in order to permit an essentially dyadic interaction before discussing the contextual assistance required to promote friendships in autism spectrum disorder (ASD). Determining whether the suggested intervention attempts to advance social skills or if it is focused on advancing and keeping friendships is thus crucial when addressing therapies that might promote friendship. Many therapies do not distinguish between establishing friendship and increasing social skills and peer acceptability. According to Asher et al., teaching particular social interactional ideas, practicing these concepts with peers, and reflecting on the lessons learned based on personal experience are the three most crucial elements of treatments targeted at promoting and building friendships.

These rules are obviously in line with social skills intervention, but they are not precise enough for friendship. It may be difficult for peers to organize their interactions, which calls for therapies that focus on facilitating and maintaining partnerships. While a multidimensional, developmentally, and ecologically focused curriculum may promote relationship interventions, the program's actual subject matter is yet unclear. Also, the intervention's setting and participants need to be taken into account. Originally designed as a manualized, researchbased social skills program for highfunctioning teenagers with ASD, the Program for the Education and Enrichment of Relational Skills focuses on developing and maintaining friendships as well as managing peer conflict and rejection. In several clinical studies spanning childhood and early adulthood, the efficacy and usefulness of parent or caregiver assisted variants of the PEERS intervention have been proven. In a randomized control trial of parentassisted children's friendship training, Frankel et al. came to the conclusion that training in the abilities required for successful oneonone play dates may be a key to the development of best friends among children with ASD. With this intervention, parents are essential since they may actively encourage playdates.

The capacity to manage conflict over the course of a sustained and meaningful relationship, the capacity to distinguish between one's own needs and those of the other, and improved skill in developing emotionbased relationships are additional crucial factors that should be taken into account in friendship interventions [1]. It has been evident for a long time that just putting a student with ASD in an accepting setting is insufficient to allow or foster relationship. Particular treatments that encourage possibilities for friendship throughout the lifetime, whether in preschool or adulthood, must be prioritized. Chang and colleagues looked at the day to day tactics preschool instructors used to foster friendship and discovered that the primary approach was behavior management when the kid with ASD was acting improperly in the classroom. The authors discovered that social skills promotion by teachers was uncommon. The kids did, however, become more aware of one other when the instructor did urge them to connect and play together, which is a crucial first step in creating meaningful relationships.

Researchers also advise early therapies that directly address basic deficiencies like joint attention and communication skills to assist foster lasting friendships based on findings for preschoolaged children with ASD. According to a research that looked at what friendship meant to schoolage children with ASD in inclusive settings, the kids benefited from direct encouragement to hone their social skills, whether it came from their parents or their instructors. By inviting their children to their homes, making contact with others, and participating in social activities, the parents helped their children create and maintain friendships. The instructors defined their duties as fostering cooperative play among the students, promoting peer support, and emphasizing inclusive themes in the classroom. The instructors emphasized that when friendships had developed, the peers saw their responsibility as taking care of the kid with ASD and including him in their activities. Yet, it was emphasized by both teachers and parents that sustaining friendships at school received less attention than academic and behavioral problems.

The same results are seen in preschool, where efforts are focused on improving social skills but not always on the formation of bonds like friendship. This is true despite the apparent and significant role that friendship plays in the development of sophisticated socialcommunicative and play skills in the preschool years. Friendships may be helped in more ways than only at school. Children's social skills are facilitated via play dates at home. Children with ASD who attended more play dates interacted more often and effectively with peers on the school playground. Also, improved parentteacher communication may aid in the development of friendships between children with ASD and their classmates. When a teacher sees the beginnings of a relationship in the classroom, she may let the parents know so that they can plan play dates away from the school grounds [2]. Rossetti discovered that open, welcoming environments encourage friendships and social engagement if they provide several chances for friends to get together over time. Themes from the teenage dyads in their research suggested that it is crucial to facilitate and promote reciprocal and meaningful interactions in open, inclusive environments. Also, it has come to light that fostering contacts in a variety of contexts, including the scheduled activities seen in afterschool programs, is a crucial way to encourage friendship development and maintenance.

Video games frequently act as a social bridge for adolescents with ASD and help them in their attempts to fit in with their typically developing peers, creating a context in which adolescents with ASD can socialize and deepen their friendships, according to research by Kuo and colleagues. Watching television and using a computer were the most common activities that adolescents with ASD engaged in with friends. Understanding how teenagers with ASD identify

friends and what qualities of friendship they value is important in developing and sustaining connections with them. Consequently, it would be good for adolescents with ASD to talk about what social supports are required and how such supports may benefit the adolescents with their parents, therapists, and educators. In particular, paraprofessionals may find it difficult to build friendships due to adult closeness. It's also crucial to note that children are more likely to engage with adults who have been allocated to them specifically than peers. Consequently, it is crucial to exercise care when offering adult help in school settings when determining the different social supports that are required. The existence of people with normal development is a crucial but sometimes overlooked factor. The bulk of research on friendshippromoting treatments is centered on inclusive settings and is predicated, among other things, on the idea that include kids with special needs in ordinary classes may improve the social atmosphere there. This presumption is based on the understanding that include a student with special needs in the classroom may help pupils get a greater understanding of and tolerance for diversity.

Peermediated therapies are now regarded as the greatest method for improving social skills in people with ASD. On the other hand, for kids with normal development, playing the role of a peer model may sometimes become taxing, which can result in burnout throughout puberty. A systematic evaluation of the research on the advantages of peermediated therapies for children and adolescents with HFASD was conducted by Chang and Locke. Children from preschool age to high school age were included in the research that the authors analyzed. Peers were chosen for all studies by instructor nomination for a variety of factors, including high levels of social skills, attendance, and social standing. Also, all research included formal peer training approaches to teach certain social skills. In all of the presented investigations, the usually developing peers functioned as social role models, enhancing the social initiations, reactions, and interactions of the individuals with HFASD. If, in addition to interventions for students with ASD, discussions with educators and parents are provided for students without disabilities regarding how to provide social support and to balance this support with their social life, then these interventions can serve as the foundation for enduring friendships [3].

Instead than only relying on infrequent encounters with peers, interventions should emphasize the child's capacity for forming connections. The connections that are forming should be strong and have a sense of intimacy and unity between the two partners. Supporting these evolving connections over time is also crucial. In contrast to children with average development, children with ASD are less likely to build friendships without environmental scaffolding. Also, it's possible that friendships between kids with ASD and typically developing kids are of a lower quality. Yet, there are numerous areas in which greater knowledge of the factors that predict or encourage friendship in ASD is needed, as is clear from the current analysis. In contrast to the conventional belief of Kanner, who hypothesized that children with ASD were unable to form emotional attachments, we are in a more hopeful position today. According to the statistics, kids with ASD form lasting, meaningful connections with their peers. Yet, there is still a lot that can be done to support kids on the spectrum in developing and maintaining these friendships. Significant persons in the child's social environment and this setting itself seem to be key factors in fostering healthy friendships in autistic children. Future research should focus on figuring out how to support these kids in making and keeping friends.

Friendships with kids who have ASD mirror those with regular kids. In addition, it is evident that friendships play a significant part in creating a natural, supportive social environment that allows children with ASD to develop more sophisticated social play, pragmatic and linguistic skills, as

well as intersubjective capacities [4]. In conclusion, despite the body of information about friendship with ASD children, there are still numerous gaps that need for in depth study. First and foremost, to our knowledge, no research have been done on friendship in other subgroups of people with ASD, such those who speak very little or have poorer cognitive ability. Second, there aren't many studies that look at friendships between people of different genders, particularly mixedgender friendships. Finally, we do not have enough information regarding the friends of kids with ASD. Particularly, we know very little about typically developing kids who make friends with kids on the spectrum, including things like who they are, what drives them, and how we may encourage kids with normal development to become friends with kids with ASD. Fourthly, and most importantly, there is an urgent need for study on intervention programs that seek to establish, maintain, and broaden friendships throughout the course of a person's life. Sixth, we are just at the very beginning of the

All animals possess natural social abilities. Since humans are social animals like mammals, our ability to socially juggle the various parts of our local environment and the rest of the world is essential to our survival. Kanner compared the group of 11 people to those he claimed intrinsically lacked social engagement in order to highlight the marked innate inclination of ordinary persons to participate in reciprocal connections. He suggested that autism was a congenital ailment marked by provable social abnormalities in his first description of the condition. There has been a rise in interest in explaining, characterizing, and measuring how this fundamental lack of social engagement impacts development in people who are today considered to have autism spectrum disorders during the last 60 years. ASD is presently thought of as a collection of diverse neurodevelopmental diseases that cause severe socialcommunication difficulties and a narrow range of interests. People with ASD are usually considered to have sociocognitive deficiencies that prevent them from responding correctly to social cues and from forming deep social connections [5].

The characteristic of ASD and a sign of aberrant brain development, reciprocal social interaction difficulties are now widely acknowledged. In a recent review, SotoIcaza, Aboitiz, and Billeke suggested a threelevel model for the development of social skills. They outline social developmentrelated behavioral events and the precise emergence of neural and cerebral activities. This gives cognitive theories of social development a broad framework within which to grow. They come to the conclusion that throughout normal human growth, cognition and social development are inextricably linked. In regard to ASD, this may not be the case. Many tests are presently available that evaluate certain cognitive facets of social skills. These underlying cognitive problems are thought to be able to explain the social difficulties linked to ASD, either alone or in combination. They include, among others, deficiencies in executive functioning, theory of mind, empathy, and joint attention, which are all distinct social behavior abnormalities.

Many people with ASD are able to learn these abilities in organized settings, but they cannot employ them in everyday life, as is well documented in the literature. It is obvious that even if these abilities may be quantifiable, they cannot account for the social deficiencies associated with ASD. Klin, Jones, Schultz, and Volkmar thoroughly discussed this particular issue of how social skills are shown in people with ASD. The authors note that one of the most intriguing problems in the research is how people with ASD perform on a daytoday basis compared to what they can achieve in a highly organized social reasoning test. The conundrum has led to a significant problem with the creation of standardized social skill assessments. There has been

some study done to quantify the difference between how well people do on organized cognitive exams in the lab and how well they use these abilities in the real world. While there is undoubtedly a connection between cognition and social skills in ASD, cognitive deficiencies alone cannot account for the severe social communication problems that constitute the disorder's central problem.

DISCUSSION

Issues in Standardized Assessment of Social Skills

As in any area of psychometric assessment, the purpose of the assessment is of particular interest and importance. In general clinical settings, purposes of assessment include screening and diagnosis, classification and placement, selection of treatment targets, and treatment evaluations. Sigafoos, Schlosser, Green, O'Reilly, and Lanconi provide an excellent review of the purposes of communication and social skills assessments. The authors point out in some types of assessments only one evaluation is necessary, while in others ongoing and multiple evaluations will be required. It is clear in the case of measurement of social skills that ongoing behavioral observations over time in multiple environments will be required to adequately assess social competencies and deficits. Any assessment must be flexible and address the dynamic nature and variability of social skills among individuals and across settings. While there is a large literature on measuring social skill competency with typical individuals, few exist in the field of ASD. Two types of social skills measures are usually performed: normreferenced and environmentally based assessments.

In normreferenced approaches, the aim is to compare the skills of individuals with ASD with that of peers who are socially competent in order to determine how individuals with ASD compare. In environmentally based assessments, the goal is to identify discrepancies between what is required in a particular social situation and the behavior displayed by the individual with ASD [6]. Wetherby and Woods reviewed the psychometric issues in measurement of social communication skills. These issues include how the information is gathered, what social behav iors will be measured, are the items on the scale homogeneous, is the individual's behavior judged similarly by different raters in the same situation, is the measure stable from test to test, does the measure capture growth and change in the paticular construct, does that measure have an empirical association with some criterion mea sures, does the measure differentiate ASD from other disorders, and does the measure actually measure the construct it purports to measure.

Standard Measurement of Social Skills in ASD

ASD represents a unique category of issues in terms of measuring social skills. If one looks at the cognitive model of social skills, it is clear that some individuals on the autism spectrum can develop specific social cognitive skills in a structured setting. However, they are uniquely unable to apply these skills in the real world. Thus, within ASD there is frequently a disconnect between the ability to learn a specific cognitive skill and the ability to apply the skill in a novel social interaction. This disconnect must be addressed in any useful measure of social skills. Mayville discusses the importance of measuring not only social deficits, but also social competences. The large majority of standardized assessments utilized for measuring social skills in ASD are diagnostic and screening measures that focus on the individual's deficits indicative of ASD, not on their competencies. As a result, there are no specific assessments that yield the type

of information needed to design an appropriate treatment program for a specific individual and adequately measure changes over time.

Other issues have hindered the development of standardized social skills measurements for individuals with ASD. One of the most important has been the definition of social skills. Definitions of social skills vary from person to person and situation to situation. Until publication of the DSM5, social and communication skills were considered to be separate entities and resulted in unsuccessful attempts to measure each independently. It is now well recognized that it is not possible to separate social and communication skills because they are intimately intertwined. There is a large literature on language and communication assessments and standardized psychometric tests have been developed to measure language skills. However, the problem with the measurement of communication skills is similar to the measure ment of social skills for individuals with ASD that is, they are unable to utilize the skills that they are able to demonstrate in structured settings.

Emphasis in social skills research has been on treatment rather than assessment. Reichow and Volkmar reviewed the scientific literature on social skills treatment. The authors reported one of the major problems in assessing treatment effectiveness is the lack of assessment tools that allow for the measurement of meaningful changes in behavior as the result of an intervention. Typically, in studies of social skills treatment effectiveness, idiosyncratic measures are developed by the examiners for the particular study and focus on only one or two aspects of social skills. This makes it particularly difficult to compare treatment outcome studies. Another complicating factor in measuring social skills in ASD has been recently identified. Rankin, Weber, Kang, and Lerner reported that the specific social deficits associated with ASD were positively correlated with parent reported importance. However, they were negatively correlated to importance when rated by individuals with ASD. These results were consistent with previous results reported by Johnson, Filliter, and Murphy , who found significant discrepancies between parent and self ratings of autistic traits and empathy. Individuals with ASD reported fewer autistic traits and more empathy than parents. Thus, the individuals with ASD saw themselves as less impaired than others perceived them [7].

Still another consideration in the develop ment of standardized assessments has been the developmental nature of ASD. Cunningham reviewed the measurement of social interaction with very young children. Cunningham concluded that one of the barriers to drawing conclusions about optimal treatments is the absence of a gold standard to measure social interaction with very young children.

Cunningham points out that there are currently no psychometrically sound outcome measures that adequately describe the complex social skill profiles of individuals with ASD, which are also sensitive to change. The purpose of this is to review the scales that are currently in use for measuring social skills in individuals with ASD. A variety of diagnostic screening scales which involve some measurement of social skill deficits are available.

These include general behavior rating measures with an added autism rating scale, autism specific screening scales for early diag nosis and general screening, diagnostic evaluation scales, and adaptive behavior measures. There are only two standardized measures of social skills, the Social Skills Improvement System and the Social Responsiveness Scale, Second Edition , which attempt to identify social competencies and deficits, which may lead to evaluation and treatment planning.

Screening Instruments

Screening instruments by definition do not provide diagnosis. Their purpose is to identify behaviors that may reflect a diagnosis of ASD and require further evaluation . They provide some information regarding the social skill deficits that define ASD. These measures can be divided into three categories: general behavior measures with an autism scale, screening instruments for early diagnosis, and autism specific screening instruments. Several commonly utilized standardized mea sures designed to identify emotional and behav ioral disorders in the general population have recently been applied with children with ASD. One of the most commonly used scales is the Child Behavior Checklist reported that a group with ASD scored higher on the Withdrawn and DSMPervasive Developmental Problems scales than individuals with other psychiatric and developmental problems. So, Greaves Lord et al. reported that the teacher form of the CBCL was reliable in screening of children for ASD. In an earlier preliminary study, Biederman et al. reported that the CBCL could be used to distinguish children with ASD from those with other types of psychiatric problems. Volker et al. also compared the profiles of 62 children with high functioning ASD to 62 typically devel oping children using the BASC2.

Their results indicated that, with the exception of the Somatization, Conduct Problems and Aggression scales, the ASD group scored higher than the typical individuals on all the scales. The Conners Comprehensive Behavior Rating Scales has also been recently updated to include a separate scale for ASD, but there is little research regarding its use as a screening tool for ASD. Both of these measures are, in fact, merely screening instruments. While they may be helpful in identi fying comorbid psychiatric diagnoses, they do not yield specific profiles of social deficits and competencies and are not useful in designing specific treatment interventions. Gamliel and Yirmiya provide an excel lent review of the most commonly used screening instruments for very young children and their theoretical basis. The majority of these are research instruments not in widespread use. They include the Autism Observation Scale for Infants the First Year inventory the communication and symbolic, behavior scales, the early social communication scale the screening tool for autism in twoyearolds and the modified checklist for autism in toddlers .

Gamliel and Yirmiya conclude that all of these measures reflect some aspect of social skills in ASD, but are focused on identi fying deficits. Thus, the screening instruments do not provide adequate information to design treat ment programs or measure change over time [8]. While none of these instruments are in widespread use outside of research, the MCHAT has been the most studied. The MCHAT is a 23 item yes or no checklist completed by parents. The MCHAT does not provide a specific measure of social skills rather it provides information on early social development in general. Kleinman et al. , in a detailed review, concluded that the measure shows promise for early detection of ASD, but more research is needed for it to become a general screening instrument. This is an extremely important area of research as the American Academy of Pediatrics recently endorsed screening of all children at 18 months for ASD. This recommendation has not been implemented due to the lack of a reliable standardized screening instrument. There are a number of additional screening instruments for ASD that are in widespread use. While the majority of these scales have been found to be reliable and valid for use as screeners for ASD in general, they rarely provide a detailed description of an individual's social skills and do not assess competencies [9] .

In addition, prior to the DSM5 diagnostic criteria, there were a number of scales purporting to screen for Asperger's Syndrome. These scales may remain useful in order to gather specific information regarding specific social skill deficits of individuals with ASD. Examples of these scales include gilliam asperger's, disorder scale, asperger's syndrome, diagnostic scale, krugs asperger's disorder index ,childhood asperger's syndrome test. In summary, all of these screening instruments measure aspects of social deficits associated with ASD and may be useful in identifying individuals that may require further evaluation. However, no screening instruments provide enough informa tion for program development, they do not ade quately describe social competencies, and do not measure outcome or change over time. In this, friendship for individuals with ASD was reviewed by adopting developmental perspectives. Despite the difficulties children with ASD face in developing friendships, the col lected data in different development periods sug gest the importance of friendship. Individuals with higher IQ and verbal abilities who have bet ter social abilities have greater chances of mak ing friends, and some succeed more than others . A sizeable amount of individuals form feasible, meaningful, and dura ble friendships with their peers, whether the peer is a child with typical development or with ASD. Some advantages have been reported for mixed friendships over nonmixed friendships in terms of the development of higher and more complex social and play behaviors. However, nonmixed friendships are also important to pro vide children with a sense of belonging and self worth.

They also make more room for equal contributions from both partners. An important aspect of friendship is its potential role to mitigate bullying. Studies have that bullying has become a worldwide public health issue, and children with ASD have a par ticularly high incidence rate of becoming poten tial bullying victims in compari son to typically developing children and children with other disabilities . Rowley et al. examined the experiences of friendship and victimization in a sample of 100 children with ASD. They found that children with higher social abilities reported more friendships but experienced higher levels of victimization in mainstream schools. Developing interventions to promote friendships is crucial in the context of bullying. Research shows that having even one reciprocal friendship can contribute to preventing children from becoming victims of bullying. The objective of the assessment is of special interest and significance, as it is in any field of psychometric evaluation. The goals of assessment in general clinical contexts include screening, diagnosis, categorization, placement, choice of treatment goals, and treatment evaluations. An good overview of the goals of communication and social skills tests is given by Sigafoos, Schlosser, Green, O'Reilly, and Lanconi. The authors note that although continuing and many evaluations are necessary in certain kinds of assessments, just one evaluation is necessary in others.

It is obvious that in order to accurately evaluate social competence and impairments, ongoing behavioral observations throughout time in many situations are necessary. Every evaluation has to be adaptable and take into account the dynamic nature and variation of social skills across people and between contexts. There is a lot of research on social skill competence assessment with normal people, but not as much in the area of ASD. Often, normreferenced and ecologically based examinations are used to test social skills. The goal of normreferenced techniques is to assess how persons with ASD compare by comparing their abilities to those of peers who are socially competent. In environmentally based evaluations, the aim is to spot differences between the behavior demonstrated by the person with ASD and what is expected in a certain social scenario. Wetherby and Woods examined the psychometric concerns with social communication

ability testing. These concerns include how the data is gathered, what social behaviors will be assessed, whether the items on the scale are homogeneous, whether different raters in the same situation judge the individual's behavior similarly, whether the measure is consistent from test to test, whether the measure captures growth and change in the particular construct, whether the measure has an empirical relationship with some criterion measures, and whether the measure distinguishes ASD from other disorders.

When assessing social skills, ASD indicates a distinct group of problems. In a structured environment, some people on the autism spectrum may clearly acquire distinct social cognitive abilities, according to the cognitive model of social skills. They are, however, specifically unable to use these talents in the actual world. As a result, there is often a gap between a person with ASD's capacity to master a particular cognitive skill and their capacity to use that skill in a fresh social interaction. Any measurement of social skills that is helpful must take this distance into account. Mayville highlights the significance of evaluating social competencies in addition to social deficiencies. The vast majority of standardized tests used to gauge social competence in ASD are diagnostic and screening tools that place more emphasis on the person's deficiencies suggestive of ASD than on their strengths. As a consequence, there are no particular tests that provide the kind of data required to create a treatment plan that is suitable for a particular person and effectively track improvements over time. The creation of standardized social skills tests for people with ASD has been hampered by other problems. The concept of social skills has been one of the most significant. Social skills are defined differently depending on the individual and the circumstance.

Social and communication skills were formerly thought to be different entities, which led to efforts to evaluate each separately prior to the release of the DSM5. It is now widely accepted that social and communication skills cannot be separated since they are so closely related. Language and communication assessments are welldocumented, and standardized psychometric tests have been created to gauge language proficiency. Yet, the issue with measuring communication abilities for people with ASD is similar to the issue with measuring social skills; namely, they are unable to use the skills that they are able to exhibit in organized contexts. In social skills research, evaluation has been less of a focus than therapy. Reichow and Volkmar conducted a review of the scientific literature on the therapy of social skills. The absence of evaluation instruments that enable the measuring of significant changes in behavior as a consequence of an intervention, according to the authors, is one of the key issues with determining the efficacy of therapy. Idiosyncratic measures are often developed by the examiners for the specific research and concentrate on just one or two components of social skills in investigations of the efficacy of social skills therapy. This makes comparing treatment outcome studies very challenging.

The measurement of social skills in ASD has lately been made more difficult by another issue. According to Rankin, Weber, Kang, and Lerner, the relative prominence of the individual social impairments linked to ASD was positively connected with parent reports. Yet, when judged by people with ASD, they were negatively connected to significance. These findings concurred with earlier findings made public by Johnson, Filliter, and Murphy, who discovered significant differences in parent and child assessments of autistic characteristics and empathy. Less autistic features and higher empathy were noted in people with ASD than in parents. As a result, the people with ASD thought they were less handicapped than other people did. The developmental character of ASD has been taken into account as yet another factor in the formulation of

standardized tests. Cunningham examined how social connection with very young infants is measured. Cunningham came to the opinion that the lack of a gold standard to gauge social contact with very young children is one of the obstacles to coming to judgments about the best course of treatment. The complex social skill profiles of people with ASD, which are also changeable, are not yet well described by psychometrically sound outcome measures, according to Cunningham. Reviewing the measures presently in use to gauge social skills in people with ASD is the goal of this. There are several diagnostic screening instruments that evaluate social skill deficiencies. They include scales for general behavior rating with an extra autism rating scale, scales for early diagnosis and general screening specifically for autism, scales for diagnostic evaluation, and scales for measuring adaptive behavior. The Social Skills Improvement System and the Social Responsiveness Scale, Second Edition are the only two standardized tools that seek to detect social skills deficiencies and competences that may facilitate diagnosis and treatment planning.

Instruments for Screening

By definition, screening tools cannot provide a diagnosis. They are designed to spot behaviors that could indicate an ASD diagnosis and call for further testing. They provide some details on the social skill deficiencies that characterize ASD. Three sorts of measurements may be made: general behavior measures with an autism scale, early diagnostic screening tools, and autismspecific screening tools. Recently, some widely used standardized tests that are intended to identify emotional and behavioral abnormalities in the general population have been used with kids with ASD. A group with ASD scored higher on the Withdrawn and DSMPervasive Developmental Issues measures than those with other psychiatric and developmental difficulties, according to research on one of the most widely used scales, the Child Behavior Checklist. In order to screen children for ASD, GreavesLord et al. reported that the teacher version of the CBCL was reliable.

Biederman et al. found that the CBCL may be used to identify between children with ASD and those who had other mental issues in a previous exploratory investigation. Volker et al. used the BASC2 to compare the characteristics of 62 normally developing children to 62 children with high functioning ASD. Their findings showed that the ASD group outperformed the typical persons on every measure except those measuring somatization, conduct problems, and aggression. A distinct scale for ASD has just been added to the Conners Comprehensive Behavior Rating Scales, however there is limited evidence on its utility as a screening tool for ASD. In reality, both of these measurements are only screening tools. They may be beneficial in identifying concomitant psychiatric disorders, but they do not provide precise profiles of social deficits and social skills, making them ineffective for creating targeted treatment treatments.

Gamliel and Yirmiya provide an excellent overview of the most popular screening tools for infants and early children, as well as the theories behind them. Most of these are specialized research tools that aren't often used. They include the Modified Checklist for Autism in Toddlers, the Autism Observation Scale for Infants, the First Year Inventory, the Communication and Symbolic Behavior Scales, the Early Social Communication Scale, and the Screening Tool for Autism in TwoYearOlds. All of these tests, according to Gamliel and Yirmiya, indicate some component of social skills in ASD but are mostly used to pinpoint weaknesses. Hence, the screening tools do not provide enough data to develop treatment plans or track development over time. The MCHAT has been the subject of the most study despite none

of these tools being commonly used outside of academia. The MCHAT is a 23 item yes/no checklist that parents must complete.

The MCHAT offers information on early social development in general rather than a specialized assessment of social skills. After a thorough analysis, Kleinman et al. came to the conclusion that while the measure has potential for ASD early identification, additional research is required before it can be used as an universal screening tool. Given that the American Academy of Pediatrics has recommended screening all infants for ASD at 18 months old, this field of study is very crucial. The absence of a trustworthy, standardized screening tool has prevented this advice from being adopted. There are a variety of other ASD screening tools that are often used. Even though the majority of these measures have been shown to be valid and reliable for use as broad ASD screeners, they seldom provide a thorough account of a person's social abilities and do not evaluate competence.

The Childhood Autism Rating Scale, Second Edition, the Autism Screening Instrument for Educational Planning, the Third Edition, the PDD Behavior Inventory, the Gillian Autism Rating Scales, the Autism Spectrum Rating Scales, and the Social Communication Questionnaire are some of the instruments that are frequently used in this category. Moreover, there were a variety of measures that claimed to test for Asperger's Syndrome before the DSM5 diagnostic criteria. These assessments could still be helpful for gathering details on particular social skill deficiencies in ASD patients. These scales include the Asperger's Syndrome Diagnostic Scale, the Krugs Asperger's Disorder Index, and the Childhood Asperger's Syndrome Test, to name a few. In conclusion, all of these screening tools assess different social deficiencies linked to ASD and may be helpful in identifying people who may need additional assessment. Nevertheless, none of the screening tools are adequate for program formulation, adequately identify social competences, assess outcome, or track improvement over time.

CONCLUSION

In this, the topic of friendship for people with ASD was examined through the lens of growth. Notwithstanding the challenges that kids with ASD have when making friends, studies from many developmental stages suggests the value of friendship. Higher IQ and linguistic ability individuals with better social skills have a larger chance of making friends, albeit some are more successful than others. Whether the peer is a youngster with normal development or with ASD, a sizable number of people manage to build meaningful, longlasting connections with them. In terms of the development of more advanced and sophisticated social and play behaviors, mixed friendships have been shown to have certain benefits over nonmixed friendships. In order to provide kids a feeling of identity and value, nonmixed friendships are equally crucial. Also, they allow for more equitable participation from both couples.

The ability for friendship to lessen bullying is a significant feature of relationships. In comparison to children who are usually developing and those who have other problems, children with ASD have a disproportionately high incidence risk of being potential victims of bullying, according to studies. Rowley et al. looked at the victimization and friendship experiences of a sample of 100 ASD kids. They discovered that while kids with stronger social skills reported having more friends, they also faced greater victimization in regular schools. In the context of bullying, developing solutions to encourage friendships is essential. According to research, even one mutually beneficial connection may help shield kids from being the targets of bullying.

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CHAPTER 7

DIAGNOSTIC MEASURES SPECIFIC TO AUTISM SPECTRUM DISORDER

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ABSTRACT:

Autism spectrum disorder (ASD) symptoms and traits are included in the Diagnostic and statistical manual of mental illnesses. Children must exhibit limited, repetitive, and sensory behaviors or interests in order to get an autism diagnosis.It delves into the features, assessment techniques, and clinical viewpoints around these major diagnostic signs, giving youngsters insight into the autism diagnosis process. In this chapter author is discusses the social skills improvement system.

KEYWORDS:

Autism, Behaviour, Disorder, Diagnostic, Social Skills.

INTRODUCTION

The DSMIV criteria for autistic disorder serve as the foundation for the Autism Diagnostic Interview Revised and the Autism Diagnostic Observation Schedule, which are the gold standards for diagnosis. The introductory questions, communication, social development and play, repetitive and limited behavior, and general behavior difficulties are the five components of the semistructured interview known as the ADIR. Behaviors are categorized according to whether they happened before or after the age of five and are graded on a 0–3 scale. Both the DSMIV and DSM5 criteria are directly mapped by the Reciprocal Social Interaction items. The ADIR is mostly utilized as a diagnostic research tool due to its length. The ADOS is a highly organized behavioral observation tool for evaluating play, communication, and imaginative use of toys as well as social interactions. On a scale from 0 to 3, each skill is graded. The five modules that make up the ADOS are given in accordance with the individual's age and stage of language development [1]. The behaviors covered by the reciprocal social interaction items include making eye contact, communicating nonverbally, using facial expressions to communicate with others, sharing in the enjoyment of social interaction, communicating, affecting, and understanding emotions, as well as having awareness of one's own behavior. In a highly organized environment, the ADOS may be useful in diagnosing fundamental social deficiencies. Nevertheless, it does not provide information on whether these behaviors are present or absent in the natural world. Algorithms for the ADOS were recently revised to match changes in the DSM5's diagnostic criteria. The ADIR and ADOS are the gold standards for diagnosis and may both give important information on certain deficiencies, making them effective tools for creating treatment plans for a particular person. The ADOS is being investigated to see whether it can be used to gauge social skill development t[2].

Flexible Behavior Measures

To learn more about how social skills are functioning in people with ASD, researchers usually utilize standardized measures of social adap tive behavior and behavior issues in the general population. As they represent real behavior rather than anticipated conduct, these kinds of measures may be beneficial. Also, these scales often come in a variety of formats and provide several sources of information regarding how people with ASD behave differently from the norm and, more significantly, how the individual really behaves in the real world. For differential diagnosis, this information is crucial. Overall ratings do give important information, even if they may not be very helpful in developing treatment plans or detecting social skills. Individuals with ASD often score worse on measures of adaptive behavior than on cognitive tests, according to Volkmar et al.

Adaptive improvements in communication skills are positively correlated with IQ scores, according to research by Freeman, Del'Homme, Guthrie, and Zhang, as well as more recently by Kenworthy, Case, Harms, Martin, and Wallace. However, changes in social skills were not. These findings support the utility of measures of adaptive functioning in tracking changes in adaptive deficits even in better functioning ASD persons. Additionally, social skills and ASD are related in a way that is independent of intellect. These findings provide credence to the idea that social skills are, at the very least, somewhat independent of cognitive abilities. Several revisions and updates have been made to the Vineland Adaptive Behavior Scales, Second Edition. It may be used to gauge the severity of ASD in addition to specific standards for kids with ASD. The VinelandII and Vineland3 instruments evaluate four sets of abilities communication, sociability, daily living, and motor capabilities. An indicator of maladaptive behavior is also included on the scale. Three subdomains are further separated into each domain.

For instance, the Socialization domain is divided into sections to evaluate social interactions, play and leisure activities, and community and domestic coping mechanisms. The Vineland II and Vineland3 scales as well as other assessments of adaptive behavior inquire about a person's use of the skill and whether or not that activity happens independently and regularly. Actual behaviors, not hypothetical ones, are measured by the scales. The Third Edition of the revised Adaptive Behavior Assessment System assesses adaptive behavior abilities in people from infancy to 89 years old. Three age groups 0–5, 5–21, and 16–89 are separated out within it. Parents and instructors may access separate rating forms, much as with the Vineland scales. The ABAS3 separates skills into three major categories, Intellectual, Social, and Practical, which together include ten skill areas. While people with ASD are included in the norms, there are no specific norms accessible for this demographic. There hasn't been much study done on the use of the ABAS in ASD, and no distinct ASD profile has been established.

The Scales of Independent Behavior Revised is intended to assess adaptable behavior in children and people from infancy to adulthood. Motor skills, social and communication skills, personal living skills, community living skills, and maladaptive behaviors are among the skill categories that are measured. Similar to the ABAS, there hasn't been much, if any, study regarding how people with ASD do on this test. In general, adaptive behavior measures provide normative evaluation data to evaluate social impairments in ASD patients. They may be used to assess changes over time as well as to pinpoint general strengths and weaknesses. However, these tools often test social skills on a global scale and may not provide enough information to create customized treatment plans. See Chapter 7 of this guide for a comprehensive examination of

adaptive behavior evaluations. There are now just two tools available to assess social competencies and deficits: the Social Skills Improvement System Rating Scales and the Social Responsiveness Measure Second Edition. Both of these tools have high levels of validity and reliability and include several raters, including the person with ASD. Also, they at least partially describe social impairments and abilities. Also, both measures have a direct relationship with therapy [3].

DISCUSSION

Social Skills Improvement System

Gresham and Elliott claim that the Social Skills Improvement System offers an evidencebased, multitiered evaluation and intervention to assist identify kids who have social concerns in their review of the previous Social Skills Rating Scales. These tests may be used to assess kids individually or in groups for academic and social behavioral issues, to assist organize treatments, and to track improvement on specific abilities. The SSiS Rating Scale is intended to evaluate social skills, problematic behaviors, and academic proficiency in both individuals and small groups. It makes use of several formats to provide a whole image in home, school, and community contexts. This significantly upgraded instrument, intended to replace previous iterations of the SSRS, includes additional subscales, enhanced psychometric qualities, and updated norms. The multirater SSiS Rating Scales are used to evaluate academic proficiency, problem behaviors, and social skill abilities.

On a scale from 0 to 4, the SSiS assigns behaviors a frequency and significance rating. The SSiS offers a systematic look at how the rater and the individual being evaluated truly view the value of the behaviors by adding importance to the rating scale. As was said, this has been a recurrent issue with ASD social behavior measurements. As this is a multirater evaluation, it is possible to compare how people behave in various environments. The SSiS includes an academic competency scale in addition to measures of social competence and behavioral deficits. This scale seeks to determine how a student's social behaviors impact his or her academic performance in the classroom. The SSiS is connected to both a specialized personalized plan and an intervention plan for use in general education classrooms, as was already mentioned [4]. The authors claim that there were statistically significant mean score differences between those with ASD and people without the disorder on all of the measures.

These findings, according to the researchers, are in line with assumptions that people with ASD have significant social and academic ability deficits and display more problematic behaviors than normal kids and teenagers.

The autism spectrum scale had the largest mean difference across all of the subscales, as one would anticipate. in accordance with recommended best practices The SSiS integrates a variety of information sources from a variety of contexts, including family, school or academic settings, and community settings. It is obvious that measuring social skills competences in these areas is helpful in identifying information about a person's social adaption difficulties and in contrasting actions in various contexts, such as the general education classroom and the home environment. The SSiS is a helpful starting step since it is still a screening tool for social skill deficits and competences and should not be used alone to evaluate social skills in people with ASD. Rather, direct comparisons identify social deficiencies relative to the environment. The SSiS does not have an adult version [5].

Scale of Social Responsiveness

The Social Responsiveness Scale, newly updated, is a 65item objective assessment of ASD symptoms. The scale has been extensively utilized as an assessment of ASD severity as well as a diagnostic screening tool. The instrument has four versions that enable ratings to be gathered on people from 2.5 years of age through maturity. Both instructors and caregivers may provide ratings, and adults can utilize the adult form to gather information about themselves. On this scale, behaviors are graded from 0 to 4 on a fourpoint scale. The capacity of the person to participate in proper reciprocal social contact and communication is the main emphasis of the items. One of its advantages is its capacity to spot social communication issues in a range of people, some of whom do not fit the ASD criteria. Its capacity to recognize and gauge the severity of autism symptoms in their natural habitats is another virtue. The SRS2 scales calculate an overall score as well as measures for social awareness, social cognition, social communication, social motivation, and autistic man nerrisms. Constantino and Gruber conducted a thorough evaluation of the SRSrelated peerreviewed literature. A variety of additional assessments of ASD have been associated with the Social Responsiveness Scale.

The Preschool and Kindergarten Behavior Scales Second Edition and the SRS were both shown to be beneficial in evaluating young children with ASD in a natural environment, according to Wang, Sandall, Davis, and Thomas. The authors note that the SRS may be useful in tracking development over time. Nevertheless, they may not be sufficiently effective in identifying how young children with ASD's social skills develop over time or as a consequence of intervention results. In comparison to the Social and Communication Disorders Checklist, the SRS appears to be a more effective screening tool, according to Bölte, Westerwald, Holtmann, Freitag, and Poustka. The ADIR, ADOS, and SCQ were shown to have stronger correlations with the SRS. These writers are in favor of using the SRS to check people for ASDs while they are out in the community. When teacher evaluations were taken into consideration, Schanding, Nowell, and GoinKochel also found that the SRS was a better screener than the SCQ. This finding supports the requirement for multiple raters when trying to evaluate social skills in the real world.

In a more recent research, the SRS was used to assess the severity of the DSM5listed autistic symptoms. Despite the fact that the ADOS, CARS, ADIR, and SRS were found to be reliable and valid measures, there was some disagreement among the measures regarding the classification of the individual in the categorization of autism symptom severity. This suggests that much more research is still required before the SRS can be used alone as a measure of the severity of autism. The screening accuracy of the parent and teacher reported SRS scores was compared by Duvekot, van der Endr, Verhulst, and Greaves Lord with an ASD classification based on a number of additional criteria. When someone was sent to a mental health facility, they included the ADOS and the Developmental Dimensional and Diagnostic Interview. According to their results, the SRS was an effective screening tool for those who were clinically referred. Moreover, Duvekot et al. emphasize that since people behave differently in various situations, different observers may produce different findings and have different insights into how a person interacts with others across environments [6].

Nelson et al. looked at the factor structure and internal consistency of special education teaching staff evaluations on the SRS2 in another investigation of the efficacy of the SRS2 teacher evaluation. According to their findings, the problem may be solved by combining four factors: social awareness and competence, constrained and repetitive behaviors and interests, atypical

social communication, and social avoidance. The study's participants tended to be those with more severe language and social competence impairments. They came to the CONCLUSION that the SRS did indeed have a fourfactor structure for this group, but that the four factors were different from those stated by the authors. Again, further investigation is required to determine if these are reliable criteria for evaluating social skills on the SRS. Hence, as a tool for ASD screening, the SRS exhibits appropriate psychometric qualities. Also, it offers some details on social skills in four different categories. Before the SRS may be utilized as a measure of severity and change across time, much more study is now required to pinpoint the competences and weaknesses detected on it. Similar to the SSiS, the SRS cannot be used alone to define social skills, make a diagnosis, or create treatment plans for people with ASD.

Environmentally Based Evaluations

There have typically been two kind of environmentbased evaluations. The first category involves efforts to gauge the generality of therapeutic therapies in a natural setting. How social skills training generalizes to the natural environment has been the subject of very few research. The main barriers to doing research are the intensity needed for direct observation, its limited viability, and the challenge of gathering trustworthy data from a variety of situations and places. While attempting to assess behaviors in the real world as a consequence of a particular social skills training program, Dekker, Nanta, Muldur, Sytema, and Bildt addressed the methodological problems that are faced. They often comprise brief observations that focus on only one or two behaviors while taking place in a single area.

The Social skills Observation Measure, a novel blind direct observation assessment. They looked into the measure's psychometric characteristics and suggested adding a quality measure in addition to the frequency measure of the behaviors they were looking at. Each observation consisted of two distinct observation sessions, one in a classroom and the other in an unstructured situation, each lasting 15 seconds. The kids had no idea they were being watched. Researchers concentrated on a narrow range of behaviors, including as aggressiveness, cooperative play, solitary play, social initiations, and quality of conduct. The results showed that the SOM had strong convergent validity between parent and teacher reports on standardized measures, but low dependability. This research furthers the argument that standardized tests may not adequately represent an individual's behavior, which is one of the main problems with social skills assessment.

Direct behavior evaluation is the second kind of environmentally based assessment. Taubman, Leaf, and McEachin provide programs for correcting social skill deficiencies for people with ASD and provide a detailed description of the examination of social skills. The research makes it abundantly evident that in order to pinpoint each child's specific social abilities and deficiencies, individual observation is required. So, people must be watched in realworld situations as well as occasionally staged ones. It is necessary to include details on the frequency, duration, and quality of behaviors, as well as information about their presence or absence. Assessments of behavior should routinely include reports from important parties and track development over time. In order to test a kid's social abilities, questionnaires are created individually for that youngster. As a starting point for a behavioral evaluation, the standardized tests mentioned in this article may also be used.

After a social behavior evaluation is finished, a variety of sources of data are gathered by objectively assessing the behavioral functioning of a person's abilities and deficiencies. This

precise and unique information may be quickly utilized to guide a particular treatment or educational plan and track longterm progress. Most standardized measuring instruments detailed in this lack this element. Yet, it is impossible to appropriately compare the information from behavior assessment to that of peers who are usually developing. Also, when customized data is identified, idiosyncratic measurement wherein only assessment of distinctive or even tangentially relevant social competence segments may be involved can occur. According to Taubman et al., a specific social skills assessment procedure may be used to help with the creation of instructional programs as well as the evaluation of skill deficiencies and competences.

Upcoming Research Topics

As was said earlier, there are several checklists that evaluate the strengths and weaknesses of social communication as well as the frequency of actions across various contexts and individuals. The reporter's impression of actions and frequency is used to determine the measures. Future study considerations must take into account the overreliance on checklists to pinpoint certain flaws or therapy areas rather than conducting a thorough examination. Hence, as brevity attempts rise, there is a greater chance that those who need a thorough examination and help may go missing. So, future study and implementation of checklists must include how hungry the general public is for effective, simpletoread, and rapidly assessed checklists. Developers must continue to assess the effectiveness and appropriateness of measures meant to screen rather than diagnose, as well as the value of a variety of information sources, some of which may include measurements from other publications [7]. In the end, findings point to traits or symptoms of autism spectrum disorder that may or may not call for testing and treatment. Future study may develop measures, maybe in electronic format, that need reporters to complete the same measurement at various times due to the variability of ASD social impairments between individuals and contexts.

The response bias of never or always witnessing a certain action may be lessened as a result. Also, this offers the chance to administer a checklist that requires less time to do in one session but monitors factors or symptoms over a period of time, giving more details about a person. Future studies must similarly concentrate on extrapolating the causes and symptoms to monitor progress. As said, checklists are used to identify the symptoms and contributing variables to psychiatric diagnoses, such as ASD. Checklists are not specific to developmental expectations since they offer screening information for the presence or absence of symptoms and frequency. As the goal is to find anomalies that are not consistent with age predictions, this is both required and expected. Nonetheless, since symptoms or variables reported are evaluated under other areas like sadness or anxiety, checklists that screen for more than ASD may obscure or divert from screening for ASD further. All BASC2 scores were higher for those with ASD, as Volker et al. observed. This justifies the provision of normative data for sample groups of people with ASD by each screening test.

Evaluation of Autism Spectrum Disorder and Adaptive Behavior

The identification of what are now known as intellectual impairments is where the measurement of adaptive behavior first emerged. A History of Mental Retardation by Scheerenberger documents efforts to define ID and adapted behavior as far back as the seventeenth century. By the nineteenth century, awareness and understanding of one's surroundings, the capacity to participate in regular economic and social life, dependence on others, the capacity to ensure one's fundamental health and safety, and the capacity for selfreliance were the main characteristics and

definitions of intellectual disability. As a result, early definitions of ID emphasized a person's capacity for global navigation. The emphasis of determining ID, however, shifted to cognitive test results that were thought to be fixed in time, simpler to assess, and thought to be indicative of an individual's general functioning, as IQ tests were developed. As a consequence, a wide variety of checklists, IQ tests, and inventories have been developed to gauge various mental faculties and facets of personality. Evaluation and assessment of autonomous adaptive functioning advanced considerably more slowly as a result of this change in emphasis. With the Diagnostic and Statistical Manual of Mental Disorders, which prioritizes adaptive behavior as the major emphasis for identifying intellectual impairment, we have now gone full circle.

Edgar Doll, a psychologist at the Vineland School, recognized the validity and reliability problems with IQ testing methods as early as the 1920s. Additionally, he understood that when test results alone were used, the variability across people over time might provide an erroneous and inconsistent picture of a handicap. Doll developed a functional adaptive skill scorecard in the early 1920s to monitor a patient's development before, during, and after therapy at the Vineland school. The Vineland Social Maturity Scale, a 117 item scale, was originally used as a gauge of adaptive behavior for many decades after its publication in 1936. It resulted from a concentrated effort to research the learning and behavioral traits of the most profoundly intellectually challenged people. During the twentieth century, there was still an excessive dependence on IQ to assess a person's functioning. Nevertheless, over time and with repeated revisions of the American Psychiatric Association DSM5 and the American Association on Intellectual and Developmental Disabilities, the gold standard diagnostic manuals for ID, adaptive behavior has grown in significance in the differential diagnosis of both intellectual disabilities and autism spectrum disorders.

According to current thinking, adaptive behaviors are multidimensional and involve social, pragmatic, and conceptual abilities as they manifest themselves in the natural environment. Daily living skills, selfcare, including health maintenance, occupational independence, community adaption, including safety awareness, transportation, and adhering to routines and schedules are examples of practical skills. Social perception, avoiding victimization, social duty, selfesteem, gullibility, and social problemsolving are examples of social skills. Reading, writing, money, time notions, and numerical concepts are all examples of languagerelated concepts. There are also worries that assessments of adolescent behavior do not account for all of these aspects of autonomous functioning. Although the DSM5 goes as far as to emphasize that the development of adaptive skills more accurately defines intellectual disabilities than IQ, the instruments still have a number of methodological problems that make them difficult to interpret, and no single instrument can fully capture an individual's adaptive functioning [8].

CONCLUSION

During the last several years, efforts to provide standardized assessments of social skills for people with ASD have exploded. Novel tools are being created that target different facets of social skills and are made for a range of reasons. No one instrument can provide the data required to create a customized social skills program for a certain kid and track change over time, even if some may be beneficial for obtaining broad information and being psychometrically sound. Standardized evaluations are helpful tools, but they merely highlight the differences between children with ASD and other kids. In the future, standardized testing tools may be developed to evaluate social skill deficiencies and general skills in people with ASD. These

instruments will support diagnosis and provide a gauge of therapy efficacy. Standardized tests, however, will never be able to provide the thorough information needed to develop and execute suitable social skills programs for a particular person and to appropriately track behavior change over time. Instead, every evaluation of people with ASD should include an individualized behavior assessment of social skills in the natural world using numerous sources of data, different assessment methods, and multiple observations across multiple observers and contexts.

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CHAPTER 8

METHODOLOGICAL ISSUES IN MEASURING ADAPTIVE BEHAVIOR

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ABSTRACT:

Structured interviews with instructors and parents are the most popular way to evaluate adaptive behavior. Interviews with the student's parents and instructors are conducted by a person who has been trained to administer an adaptive behavior rating scale often a school social worker, school psychologist, or child psychologist. In this chapter author is discusses the scales of independent behaviorrevised.

KEYWORDS:

Autism, Behavior, Children, Diagnosis, Social.

INTRODUCTION

Edgar Doll was the first to suggest that a social competency assessment is necessary for every clinical diagnosis. Parallel to this, he emphasized that the most crucial characteristics of adaptive behavior are that it is agerelated, grows and gets more sophisticated with age, and has varied priorities depending on the individual's age. Adaptive functioning starts at birth and is more complicated as people mature. It is defined by cultural norms and is influenced by a variety of factors, including environmental changes, interventions, and personal experiences. Particularly significant is the fact that ordinary performance, not ability, defines adaptive behavior. The average person's performance varies over time depending on a range of factors, such as disease, trauma, or the environment, including environmental expectations. It's critical to differentiate between ability and normal performance. Also, it is preferable to make adaptive behavior measurements based on reports from a third party. Consequently, the person being assessed is not the one predominantly interviewed with relation to present functioning. If the third person lacks firsthand knowledge, has skewed perspectives, or has imperfect memory, it may be challenging. Measurements of adaptive behavior must account for each of these factors [1].

Every instrument must accurately measure talents across all age groups. As normal performance in the natural environment serves as the definition of adaptive behavior, it is dynamic. In order to detect expectations based on age and cultural norms, any instrument that claims to evaluate adaptive behavior must examine numerous aspects of behavior and use a developmental approach. Hence, measuring adaptive behavior is difficult and requires gathering both qualitative and quantitative data as part of the assessment process. Findings should point out areas that need assistance in order to foster an individual's personal independence in a variety of settings. The examiner must be knowledgeable with the chosen measure and its scoring methodology. The reporter has to be up to date on and conversant with the subject of the investigation. According to a scale or dimension that requires knowledge of developmental and normative expectations, the

items on adaptive behavior measures are scored in order to identify the individual's usual performance or functioning level, not skills. It's crucial to avoid letting other functions, including cognitive ability, affect how adaptive behavior is rated.

Measurement of adaptive functioning can be done in a number of ways, including direct observation, selfreport from the person being evaluated, structured/unstructured interviews with people who are most familiar with the person's functioning, surveys or checklists completed by people who are familiar with the client's typical performance. These forms both have methodological advantages and disadvantages. Selfreport has the least validity, whereas the direct interview approach using a standardized measure is favored. It is generally known that people tend to overestimate and sometimes exaggerate their normal talents when they selfreport. There is minimal evidence that measures of adaptive functioning are considerably impacted by ethnic or racial prejudice, in contrast to other psychological measures. Nevertheless, since evaluating adaptive functioning depends in part on cultural norms and expectations, the examiner must have the expertise to identify if cultural variations in the examinee may have an impact on expectations for adaptive functioning.

Making assumptions based on factors such as symptom severity, family status, socioeconomic position, education level, or age is one of the most frequent mistakes made when measuring adaptive information. Although the majority of standardized tests focus on the fundamental aspects of adaptive functioning, a thorough analysis of several sources of data, such as psychological, educational, and medical records, as well as a direct evaluation, is also required to evaluate adaptive functioning. The Individuals with Disabilities Education Act also emphasizes the need of include an assessment of adaptive function [2]. Although organized interviews with qualified clinicians are the ideal approach, checklists or screening tools may provide the chance to effectively gather data from a variety of reports in order to compare the person's normal performance across contexts and persons. Nonetheless, reading level and language processing issues may arise with checklists. Most checklists need a reading proficiency of at least fifth grade. Reading and comprehension skills might prevent someone who is unfamiliar with certain expectations or assumptions from reacting regarding the person's capabilities and instead assuming the person is acting in their regular ways.

In terms of what a person will or can accomplish, views are often clouded. When measuring adaptive functioning, the focus should be on what a person will consistently perform on their own in relation to age and cultural expectations. Checklists are best done in a clinic environment to ensure attention and understanding while attempting to treat some of these concerns. There are hazards when tasks are accomplished elsewhere, whether at home or at work, including but not limited to distraction and finishing the checklist. Also, checklists must be carefully examined since score may be impacted if respondents must guess or if they are unfamiliar with a particular aspect of a person's function. Consequently, interviews conducted by qualified clinicians continue to provide the highest level of validity, despite the fact that they take longer than checklists. Interviews by themselves, however, are insufficient. The best insights on a person's adaptable behavior come from structured interviews and close observation in the real world.

Third Edition of the Vineland Adaptive Behavior Scales

Sara Sparrow and her Yale University colleagues redesigned the Vineland Social Maturity Scale in 1984. One of the most widely used scales of adaptable behavior, notably in the area of ASD research, is the Vineland Adaptive Behavior Scale, which is now in its third version. The VABS3

evaluates a person's ability to perform independently on a daily basis in the three core areas of adaptive functioning communication, daily living skills, and socialization as well as the optional area of motor abilities. Further data is acquired in relation to problematic or maladaptive habits that make it harder to perform on a daily and general basis. This information may be useful in making diagnoses or planning interventions. It can also be used as a screening tool to evaluate if a more thorough evaluation of problematic behavior is necessary [3].

Standard scores, vscale scores, percentile ranks, age equivalent scores, and qualitative status in the three categories are all presented as results. The mean and standard deviation of the VABS3 scores are 100 and 15 points, respectively. VScale scores have a mean of 15 and a standard deviation of 3, and they range from 1 to 24. This makes it possible to compare an individual's functioning to that of the population as a whole. Each action is given a 3point rating. Underneath an individual's chronological age, a baseline or series of reliable scores is anticipated, and a ceiling or sequence of no score items is anticipated in relation to how an individual's functioning measures at or above chronological age. A quantitative average of adaptive functioning is used to show the results. In order to allow adaptive functioning and provide appropriate intervention, the quantitative scores should be utilized as a baseline. Instead of capacities, the VABS measures current functioning. Certain test results may not accurately reflect a person's conduct in all circumstances; rather, they may only reflect how a parent or instructor perceives the student.

The VABS3 has undergone a number of revisions. Secondly, the total adaptive behavior score no longer includes the motor skills scale. It can still be utilized to collect data from younger kids, however. According to Sparrow et al., the VABS3 in all of its versions has sufficient validity and reliability and, when used appropriately, may provide valuable information. The normative sample for each form is based on a largescale nationwide survey that gave data on special groups, validity, and reliability. The VABS3 features both parent and teacher forms, much as its predecessor. A detailed interview or a parent or teacher report might be used to collect data. Moreover, parents and teachers may fill out condensed domainlevel screening forms. As was previously said, using parent or caregiver screening questionnaires should be done with extreme caution. They should preferably be administered in a clinic setting. The examiner must make sure that the parent or caregiver has the knowledge necessary to understand the item's content otherwise, there may be distortions, such as unintended exaggeration of the child's abilities or other emotionally charged reactions. As a result, upon completion, the responder must evaluate the parent or caregiver report[4].

Third Edition of the Adaptive Behavior Assessment System

Like the VABS, the Adaptive Behavior Assessment System is intended to evaluate adaptive behavior and associated abilities in a variety of contexts relative to chronological age. These skill sets include the daily, practical abilities needed to operate and satisfy environmental demands, such as the ability to take care of oneself and communicate with others. To gather important information on adolescent functioning from parents, teachers, and adults alike, five different forms are created. Preschool, schoolage, and adult rating forms are among them. For determining treatment objectives for people with learning impairments or other kinds of learning, behavioral, physical, or psychological issues, the ABAS3 is used to assess adaptive skill levels. Based on how often the child or person participates in the behavior or completes the task without assistance, certain behaviors and activities are graded.

The three categories of intellectual, social, and practical behaviors are measured by the ABAS3, and each category produces a domain standard score as well as a composite score. The average standard score for each of the three domains is 100, with a standard variation of 15 points. Tscores are used to represent subtest results, and they have a mean of 10 and a standard deviation of 3. Furthermore given are qualitative levels. On a 4 point scale, each conduct is rated. A score of 0 means that the subject is unable to carry out the behavior. If the responder can carry out the activity, they rate how often they do so: 1 means they never do it when necessary, means they sometimes do it, and 3 means they usually do it when necessary. The conceptual domain includes three skill areas: communication, functional academics, and selfdirection. The first skill area, communication, evaluates a person's speech, vocabulary, listening, conversation, and nonverbal communication skills. The second skill area, functional academics, evaluates a person's ability to perform basic academic skills like reading, writing, and mathematics, as well as functional skills like measurement, telling time, and money skills. The leisure and social skills subtests make up the social domain. The leisure subtest gauges the abilities required to participate in and organize personal leisure and recreational activities. The social subtest evaluates interpersonal and social interaction abilities. Consequently, since the social domain contains a sizable amount of questions regarding solitary activities in the leisure area, it may unintentionally overestimate the social skills of a person with ASD [5].

Four skill sets are evaluated in the practical domain: community usage, home/school life, health and safety, and selfcare. The area of community usage assesses a person's capacity for proper community participation. Home living tests the abilities required to carry out everyday household tasks, whereas school living evaluates the child's capacity to behave correctly in a classroom setting. Selfcare refers to an individual's capacity to meet their own needs, whereas health and safety examines one's capacity to safeguard their own physical wellbeing. Harrison and Oakland discuss how it might be challenging to accurately measure adaptive behavior since the behavior may not be constant. They indicate acceptable validity across all ABAS measures as well as sufficient reliability for the ABAS3 across diagnostic categories. They do, however, make the point that both the assessor's theory and the actual facts have an impact on how a test is used. A professional's continuous duty is to acquire, exchange, and analyse evidence that instructs the users as to ways in which the instrument may and should be utilized, according to the guidelines for test users. Warning: The ABAS3 is not commonly completed via interviews and is usually done outside of a clinical environment. Results should thus be interpreted in light of the above debate on the use of checklists [6].

DISCUSSION

Scales of Independent Behavior Revised

An earlier measure that is seldom used in clinical settings for diagnosis or program design is the Scales of Independent BehaviorRevised. The SIBR offers a thorough, normreferenced evaluation of eight areas of maladaptive behavior and fourteen areas of adaptive behavior across three maladaptive domains. The main purpose of the SIBR is to assess functional independence and adaptive functioning in the contexts of the home, the workplace, school, and the community. There are fullscale, brief, and early stage SIBR response forms. A 4point scale is used to evaluate behavior 0 means never, 1 means sometimes but not very well, 2 means occasionally but not very well, and 3 means often or very well. On a 6point scale, maladaptive conduct is judged as being either not serious or highly severe. Standard and ageequivalent scores, percentile

rank, wide independence score, relative mastery index, and a support score are used to describe the results. Based on dysfunctional behavior and functional constraints, the support score forecasts the kind of help the person will need. The SIBR may be used as a checklist or as part of a structured interview process. Notwithstanding the problems mentioned above, the handbook suggests using the checklist administration process instead of a facetoface interview where it is not practicable to do so. When utilizing the SIBR, these choices, in the authors' opinion, allow examiners the most freedom. The handbook provides enough reliability and validity information. There is minimal evidence to support the use of the SIBR in the assessment of ASD, unlike the VABS and ABAS.

Third Version of the Behavior Assessment System for Children

In educational contexts, the Behavior Assessment System for Children currently in its third revision is extensively utilized. It has an adaptable subscale while not being a thorough assessment of adaptive behavior. Children between the ages of 2 years, 6 months and 18 years are evaluated with the BASC3 using a multimethod, multidimensional approach to behavior and selfperception. It was created to simplify the differential diagnosis, categorize various emotional and behavioral problems in terms of education, and support the creation of treatment plans. The BASC3 contains a student observation system, a structured developmental history, a personality selfreport, and parent and teacher evaluation scales. A 4point scale is used to rate each item. Tscores are produced by adding the raw scores. The components of the adaptive skills composite include adaptation, social skills, leadership, daily living skills, and functional communication. The BASC3 is said to be a clinically sound method of evaluating several personality dimensions. Nevertheless, it mostly depends on checklist assessments of behavior and does not provide a full measure of adaptive behavior [7].

ASD and Adaptive Behavior

ASD is a collection of disparate neurodevelopmental diseases that are characterized by difficulties in social interaction and a narrow range of interests. Researchers and clinicians generally agree that ASD is characterized by difficulties in adaptive behavior, especially in the social domain. As a result, measuring adaptive behavior becomes a crucial element of any assessment. The difference between cognitive skills and the ability to employ abilities in the natural world has been defined using adaptive behavior measurements. This particular issue has been referred to as one of the most fascinating problems in the area by Klin, Jones, Schultz, and Volkmar. Examining the data generation process is the first step in understanding this problem. Results from cognitive tests are obtained in an artificial setting with performanceenhancing settings. Measures of adaptive behavior are designed to mimic how people typically behave in their natural environments. Research has sought to determine the precise difference between the two domains as well as how adaptive behavior evolves through time. Although numerous research have looked at how adaptive behavior affects ASD, many of the findings are unique to a single study. The definition of ASD, the sample used for the study, and the actual use of measures of adaptive functioning all have a significant impact on the findings [8].

Behavior and Assessment of Adaptation

As already said, an exhaustive developmental evaluation must include an assessment of adaptive behavior. IQ and adaptive behavior are directly correlated in both intellectual impairment and ordinary development. Those with ASD are more likely to exhibit variability between

subdomains, even though both ASD and ID patients are more likely to have delays on tests of adaptive function. The discrepancy between adaptive function ing and cognitive ability is often bigger in ASD patients with better cognitive functioning. Although people on the autistic spectrum exhibit an inconsistent scoring profile along with the diversity within domain scores, those with ID often present with a consistent scoring profile across regions.

In people with ASD, adaptive functioning is obvious for improvement in some areas but not others, and deficiencies are often more noticeable as people age. Particularly, as people become older, there is a wider disparity between average scores or age equivalents and cognitive and intellectual ability. However, there is some evidence to suggest that people with ASD may learn adaptive skills more slowly than cognitive skills. Several research have made an effort to comprehend how adaptive behavior contributes to ASD diagnosis and longterm outcomes. In a previous study, Dominick, Davis, Lainhart, TagerFlusberg, and Folstein reported that the use of a measure of adaptive behavior as part of a thorough diagnostic evaluation for autism, specifically the use of the Autism Diagnostic InterviewRevised and the Autism Diagnostic Observation Schedule, was improved with the use of a measure of adaptive function ing. In order to establish treatment programs and outcome metrics, it is essential to understand these pro files. Studies were grouped in an effort to evaluate how they related to one another by the criteria that were assessed. This wasn't always achievable, however, since the majority of research looked at various facets of how adaptive behavior affects people with ASD.

Adaptive Development in Childhood

Several research have looked at the development of adaptive behavior in early children. 290 young children with autism were recognized as having an autistic profile by Perry, Flanagan, Dunn Geier, and Freeman. IQ was greater in children with higher functioning than adaptive functioning as determined by the VABSII, but the reverse profile occurred in children with lower functioning. Age equivalents showed significant differences, although not standard scores, with the autism group scoring lower in the socializing and communication domains. Age, cognitive level, and adaptive level correlational studies were also published, and they showed that the severity of autism explained only a small portion of the variation in sociability and daily living abilities. According to RaySubramanian, Huai, and Weismer, these profiles were visible by the age of two. They contrasted the Bayleyassessment II's of cognitive functioning with the VABSassessment II's of adaptive functioning and the ADOS's assessment of social communication deficit.

Age and BayleyII scores were predictive of social communication scores, but total ADOS scores were not. Nonverbal ability and the total ADOS algorithms were highly connected with daily living abilities. Only receptive language on the VABSII linked with ADOS ratings. Similar to Perry et al., the VABSsocial II's communication component did not predict the severity of autism on the ADOS. Nonetheless, in this group, there was a correlation between severity and daily living abilities. Milne, McDonald, and Comino used the ABASII to evaluate how adaptive behavior and developmental aptitude related in 152 children with and without autism and developmental delay. They discovered a strong correlation between developmental capacity and total adaptive function. The autistic group without a developmental delay exhibited less adaptive abilities than would be expected based on developmental level, according to the authors.

Children with autism were less successful in both the practical and social categories, scoring lower overall. Paul, Loomis, and Chaworska investigated adap tive behavior in children with

ASD under the age of two in a related research. Their findings corroborated those of Ray Subramanian et al., who had claimed that although VABS receptive language was merely cor linked to the ADOS, nonverbal ability and total ADOS algorithms were strongly correlated with VABS daily living abilities. Malhi and Singh used the Indian adaptations of the Vineland Social Maturity Scale and Children's Autism Rating Scale to explore the association between intellectual functioning, symptom severity, and adaptive behavior in children sent to an Indian pediatric monitoring hospital. Results were consistent with earlier research, even when utilizing dated metrics, revealing that adaptive behavior scores in children with ASD who had lower functioning were much higher than their IQ scores, although this wasn't the case for children with greater functioning.

From the time of the first diagnosis and the start of school at age six, Flanagan et al. also looked at the stability of cognitive and adaptive performance in preschoolers. The IQ of 2yearolds improved by 18 points, 3 year olds by 12 points, and 4 year olds by 9 points. Just 4 points were added to the results for adaptive behavior across age groups. At the time of school admission, 24% of kids satisfied the requirements for an intellectual impairment. Upon diagnosis, no children with both scores over or equal to 70 subsequently satisfied the requirements for intellectual impairment.

Children with early delays saw increased variation in outcomes in both categories. As a result, whereas changes in adaptive behavior were not directly correlated with age at diagnosis, changes in IQ were. The results are especially important for doctors who could mistakenly classify young children with ASD as also having ID. However, it seems that deficiencies in adaptive behavior cannot be explained by Intelligence alone. Adaptive behavior scores hardly changed, despite an ongoing rise in IQ. These findings underline the need of putting an emphasis on adaptive skills in treatment plans. Using the VABSII, Yang, Paynter, and Gilmore looked at the adaptive functioning profiles of 77 young children with ASD. They examined variables related to adaptive function.

A VABS profile for children with ASD was discovered, which was consistent with earlier studies and the original VABS; the greatest scores were in motor abilities, and the lowest scores were in socialization. These results supported the idea that each of these measures is meant to assess a distinct part of a person since they were not connected with ADOS scores but rather with age and nonverbal competence.

Item content analysis on the VABSII was used by Balboni, Tasso, Muratori, and Cubelli to further study the autism profile in preschoolers with autism. They observed that playing and mimicking skills, rather than other social abilities, were the primary causes of often reported socializing impairments in ASD. They contend that item content categories rather than total scores on the VABSII may provide a more accurate clinical description and help identify behaviors that need to be the focus of care. Green and Carter looked at how toddlers with ASD developed their daily functioning abilities.

They evaluated 162 kids using the VABSII at three yearly time periods. Age, the development quotient, and the severity of the autistic symptom predicted both the initial DLS and the expansion of the DLS, according to hierarchical linear models. Improvement in DLS was shown to significantly decrease parental stress and is crucial to concentrate on throughout therapy. Thus, it seems that although autism severity does not predict toddlers' social abilities on the VABS, it does predict daily living skills, which have an immediate effect on family functioning.

Behavior Adaptation and Stress

Hall and Graff looked more closely at the connection between familial stress and adaptive behavior. 75 parents or other adults who were the children's main caretakers participated in the descriptive study. Children with ASD's adaptive behaviors, family support systems, parental stress, and parent coping were all evaluated. It confirms the findings from Toddlers that there is a need for more family assistance since poor adaptive functioning in autistic children is linked to greater parental stress. In order to prevent overloading families with unneeded and incorrect recommendations, the authors emphasize that professionals should be knowledgeable about the services that are already accessible to families and should be able to direct families to the proper resources.

Adaptive Development and Behavior

Among 77 autistic people with average intellectual development, Mazefsky, Williams, and Minshew examined the impact of family history and variability on adaptive functioning. The VABSII was used to assess adaptive behavior. The biggest variation in VABS scores, especially in the social domain, was caused by shyness and family histories of depression. The authors come to the conclusion that factors related to family history should be taken into account during both diagnosis and therapy as they may alter prognosis. In order to compare the profiles of 40 highfunctioning people with ASD with 30 normally developing people who were matched for age, IQ, and sex, Kenworthy et al. used caregiver reports from the ABASII. The ASD group had specific deficits on the Social scale, in line with other investigations using the VABS in younger children. Adaptive communication abilities and IQ were positively correlated in the ASD group. In the normally developing group but not the ASD group, the correlation between autism behavior ratings and ABAS scores was negative. Consequently, the findings were in line with other research that discovered IQ is connected to communication scores but not the severity of ASD on measures of adaptive behavior.

This work lends further credence to the notion that adaptive behavior is a distinct cognitive construct from IQ and needs to be researched independently. Baghdadli et al. looked at how adaptive behavior's trajectories changed from early childhood through adolescence. This research used the VABSII to look at how 152 kids' scores changed over almost ten years. Although improvements in adaptation skills showing two different development rates, significant deficiencies in children with ASD's adaptive abilities persisted throughout adolescence. Low cognitive and linguistic abilities, the presence of epilepsy, and the severity of autism were shown to be linked with poor development trajectories for both social and communi cation outcomes at the age of five. Low language skills and autism severity were thus risk factors at this age for both social and communicative outcomes ten years later. Also, they said that early intervention hours were a communication safety net. Thus, it would seem that while the severity of autism is not predictive in very young children, it gets more and more crucial to take into account as the children with ASD become older and, more significantly, become more responsive to treatments.

CONCLUSION

Assessments of kids with learning difficulties often include adaptive behavior techniques. To increase these children' chances of success in school and in life, these exams may assist identify which behavioral strengths and weaknesses need to be addressed. An organization may manage unpredictability via adaptive performance. It is what generates unique innovation, a positive

customer experience, superior quality, and customerfocused sales. Culture promotes the psychological phenomena known as total motivation, which enhances adaptive performance. Three key characteristics repeatability, temporal extent, and temporal locus can be used to quantify behaviors. The term repeatability describes how many times an activity may occur throughout time.

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CHAPTER 9

ADAPTIVE FUNCTIONING AND DAILY LIVING SKILLS

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ABSTRACT:

These abilities make it easier for us to get along with others. These abilities include comprehending and abiding by societal norms and traditions, upholding the law, and seeing others' intentions in order to prevent fraud and exploitation. These are the abilities required to carry out everyday tasks. In this chapter author is discusses the curriculumbased assessment of social development.This chapter focuses on the talents required for daily activities and emphasizes the significance of social development. The author investigates curriculum-based assessment as a technique for assessing social development, covering its methodology, merits, and consequences in educational contexts.

KEYWORDS:

Adaptive, Behavior, Cognitive, Disorder, Skills.

INTRODUCTION

Everyday life abilities are now a key determinant of independence and quality of life. According to Smith, Greenberg, and Mailick, there was a plateau in the ASD group's daily living abilities when its members entered maturity in their late 20s. Higher cognitive functioning has been linked to greater adult daily living abilities, according to another research. Having access to affluence was positively connected with DLS. Yet, single parent households were linked to poorer levels of daily living skills and higher levels of family stress. It is obvious that community independence should play a key part in treatment programs since Gray et al. found that community skills rather than selfhelp abilities predicted independent living. Matthews et al. looked at adaptive functioning in people with ASD who were transitioning to adulthood. 75 people with ASD had their VABSII profiles broken down by age and intellectual prowess. The findings supported the existence of a gap between cognitive and adaptive performance in an older population of people. DLS were a relative strength in adults, but not in adolescents, as compared to communication and socializing.

Writing skills generally received the highest subdomain ratings, while interpersonal skills received the lowest. The fact that all standard scores were significantly below average, regardless of cognitive ability, suggests that lifetime intervention targeting adaptive functioning independent of cognitive performance may be necessary. Hus In a longterm research, Bal, Kim, Cheong, and Lord looked at people with ASD from 2 to 21 years old. They note that for both diagnostic groups, one consisting of persons on the autism spectrum and the other a sample of nonspectrum individuals, early childhood nonverbal mental age was to be the best predictor of DLS achievement. The predictive factors, which distinguished between high and poor daily

living abilities, were nonverbal mental age, receptive language, and social communication impairment at 2 years old. Moreover, a favourable trajectory for daily living skills was also linked to 20 hours per week of assistance before the age of 3 years. The group with the greatest daily living skills was found to be roughly 7 years below age level at the age of 21, whereas the group with the lowest daily living skills had an even larger deficit of nearly 16 years. Despite the limited sample size, there was a minor loss in daily living abilities from 18 to 21 years old, which has also been seen in other studies. It was interesting to see that, despite the fact that daily living skills were positively connected with cognitive capacities and early linguistic abilities, persons on the autism spectrum showed delayed development of these skills.

Hence, everyday life skills must be a focus of care for ASD patients of all ages. Duncan and Bishop looked at the disparity between daily living skills and cognitive capacities in teenagers with ASD and ordinary intelligence. 417 teenagers' DLS standard scores on the VABSII were analyzed. Every participant had an ASD diagnosis and at least average IQ. The frequency and determinants of a DLS deficit defined as below average DLS in the setting of average intelligence quotient were investigated using descriptive statistics and regression analysis. It was determined that around half of the adolescents had a DLS deficiency. Just 10% of the variation in predicting a DLS impairment was explained by autism symptoms, IQ, maternal education, age, and sex. Finding the variables linked to better or worse DLS may provide insight into the range in adult outcome in ASD patients with ordinary IQ. This finding is also consistent with other studies that have shown how important early remediation is for DLS.

Adaptive Functioning, Intelligence, and ASD Severity

Although the research that have been covered thus far have given some insight into the impact of IQ and/or developmental stage in adaptive behavior, numerous more studies have looked more closely at this connection. Highfunctioning schoolage children with ASD were divided into three groups based on their verbal and nonverbal IQs: high VIQ, high NVIQ, and equivalent VIQ and NVIQ. Black, Wallace, and Kenworthy investigated the relationship between the IQ split, or differences between verbal and nonverbal IQ, and autism symptoms and adaptive behavior. Autism social symptoms were connected with high VIQ/NVIQ discrepancy, but not communication symptoms or repetitive activities. On the other hand, high VIQ and NVIQ scores alone were not connected with sociability or daily living abilities, but rather with greater adaptive communication. In contrast to IQ alone, IQ discrepancy may thus lead to a better description. Greater functional results in autism have traditionally been linked to higher verbal skills. Disproportionately high VIQs among highfunctioning youngsters, however, could also be linked to increased social difficulties. The relationship between IQ and adaptive behavior is thus exceedingly complicated and changes with age, as previously shown [1].

Kanne et al. looked at the correlation between IQ and the VABS subscales. Age and the VABS composite had a negative relationship. There are very few links between autistic symptoms and adaptive behavior. The findings showed that lower functioning adults with ASD had a smaller difference between IQ and adaptive deficits, while older and more functioning persons have a larger gap. These findings are in line with those of earlier research that looked at how development affects the gap between cognitive and adaptive behavior. Changes in Wechsler Intelligence Scores for Children profiles were looked at by OliverasRentas, Kenworthy, Roberson, Martin, and Wallace in connection to symptomatology and adaptive functioning. The WISCIV profiles of 56 highperforming children with ASD were reported in this research, along

with correlations to ASD, ADHD symptomatology, and adaptive functioning. Strengths in matrix thinking and similarities, problems in comprehension, and the subtests making up the processing speed index were all included in the ASD WISCIV profile. The social symptoms had a poor correlation with the understanding subtest. Processing speed task performance showed a negative correlation with communica tion symptoms but a positive correlation with communication skills, highlighting the significance of processing speed for functional outcomes in ASD. These findings support those of Black et al. and are in line with toddler profile studies. The discrepancies between communication skills and performance are also highlighted by this research. Among 94 highperforming children with ASD, Chang, Lung, Yen, and Yang looked at the link between cognitive level, autistic severity, and adaptive functioning.

The Social Responsiveness Scale and the ABASII were both completed by parents and teachers. The results showed that the average scores for general adaptive components were lower than the average FSIQ. According to profile analysis, the social domain of the adaptive skills evaluated at school and at home was the poorest. Although autism severity showed a weakly negative connection with adaptive function, cognitive skills exhibited a favorable link with it. Also, the severity of the child's present autistic symptoms decreased with age after diagnosis. This research supports past studies that highlight early intervention, the poor link between autism severity and adaptive behavior, and the significance of therapy. Hill, Gray, Kamps, and Varela used the ABASII to evaluate the moderating effects of intellectual functioning and the severity of ASD symptoms on the relationship between age and adaptive functioning for 220 ASD kids. The findings show that age, intellectual functioning, and autism severity interacted in a threeway manner. Again confirming the complex and dynamic relationship between cognitive abilities, age, and adaptive functioning, the association between ASD symptom severity and adaptive functioning was weak for younger children with higher intellectual functioning and older children with lower intellectual functioning [2].

DISCUSSION

Adaptive Behavior in ASD on the BASC2

The most frequently used measurements in both clinical and research contexts are the VABS3 and ABAS3. Nonetheless, the BASC2 is extensively used in educational settings. The BASC2 is a checklist and features a subscale called adaptive behavior, which is crucial to notice. It is not a comprehensive assessment of adaptive functioning like the VABS3 and ABAS3. Volker et al. compared the BASC2 Parent Rating Scale profiles of 62 kids with highfunctioning autism spectrum disorder to those of 62 kids with usual development who were age, gender, and ethnicitymatched. Findings showed that there were significant disparities between the HFASD and usually developing groups on all PRS scores, with the exception of the somatization, conduct issues, and aggressiveness measures. On the behavioral symptoms index, atypicality, withdrawal, and developmental social disorders measures, the mean HFASD scores were clinically significant. On the adaptive skills composite, all adaptive measures, remaining content scales, and clinical scales for hyperactivity, attention issues, and depression, atrisk range HFASD means were found.

The developmental social problems scale seemed to be quite good in separating the two groups, according to screening indices. Although distinguishing HFASD children from typically developing children on the BASC2 provides a profile of their functioning, it does not provide the information necessary to accurately evaluate adaptive behavior and build effective treatment

plans. In order to document the parentrated VABSII, BASC2, and ABASII adaptive behavior profiles of 6 to 11yearolds with HFASD, Lopata et al. examined the relationship between three measures of adaptive behavior. They also looked at the extent to which these measures produced similar scores on comparable scales, and they evaluated any potential discrepancies between cognitive ability and adaptive behavior across the measures. The VABSII and ABASII demonstrated relative social skill deficiencies and academic skill strengths for the group, but all three adaptive measures revealed substantial overall deficits. Crossmeasure comparisons revealed considerable variations in the scores' absolute magnitude. Compared to the BASC2 and ABASII, the VABSII often produced scores that were much higher. Nevertheless, scores for adaptive social skills, a crucial area to evaluate for kids with HFASD, did not substantially vary between the VABSII and ABASII. The results also showed substantial differences between the children's scores on the adaptive domains and composites of the three adaptive measures and their average IQ scores. This research supports earlier findings on the discrepancy between cognitive and adaptive behavior.

Doobay, FoleyNicpon, Ali, and Assouline also used the BASC and the VABS to evaluate cognitive, adaptive, and psychosocial differences in highfunctioning people with ASD. The aim of the research was to provide an empirical analysis of the cognitive, adaptive, and psychosocial functioning of people with ASD with high IQ scores. A comparison was made between a control group of 41 kids without ASD and 40 youth with high cognitive capacity. The ASD group performed worse on measures of processing speed on cognitive tests as compared to the control group. Individuals in the ASD group also had a 28 point gap in their Full Scale IQ and Processing Speed IQ on the WISCIV, despite overall typical scores. On the VABS, there was a very significant group difference in each of the three categories related to adaptive functioning. As might be predicted, social differences between groups were the biggest. Also, the ASD group's social domain was the only one with a belowaverage score. While the DLS results were adequate, the mean adaptive behavior composite scores were one standard deviation lower. The BASC2 was used to assess psychosocial functioning, and for the ASD group, a number of subscales were elevated to the atrisk or clinically significant range. Due to the fact that each item will be graded on a different scale, these findings should be interpreted with care.

For instance, a question may inquire about repeated speaking or communication issues, and scores may be given on the social skills, anxiety, abnormal behavior, and adaptive functioning scales. On the parent forms, 75% of respondents expressed worry about the subscales measuring adaptation, social disengagement, and unconventional conduct. Just 50% of the ASD group's teachers expressed worry. There were no reported differences between the groups on the selfreport measure.

These findings have important implications for the identification and treatment of highfunctioning ASD patients [3]. Lopata et al. compared teacher and parent assessments of ASDrelated symptoms on the BASC2's Developmental Social Disorder scale in 120 highfunctioning 6 to 12yearold ASD patients. The assessments from parents and teachers were both higher than what was indicated in the normative estimates. Parents reported more symptoms in the atrisk range than teachers, and there was a significant difference in parent and teacher evaluations. This research supports Doobay et alfindings .'s and is therapeutically important since it supports the often seen disparity between parent and teacher reports. The BASC2 has little relevance in defining adaptive behavior generally but may be helpful in detecting comorbid disorders in ASD and their link to adaptive function.

Executive Functions and Other Comorbidities in Adaptive Behavior

As our knowledge of the significance of adaptive behavior in ASD prognosis has grown, so too has curiosity in how other factors, such executive functioning, may be related to it. Williams, Mazofsky, Walker, Minshew, and Goldstein investigated the relationship between analytical functioning and abstract thinking and problemsolving skills. Children and adults with and without autism were given assessments of conceptual reasoning, problemsolving in a lab setting, and adaptive functioning in the natural world. As compared to those with average development of the same age and cognitive capacity, those with autism demonstrated worse conceptual thinking abilities. The flexible thinking scores of the autism group were substantially connected with labora tory measures of strategy creation and rule shifting as well as with reported overall adaptive behavior, but not with socializing scores. Hence, conceptual thinking or problemsolving may not be as critical for adaptive functioning in the natural world in autism as thought flexibility. This research unequivocally identifies one of the main issues with ASD, namely the incapacity of cognitive tasks to predict behavior in the real world. 64 children and adolescents with ASD who lacked ID had their longitudinal changes in adaptive behavior investigated by Pugliese et al. These individuals had several evaluations, and the impact of previous assessments of executive function issues on future adaptive behavior scores was investigated. The majority of participants' adaptive behavior was degraded and did not become any better over time when compared to standardized estimates for their developmental stage.

When adjusting for age and IQ, prior executive function predicted future adaptive behavior in the areas of sociability and daily living skills. In all categories, selfmonitoring activities accurately predicted subsequent adaptive behavior. The findings support focusing therapy on adaptive skills in ASD, as well as the significance of screening for executive function issues that may underlie challenges with adaptive behavior. Wallace et al. looked more closely at realworld executive function and adaptive behavior profiles in people with ASD who also had comorbid anxiety and depression using the ABAS. There is little data on actual tests of executive function in people with ASD. This research investigated the connections between adaptive functioning and cooccurring anxiety and depressive symptoms in 35 persons with ASD without ID and parentreported realworld executive function issues. Flexibility and metacognition were revealed to have severe deficiencies in the variable execu tive function profile. Flexibility issues were linked to feelings of anxiety, whereas metacognition issues were linked to signs of sadness and poor adaptive functioning. As persistent executive function issues are indicators of worse overall functioning, they continue to be a major therapeutic focus for individuals with ASD [4].

Comparison of Adaptive Behavior Measures

The Vineland Adaptive Behavior ScalesClassroom Edition, the Scales of Independent BehaviorRevised, and the Adaptive Behavior ScaleSchool, Second Edition are three commonly used measures of adaptive behavior that are rated by staff. In addition to the study comparing BASC2 to VABS, Wells, Condillac, Perry, and Factor also looked at the utility and construct validity of these three measures. On all three measures, the scientists discovered a significant positive correlation between mental age and adaptive abilities. Hence, general adaptive abilities improved along with mental age. Just a weak negative connection between the measures of adaptive behavior and autism severity existed. The findings do not support the notion that one metric is superior than another. However, deciding on a measure of adaptive behavior relies on a

number of variables, including age, the goal of the assessment, and the amount of time needed to complete the test.

The main feature of people with autism spectrum disease is impaired and unique social development. The outstanding pathognomonic core defect is the children's incapacity to link themselves in the usual manner to people and events from the beginning of life, said Leo Kanner, who first recognized the illness he called early infantile autism. He also underlined that individuals portrayed as distant rather than drawn, as part of his description. This is an important idea since being aloof says that you don't value social engagement, while being withdrawn suggests that social interaction has negative features. A larger population is established as a result of the development of the diagnostic criteria for ASD, which includes subgroups that fit the avoidance and aloofness descriptions. The Diagnostic and Statistical Manual of Mental Disorders published by the American Psychiatric Association is now in its fifth edition. When it comes to social development, these two groups may interact negatively. For instance, limiting interests might affect the kind and volume of communication between social partners. Many social development deficiencies have been noted in the community of people with ASD. Important deficiencies include:

1. Reduced sensitivity to other people's voices.
2. Using someone else as a tool.
3. Low or no interest in playing with other kids.
4. Failing to make social contact with peers in a friendly manner.
5. Inadequate comprehension of gestures.
6. Using gestures to communicate only sometimes.
7. Lack of engaging others in delight.
8. Poor eye contact.
9. Weak joint attention, poor joint gaze, and poor cooperative play.
10. Improperly reacting to facial expressions.

Teaching social skills is a common term for rehabilitation and therapy in this setting of social development impairments. The concept of social competence, also known as interpersonal competence, social skills, and communicative competence, is present in a wide body of literature on child development. All of these phrases allude to the same construct, which is the capacity for appropriate and fruitful interpersonal communication. While the phrase appropriately and effectively is a common expression, it is vague and uncompleted. A model developed by Romanczyk, White, and Gillis distinguishes between social skills and skillful social conduct. The building blocks or components of social skills are required for skillful social conduct. Individual social talents might not always translate into skillful social conduct, however. In order to continually regulate the content, combination, and timing of the application of individual abilities, the vast repertory of skillful social conduct requires not only the individual skills but also extensive monitoring and analysis of social circumstances and interactions. The intricacy of this dynamic was shown via a conceptual process diagram [5].

This picture, like any model of a complicated process, is not complete, as the authors note in their study, underscoring the difficulty of the therapeutic challenge of developing extensive skill repertoires for patients who have major deficiencies. This is not intended to serve as a tool for prioritizing goals or as a behavior analytic study of everyday terminology like motivation, paralinguistic, attention, awareness, etc. Rather, it is meant to depict in part the intricate process

of skillful social conduct. Instead, it serves as an example of a compromise in consumerprovider conversations about the complicated skilled social behavior repertoire and emphasizes how challenging it is to correct social repertoire deficiencies in ASD patients. Our relative lack of understanding of the underlying causes of the social development deficits exacerbates this challenge. For instance, the incentive for social engagement has been the subject of much writing. To put it simply, people with ASD do not engage in rewarding social interactions.

According to Ferster's theory, the social environment did not have reinforcing effects. Researchers like Argyle and Kendon, McFall, Dodge and Murphy, Chevallier, Kohls, Troiani, Brodkin, and Schultz, among others, have theorized such a loss in the larger body of autism literature, but comprehensive study has been absent. Similarly, theories on mindblindness have drawn a lot of interest. This topic is made more difficult by other ideas like the aversion to eye contact hypothesis, which has support from particular study for children with Fragile X syndrome. Over half of the research evaluated here either find contradictory results or support a wider range of defenses of reward processing, according to a recent assessment of the literature on social reward processing in ASD. So, it is reasonable to draw the conclusion that, although significant from a therapeutic standpoint, focusing on social motivation may not provide a whole picture of the many potential pathways contributing to the performance disadvantage.

Curriculum Based Evaluation

The structure and substance of education are collectively referred to as a curriculum. A curriculum is defined by Wolery and Winterling as an structured description of a body of material, assessment processes, and strategies for teaching specific skills and is built upon a conceptual framework. Throughout the last forty years, there has been a significant growth in the definition and use of curriculumbased assessment and the associated notion of curriculumbased measurement. It was created in the area of education for typically developing students and expanded into the field of special education. Curriculumbased assessment can be defined as any set of measurement activities that uses direct observation and recording of a student's performance in the local curriculum as a basis for gathering data to inform instructional decisions, though there are many definitions. For the current context, Deno's straightforward definition seems appropriate. It is hardly surprising that CBA has deep roots in applied behavior analysis given the emphasis on direct measurement [6].

The majority of curriculumbased evaluations are criteriabased, thus they concentrate on identifying each child's unique set of strengths and weaknesses. It is stated that this method reveals the talents that the kid now has, those that are still developing, and those that the youngster has not yet shown. Also, a lot of curriculumbased tests directly relate evaluation to intervention by evaluating the child's abilities in accordance to curriculumoutlined abilities. A child's functional demands are meant to be best served by a personalized curriculum that takes into account their talents in this manner.

On the basis of firsthand observations of a child's capacity to achieve curriculum goals, ongoing instructional judgments may then be made. While there is a lot of research and discussion around CBA, this article will concentrate on assessing the usefulness and validity of the CBA method when used with existing curricula that target social development impairments in people with ASD. For this reason, a codified collection of distinct behaviors and abilities that have been grouped according to their developmental importance is referred to as a curriculum [7], [8].

CONCLUSION

Understanding people with developmental impairments, especially those with ASD, depends on their adaptive behavior. For the purposes of research, therapy, and determining quality of life, understanding the connection between ASD and adaptive behavior is essential. Despite the fact that a study of recent studies sometimes produced contradictory findings, a number of generalizations may be established. First, people with ASD have significant difficulties in adaptive behavior, particularly in the area of sociability, even when they are intelligent. Yet, cognitive abilities by themselves are unable to forecast adaptive functioning. Generally speaking, there is a discrepancy between cognitive abilities and performance, which Klin et al. define as an interesting problem. Age and cognitive ability seem to have varied effects on this disparity. When they enter adolescence and adulthood, lower functioning people's adaptive abilities could surpass their cognitive ability. On the other hand, the disparity widens among those with better cognitive function. Moreover, the degree of autism is associated with daily living skills and higher levels of stress in families but does not often predict adaptive behavior. As a result, measuring adaptive behavior is very difficult. According to research, age, cognitive ability, and autism severity all interact to influence adaptive behavior, especially daily living abilities. Adaptive abilities in the natural environment are also influenced by other factors as executive functioning, comorbid mental illnesses, and familial stress. Prior to conducting an assessment, it is crucial for the clinician to be aware of all of these factors as well as the advantages and disadvantages of the measures being utilized. One of the most crucial considerations a clinician must make is which measures to use, which should be determined by the evaluation's aim. There isn't a single assessment that has been shown to be the best and to include all facets of adaptive functioning.

The measurements that are now available give some significant information, but they cannot fully depict how a person behaves in various contexts. In order to create an effective treatment plan, it is thus required to conduct an ongoing behavioral evaluation in addition to a structured interview utilizing current, readily accessible standardized measurements. To further understand how adaptive behavior affects outcomes and quality of life in ASD, much more study is required. In order for people with ASD to learn to function freely in the real world, it is also important to concentrate on how to recognize strengths rather than simply deficiencies. This should be a top priority for all physicians and researchers.

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CHAPTER 10

CURRICULUM BASED ASSESSMENT FOR AUTISM SPECTRUM DISORDER

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ABSTRACT:

A sort of ongoing assessment known as curriculumbased assessment (CBA) includes periodic evaluation of a student's daily performance in connection to the material being taught. It gives an indication of a student's curricular progress and if such development is sufficient. In this chapter author is discusses the behavioral characteristics progression.

KEYWORDS:

Autism, Assessment, Curriculum, Children, Spectrum.

INTRODUCTION

There are many different curricula available for teaching children with ASD, but not all of them have a CBA component. Given that the early years of an ASD diagnosis are a vital time for skill acquisition, we have chosen for this evaluation CBAs that are linked to a curriculum for young children with ASD. Despite the fact that we are emphasizing CBAs that look at social skills, several of the models examined concentrate on many domains for a more allencompassing intervention strategy. Moreover, although many curriculum are created for students with ASD or other special needs, others may also be utilized with students who have more general disabilities. Several of the models examined were created using a developmental and/or relationshipfocused paradigm or on the foundations of applied behavior analysis. The curricula that are offered and their supporting CBAs are detailed below [1].

Basic Language and Learning Skills Assessment

For kids with developmental or linguistic delays, the Assessment of Basic Language and Learning SkillsRevised is a criterionreferenced assessment instrument and intervention guide. It encompasses 522 talents in 25 skill sets, each of which corresponds to a letter of the alphabet and is based on behavior analysis concepts. The abilities within each of the areaswhich include receptive language, labeling, selfhelp, social interaction, classroom routines, gross motor, and fine motor progress in a developmental order. In addition to watching the child's behavior and skills in each skill area, the assessment process also allows parents to offer feedback on their child's abilities. The evaluation may last between 10 and 14 hours, and it has to be given again every six to twelve months to track improvement. The ABLLSR handbook encourages the formulation of IEP objectives for learning and monitoring progress as well as the development of intervention goals. The curriculum, however, does not include any particular exercises or lessons that correspond directly to the abilities measured by the exam. It is also accessible in a number of other languages, including Norwegian, Spanish, Italian, French, Japanese, Arabic, and Hebrew.

Moreover, Web ABLLS, a version of the assessment that facilitates interdisciplinary cooperation in assessment and skills monitoring for a specific kid, is available online. For kids with ASD, the Intensive Behavior Intervention and behavioral educational model have been evaluated using the ABLLSR. Lin and Kubina also discuss combining the ABLLS with learning channels for the most accurate behavioral descriptions. ABLLS components have also been used in singlecase studies to assess the transfer of stimulus control in tactful training approaches. Peerreviewed research assessing the accuracy or reliability of this metric are not yet available.

Assessment, Evaluation, and Programming Systems

A CBA that seeks to connect assessment, goal setting, intervention, and evaluation is called the Assessment, Evaluation, and Programming Systems, Second Edition. Children with impairments or those at risk for developmental delays from birth to age 6 may use it. If it is developmentally suitable, it may be utilized with kids as young as 9 years old. The six main developmental domains of social, social communication, cognitive, adaptive, fine motor, and gross motor abilities are all evaluated. They are further broken into smaller units of goals and objectives that lead to wider skill domains as well as a developmental progression of abilities. Children are evaluated in a naturalistic setting while participating in activities that are appropriate for their developmental stage. The AEPS offers assessment tasks that are made up of scripts and instructions that the examiner may use to design interesting testing procedures that include test items. The description of the kid's abilities by the caregiver and comments from any experts assisting the youngster are also included. Items on the assessment are given a score of 0, 1, or 2.

Each test item has its own set of rating standards. This enables analysis of the child's repertoire of abilities and areas that need assistance, and it serves as the foundation for the creation of targeted intervention objectives. Goalsetting information for IEP and Individual Family Service Plans is also included in the model. Significantly, using this paradigm allows for the simultaneous observation and data collection of numerous children across domains, which enhances the assessment's effectiveness for those working in center or schoolbased programs [2]. One is able to link the abilities identified during assessment with objectives for intervention since the curriculum volume of the AEPS translates onto the assessment with a comparable sequencing of items. This connection between assessment and intervention items enables evaluation of the child's progress toward intervention objectives. The AEPS has been shown to be useful in research for producing suitable IEP objectives. In accordance with the Disabilities Education Improvement Act, it has also been used to help determine eligibility for state and federal early intervention and early childhood special education programs. There is no peerreviewed research investigating the outcomes of this program for kids with ASD.

DISCUSSION

Behavioral Characteristics Progression: Birth to 14 Years

The behavioral characteristics progression is a curriculumbased assessment involving teaching activities that is criterionreferenced. The 56 domains or strands that make up the BCP's 2,300 skills or behavioral characteristics are divided into seven objective areas: cognition, language, gross motor, fine motor, social, selfhelp, and vocational. Each strand advances in a continuous developmental process that culminates in the acquisition of the necessary skills. For the purpose of identifying intervention strands and supporting the creation of IEP objectives, the BCP assessment record screens for identifying behaviors. Several of the abilities also correspond to

interventionrelated tasks. While the parent should be included for generalization to the home environment, the curriculum should be conducted by a teacher or professional. Each child's own evaluation record tracks progress and includes room for skill mastery. There are no peerreviewed research available right now that support the BCP's reliability or validity [3].

Brigance Early Development Inventory III

Including both standardized and nonstandardized inventories, the Brigance IED III is a curriculumbased assessment instrument created specifically for use in special education. Both provide thorough skill assessments that are in line with national and state norms, but for rather different reasons.

IED III Brigance standardized

A standardized exam using kit materials and a stimulus book is one of 55 normreferenced tests included in the IED III Standardized. In five areasphysical development, linguistic development, academic skills/cognitive development, adaptive behavior, and social and emotional developmentthe IED III Standardized evaluates a child's ability. Through the chronological age of 7 years and 11 months, these domains enable comparison of the child's standardized scores and percentile rankings to peers of the same age. In this manner, referral suggestions might also be based on the IED III Standardization findings. This evaluation should only be given by a qualified expert and may take up to an hour each kid.

Broughton IED III

The IED III is a recognized criteria for identifying pupils' individual strengths and shortcomings. It evaluates abilities in everyday life, social and emotional development, math and science, language development, literacy, and physical development. Parent/caregiver interviews and child observation may both be used for assessment. For children younger than the developmental age of eight, the findings may be utilized to guide the creation of IEP objectives, lesson preparation, and progress monitoring.

Inventory of Brigance Readiness Activities

The readiness activities are a separate manual that corresponds with the skills listed in the IED III. It contains 300 activities, each of which includes a list of the objective, the skill's domain, the justification for teaching it, related skills, a developmentally appropriate sequence, teaching suggestions, and illustrations of potential difficulties a child might encounter when learning the new skill. It has worksheets for students to do as well as letters to be sent home with family activities; the latter are also accessible in Spanish. The Standardization and Validation Manual for the IED III contains reliability and validity statistics, however none of these numbers have been published in any peerreviewed literature [4].

The Curriculum of Carolina

For young children with moderate to severe difficulties, The Carolina Curriculum serves as an evaluation and intervention program. Separate volumes are available for preschoolers (ages 2–5) and babies and toddlers (birth–3 years). The program is designed for use in the child's home or educational setting by experts. Either with or without the presence of caretakers, assessments are carried out in the child's natural surroundings. The curriculum is organized according to five developmental domains: personalsocial, cognition, communication, fine motor, and gross motor.

It includes 22 instructional sequences and an evaluation log. A quick observation of the youngster doing the skills or activities from the sequence serves as the assessment. If a skill does not come easily to a kid, the examiner or caregiver will try to elicit it by having the youngster participate in certain activities. The evaluation is designed to identify a child's strengths and weaknesses and to prioritize the areas that need the most work. Each evaluation question has a clear connection to a curriculum topic that explains how to teach the ability.

The International Classification of Functionality, Disability, and Health for Children and Youth, a global categorization system of child functioning, was compared to the content of the Carolina Curriculum for Preschoolers with Exceptional Needs by Castro, Pinto, and Maia. This was done since there were no metrics to evaluate functioning that mapped onto the ICFCY. The bodily functions and activities and involvement domains of the ICFCY and the CCPSN showed a significant degree of overlap, according to the results. These two domains include a wide range of functional abilities, such as the capacity to carry out the activities necessary to forge connections with others and carry out everyday chores, as well as the lowerorder physiological processes necessary to carry out such tasks. The CCPSN does not cover the body structures and environmental factors domains of the ICFCY. Interestingly, these two categories do not emphasize the child's functional skills but rather contain structural elements that can be seen as preconditions for the capacity to demonstrate functional skills. The Carolina Curriculum for Infants and Toddlers with Exceptional Needs, which was implemented by parents of children with Down syndrome, was also shown by Del Giudice et al. One of the model's limitations is the lack of research on how well it works for kids with ASD [5].

With evaluation and manualized intervention components, dowatch listensay only targets the social and communicative needs of children. To better understand a child's abilities and intervention goals in more than 100 subskill categories, the Assessment of Social and Communication Skills for Children with Autism incorporates questions and checklists. Activities for intervention relate to the subskills found during the assessment. Intervention is described in the curriculum requirements, but it may also be combined with other models and therapeutic procedures. Skills in social reciprocity, mimicry, solitary play, social play, group skills, and social communication are all included in the dowatch listensay framework. The program takes into account children with a range of communication skills, including those who utilize augmentative or alternative communication, and is intended to be used in both the home and the classroom. Charts and data gathering forms may also be used to monitor a child's development. There are no published validity or reliability statistics for this evaluation at this time.

Curriculum and Assessment for Autism in Eden

A number of manuals are included in the Eden Autism Assessment and Curriculum Series for use by professionals, educators, and parents to enable ABAbased therapies for people with ASD. It is suited for people of all ages, from infants to adults. The Eden School Series focuses on cognitive skills, speech and language, vocational education, self and household care, physical education, recreation, and leisure. It is appropriate for kids and teenagers in grades PreK through 12 and is available online. An infant and toddler curriculum, an adult job curriculum, and an adult residential curriculum are available as additional volumes. Goalsetting is influenced by the ability to pinpoint a student's strengths and limitations according to the Eden Autism Assessment. As the Eden Autism Curriculum's intervention progresses, the evaluation tool is used to monitor children's development across domains and is closely linked to lesson plans.

There is additional software available that connects evaluation and intervention via a subscriptionbased model. Based on the experience and clinical knowledge of the Eden faculty, the Eden Autism Assessment and Curriculum Series was created and updated. The efficacy of teaching programs that concentrate on curricular objectives has been examined via field testing. There are no known published outcome data or empirical studies testing the model.

Denver Early Start Model

The ESDM is a thorough early intervention method that may be used with children diagnosed with ASD as young as 12 to 36 months old and as old as 60 months. The program is a modification of the original Denver program for preschoolers. The impacts of ASD on a child's developmental trajectory are taken into account by ESDM, together with knowledge about usual development. It was developed from a number of complimentary techniques and stresses on naturalistic and childdirected training for both assessment and intervention. It also places a strong emphasis on building social motivation. The ESDM curriculum contains a developmental curriculum checklist with item descriptions for particular abilities in 10 domains, including selfcare and receptive communication, expressive communication, joint attention, imitation, social skills, play skills, and cognitive skills. Prior to intervention, learning goals are created using the checklist and are intended to be completed in 12 weeks.

After the 12week period, the checklist is readministered in order to create new goals based on the child's development since the original evaluation. The approach includes a decision tree to assist identify potential causes and next steps if a kid does not show improvement in a particular area after 12 weeks. The checklist includes caregiver and/or teacher reports to ascertain if the kid is capable of performing abilities that may not have been seen during assessment sessions [6]. A randomized controlled trial and numerous other empirical studies examining the effects of the ESDM for children with ASD, including cognitive functioning, adaptive behavior, social communication, receptive language, normalized patterns of brain activity in response to faces, and ASD diagnosis, demonstrate empirical support for the ESDM in comparison to other curriculum models for ASD. A training workshop's usefulness in spreading the concept to community early intervention programs has also been studied, and the results show excellent levels of posttraining reliability for all professions present. Last but not least, parent delivery of ESDM has been researched but has not been shown to be more effective than standard care.

Profile of Early Learning in Hawaii

The Enrichment Project for Disabled Babies, a federal grant program, funded the first development of the Hawaii Early Learning Profile, a curriculumbased assessment instrument, from 1971 to 1979. Both the HELP assessment and curriculum may be used alone, despite the fact that they are intended to be used together. Based on the child's age, it is divided into two distinct curricula, each of which is described below:

ASSIST: 0–3 years : In six domainscognitive, linguistic, gross motor, fine motor, socialemotional, and selfhelpthis product evaluates 685 abilities. During the time the curriculum was being developed, these abilities and behaviors were determined using growth charts, standardized exams, and literature. The 59 ideas or strands that make up the grouping of the skills for intervention attempts move in developmental order and are connected to curricular materials. The administration guidebook also offers recommendations for special accommodations for kids with impairments and cultural nuances for working with families. A

different athome offering offers families handouts that teach skills, give directions, and engage parents in activities.

ASSIST: 36 Years : This program, which examines 585 abilities across the same six areas and is divided into 47 developmentally sequenced strands, is intended to expand the usage of help 03 for older children. Significantly, the three new strands in help 36 sign language, speechreading, and wheelchair skillsare created especially for kids with exceptional needs. Considerations for individual or grouplevel evaluation are also included in help 36. Both tools include charts for visually measuring skill level and development progress. Also, for a smooth transition from help 03 to the former, the talents in help 36 are organized in the same ID number sequence. In a unique way, mental process deficiencies are believed to be present in children who continue to struggle in several assessment domains. In addition to emphasizing the value of family engagement, help provides parent questions that may help parents shape their child's evaluation. In this approach, the assessment phase does not simply rely on expert observation and starts with a parent interview. During the evaluation observation, parents are also urged to stimulate play and interactions with their children.

Another book considers how to execute the curriculum with parents who have impairments. Where appropriate, help advises working with a multidisciplinary team. Some help curriculum items are also offered in Spanish. In published research, parts of help have been used to evaluate children's developmental capacities in retrospective chart reviews, to measure the development of motor skills before and after a pediatric strength intervention, and to guide professional growth. In comparison to other CBAs and standardized assessments, the findings of the help assessment are the least variable and most accurate. They also correspond well with the Gesell Developmental SchedulesRevisedAdaptive Domain. Bagnato and Murphy also state that the help may be one of the finest curriculumimbedded assessment alternatives, however they did not compare all of the CBAs in this chapter [7].

New England Center for Autism in Children

Encyclopedia of Curriculum; Core Skills Assessment at New England Center for Children. The New England Center for Children developed the instructional webbased software system known as The Autism Curriculum Encyclopedia. It is intended for use by educators and other professionals to develop ABAbased programs for kids, teenagers, and young adults with ASD covering a range of functional levels. A wide range of skills are covered in the curriculum, including community, academic, selfhelp, discrimination, leisure and physical education, health and safety, and social and communication skills. The New England Center for ChildrenCore Skills Assessment is used for assessment within ACE. 52 fundamental abilities are measured by the CSA in the ACE's specified domains.

For autonomous functioning and higherlevel learning, these abilities are regarded as requirements. The CSA outlines the particular abilities required to accomplish more general goals. Based on either direct observation or informant report, skills are graded as yes, no, or developing. Every year, skills are reviewed to gauge a child's improvement. For a more thorough evaluation of a child's level of functioning across domains, the ACE skills assessment is also an option as a following step after the CSA. Outside the fundamental competencies, every skill in the ACE program is evaluated by this test. The lesson plans for both the CSA and ACE skills assessments provide the instructional strategies for teaching the abilities identified as a need by the tests. The evaluation may be loaded into a computer application that generates a performance

score that indicates the child's ability level since it is linked to a software program. Senior staff at NECC developed the NECCCSA based on clinical knowledge, empirical research, and skill and curriculum choices for people with ASD. Dickson et al. also validated the CSA's basic skills' social validity among NECC professionals, parents, and the larger community.

Power Solving Social Skills Curriculum

A program called POWERSolving is designed to help children with social skill deficiencies in elementary through high school. The social information processing model, which defines six steps people go through in social situations, is the foundation of the program. A technique for assessing strengths and setting intervention objectives is the powersolving Rating Scale. Four sections are divided into certain social situations introduction, social discussion, friendship development, and anger control. The five phases of the power Solving technique are taught as part of the curriculum as a toolbox. Students are taught to use the power Solving procedures when they face an issue in a social environment rather than learning specific abilities; this method aims to enhance the generalization of social skills and problemsolving outside of a structured or therapeutic setting. The curriculum and assessment may be incorporated into other programs or utilized as the main tool. Although a teacher or other professional is often the main facilitator of the POWERSolving curriculum in a school context, other mental health experts may carry out the evaluation and program implementation in clinical settings, and parents can be taught for usage at home. No peerreviewed publications have approved the powerSolving program [8].

Inventory of Repertoires for Preschool

In order to assist children become ready for regular school environments, the Preschool Inventory of Repertoires for Kindergarten was created as a criterionreferenced assessment instrument and an inventory of curricular objectives. It is based on ABA research. PIRK is divided into six domains: communication skills, community of reinforcers, selfmanagement skills, social selfmanagement, and physical and motor skills. Academic literacy and problemsolving are also included in this list. Teaching social skills essential for acceptable interaction with people in a variety of settings is the fundamental goal of the social selfmanagement domain. In order to improve successful social connection with others, this domain also supports eliminating stereotypical, selfdestructive, and aggressive behaviors. There are 266 longterm goals listed within these six areas, each with a number of subobjectives. A child's present skill level in each area and any apparent weaknesses may be determined using PIRK, which can then be used to choose the best intervention goals. The utility of PIRK for ASDdiagnosed kids attending special education schools has been examined in two recent studies. Children evaluated and taught using the PIRK curriculum showed gains in areas necessary for adjusting to conventional schools, such as behavior management, social skills, intellectual functioning, adaptive behavior, and communication abilities, according to both studies. While there is empirical evidence supporting the PIRK model's usefulness, the PIRK curriculum's effectiveness is not supported by randomized controlled studies.

Psychoeducational Profile Revision

The PEP3 is a standardized, normreferenced scale that evaluates how well children with ASD, ages 2 to 7, are developing their motor skills, communication abilities, and maladaptive behaviors. Ten subtests are broken down into these three composite scales cognitive, expressive

language, receptive language, fine motor, gross motor, visual motor imitation, emotional expression, social reciprocity, characteristic motor behaviors, and distinctive verbal behaviors. The PEP3 takes 45 to 90 minutes to administer and has 172 total elements. The measure's internal consistency is 0.90, testretest reliability is 0.94, and there is a strong correlation between it and other standardized measures that cover relevant areas. The PEP3, which incorporates both direct observation and caregiver report, is used as an evaluation tool to guide the creation of tailored curricula. For young children with ASD, it may be used in both schoolbased and homebased intervention programs.

For instance, the PEP3 is used to identify the goals of the curriculum in the TEACCH model, a clinical service and professional training program created at the University of North Carolina at Chapel Hill. Nevertheless, the PEP3 is less effective in connecting assessment to intervention because the abilities it measures do not immediately correspond to curricular elements. As a result, it would be most helpful for curricula that closely align with the domains and items evaluated by the PEP3 and lack a comparable curriculumbased assessment. A feature of the PEP3 that makes it ideal for children with varying degrees of ASD severity and functioning is its use of nonverbal, untimed, simple items, tangible testing materials, and flexible testing techniques. There is a Mandarin version available, and a shorter form with 73 elements is also available and is advised as a more effective tool for tracking development [9].

CONCLUSION

Developmental disabilities like autism last a lifetime. Not every person with autism experiences the disability's hallmarks, such as slow or nonexistent speech development, aversion to social interaction or awareness, and predictable actions, to the same degree. Children with autism may often experience a lack of social support networks, career opportunities, and loving connections with their families. All in all, this causes a serious loss of selfesteem. Although the severity of the symptoms tends to decrease with age, independent living is unlikely for the majority of people with severe autism. Recognize the value of getting to know the kid as a unique person. Instead of seeing autism as an illness or limitation, treat it as a difference. Recognize the significance of determining the needs and strengths of children with autism. Be aware of the impact autism may have on a kid.

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CHAPTER 11

SOCIAL COMMUNICATION EMOTIONAL REGULATION AND TRANSACTIONAL SUPPORT MODEL

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ABSTRACT:

Integration of language processing, pragmatics, and social and emotional learning is necessary for social communication. An key component of social and emotional development is the capacity to control one's emotions. The author investigates emotional control, covering its influence on interpersonal relationships, general well-being, and ways for developing good emotional regulation abilities. In this chapter author discusses behavior sampling and elicited responses.

KEYWORDS:

Behaviour, children, Emotional, Environment, Youth.

INTRODUCTION

The social communication emotional regulation and transactional support (SCERTS) paradigm is specialized on developing social communication skills for kids with ASD, in contrast to many other methods of assessment and intervention for ASD. It is designed to be used with kids from early intervention until the beginning of school. Based on actual research on both the regular path of development and the impact of ASD on development, the SCERTS model was created. The program focuses on social communication, mood control, and transactional support and may be utilized with kids who have cognitive and linguistic disabilities as well as those who do not. The SCERTS Assessment Process, a curriculumbased evaluation that goes along with the model, was created for use by clinicians and educators for the goals of educational planning and identifying the required environmental supports. The assessment's skills are arranged in accordance with a developmental sequence. Children who have previously been diagnosed with a delay and need an IEP or an IFSP should utilize the SAP. In order to gather the most representative sample of a child's abilities across persons and places and identify any skill variability, the assessment process comprises a variety of potential methodologies. The following list and explanation of assessment techniques is in order of least to most invasive [1].

Speaking Important

Others or Having Familiar Individuals complete the evaluation questionnaires. Interviews and developmental questionnaires, generally referred to as SAPR, are used as an initial technique of data collection with people acquainted with the kid. The first image of the child's strengths, areas of need, and accessible supports is created using this. The youngster is directly observed in the SAPO component while interacting with common social partners in comfortable naturalistic settings. This information reveals the usual functioning of a youngster. A scoring system is used,

and operational definitions are given to assess if the kid is acquiring the skill and is unable to show it without assistance, or whether the child is practicing the skill and applying it inconsistently.

DISCUSSION

Behavior Sampling and Elicited Responses

This technique is used when required to get more precise information on a child's abilities and is also employed as part of the SAPO. It entails putting up certain tasks and difficulties to gauge the child's reaction. This has the potential to be especially helpful for evoking lowfrequency actions. For instance, a snack activity might be used to monitor requests, objections, and the child's decisionmaking skills. The SAP summary form is used to compile and integrate all of the information obtained from the SAPR and SAPO; strengths and needs are noted. Before moving on, parents are asked to confirm that the SAPO findings accurately reflect their child's behavior. In addition, the child's strengths, needs, and the family's worries are reviewed. The most practical skills are used to define intervention goals, which are then mapped onto areas of need and family priorities.

The assessment process is defined as continuous, with an initial assessment process guiding goalsetting and being utilized throughout intervention to track progress and make required modifications to a child's program. For continuing success tracking, daily and weekly records are employed, and every three months, program change is taken into consideration. Strengths of this paradigm include its focus on ecologically reliable assessment and the substantial engagement of families in all phases of evaluation, goalsetting, and intervention. The SCERTS model was developed after decades of empirical and clinical research, although the model has not yet undergone a thorough evaluation.

Life Learning Systems to Shape Knowledge

A webbased evaluation and curriculum for children with ASD from infancy to puberty is called The Online Autism Solution. The skills program has assessment, curriculum, and progress monitoring components and is based on the ABA principles and Common Core standards. The eight learning domains of social, motor, linguistic, adaptive, play, executive functions, cognitive, and academic are all assessed. When the evaluation is finished, a list of approximately 4,000 alternatives for activities and lessons for tailored intervention in the areas of executive function, social cognition, and language is provided. For the purpose of developmental mapping, each assessment question and therapeutic activity has an assigned age and a list of required skills. If necessary, skills may be used to develop IEP objectives and create a behavioral intervention plan for problematic behavior. The logbook application for data gathering on tablets and mobile devices is part of the digital program skills.

Charts and reports may be made using this data to monitor development. While skills was primarily intended for use by professionals, families may also utilize it at home because to its userfriendly interface, however expert consultation may be required. Indirect assessment may save a professional time by reducing the amount of work they have to do; parents can also report on their child's abilities to answer assessment questions. The application also enables team members for the same kid to collaborate online. As shown by moderate to high correlations between assessment findings and a child's skills as seen by direct observation, the skills

Assessment has been determined to have strong concurrent validity. Moreover, the skills Language Index has shown strong testretest and interrater reliability as well as outstanding internal consistency. Lastly, an individual evaluation by Pritchard stresses the curriculum's accessibility as well as the program's opportunity for continual improvement since it is an online program. These results initially imply that the SKILLS Assessment is suggested as a thorough indirect assessment tool for children with ASD however, further information on the psychometric properties of this test is still required.

Socially Savvy

The goal of Socially Savvy is to simplify social interaction so that interventional skills may be explored. It contains an evaluation checklist that is used to examine a young child's abilities and deficiencies over the course of two weeks of direct observation in a social situation. The checklist highlights social development in seven domains, including nonverbal, classroom/group conduct, selfregulation, social/emotional, and social language. Also, the guidebook offers 50 playbased teaching exercises for participation that explicitly target many skills at once. The curriculum also contains suggestions for gathering information and monitoring progress, along with examples of IEP objectives. While it is designed for young children, various age groups might use the information. This software, which may be used by parents or professionals, was the subject of a training session at the 42 nd Association for Behavior Analysis International annual meeting. For this CBA, no reliability or validity data have been published in any peerreviewed sources.

Children with ASD up to the age of eight may learn skills via the STAR program, which is based on ABA. Each of the three levels of the STAR program's curriculum progresses in sequential complexity in accordance with a child's linguistic and developmental ability. A thorough curriculumbased assessment is part of the program, and it helps students choose their own goals from among 169 carefully thoughtout lesson plans and teaching resources for six skill areas academics, play and social skills, receptive language, expressive language, spontaneous language, and functional routines. Data gathering for monitoring progress is part of the star program implementation, and the assessment and curriculum are in line with Common Core requirements. Furthermore available online is the STAR Media Center, which provides staff schedule templates, downloadable worksheets, visual aids, and training films to enhance the implementation of curricular materials [2].

The National Professional Development Center and National Standards Project's evidencebased approaches, such as discrete trial training, crucial response training, and teaching inside functional routines, are the foundation of the STAR program. When instructors show great fidelity to the program's execution, the STAR program has been shown to dramatically increase the skill acquisition of children with ASD and to achieve considerable improvement in cognitive ability. As part of the Autism Instructional Methods Study, the STAR curriculum was also deployed in Kindergarten through secondgrade classrooms in Philadelphia, Pennsylvania public schools that support autism. While both environments showed improvements, this research showed conflicting findings in cognitive outcomes when compared to a structured educational environment. As implementation fidelity is so important, thorough staff training is a crucial factor to take into account while running this program. The Autism Outcome Study, an initiative by the Oregon Department of Education to assess development and outcomes in children diagnosed with ASD, has adopted the STAR program's practices in staff training. The program

for assessment and placement of verbal behavior milestones. Perhaps the most popular CBA for kids with ASD and/or language impairments is the VBMAPP. It is a criterionreferenced tool that incorporates Skinner's fivecomponent analysis of verbal behavior as well as ABA concepts.

Milestones Evaluation

This examination rates 170 language and learning milestones divided into three developmental age groups: 0 to 18 months, 18 to 30 months, and 3048 months. Depending on level, between 9 and 13 different skill measures are offered. One of these three levels may also be determined based on the child's overall skill development. It takes between 2 and 10 hours per kid to administer this exam, with greater administration periods occuring at the higher levels. The assessment should be done by a competent professional. Both a package of materials and regular classroom supplies may be used to perform it. While the VBMAPP does cover social skills, it is envisioned as a languagebased assessment used to classify verbal operants by their function. This evaluation looks at 24 possible obstacles to learning and language development that might impede a child's growth. Individualized intervention tactics benefit from the identification of barriers.

A high score and a poor score on the Milestones Assessment are connected. For success in transitioning to a less restricted setting, this examination measures the student's growth across 18 assessment categories. The prioritizing of IEP objectives and choices about educational placement may be helped by these data [3]. This fourth element further deconstructs the abilities in the milestones assessment to enable progress monitoring and sophisticated conceptualization of a child's talents. There are over 900 distinct abilities that are presented and that may also guide certain growthoriented activities. In order to establish a balanced intervention curriculum, this last component guides the development of IEP objectives and intervention requirements based on the outcomes of the previous four assessment components. Other languages supported by the VBMAPP include Chinese, French, Italian, Polish, Russian, and Spanish. For each of the evaluations, a procedure and grading form are also given. For mobile devices, there is also a digital application.

The sequential pattern of the questions on this subtest and its construct validity in assessing a child's intraverbal skills led Sundberg and Sundberg to identify a positive connection between child age and correct answers on the intraverbal subtest of the VBMAPP.

Correct answers on previous subtest questions were a superior predictor for kids with ASD in this research, even though chronological age was the strongest indicator of intraverbal skill skills in kids who were usually developing. As a result, compared to normally developing youngsters, children with ASD may have a different languagelearning sequence that is probably less influenced by chronological age. Because of this, children with ASD may struggle to master abilities they are ordinarily capable of learning if basic language skills are required for task teaching or completion [4].

Moreover, the Fostering the Emergence of Advanced Knowledge Relational Training System CBA and the VBMAPP have strong external validity. Dixon et al. also point out a ceiling impact between the VBMAPP and PEAK total scores. Hence, children with complex skill skills or those who are more delayed may benefit from the VBMAPP more. This ceiling effect is presumably influenced by the PEAK evaluations' wide age span. Due to the fact that PEAK does not expressly contain a social domain, it is not specifically explored in this chapter.

Summary and Verdict

We assess the applicability of 18 CBAs that are publically available for use with young children who have been diagnosed with ASD and provide results and recommendations for academics and professionals. For children who have been diagnosed with ASD, CBAs are tools that may provide information that goes beyond what is generally obtained via traditional social skills assessments. CBAs specifically generate data about a child's abilities and limitations in a certain developmental area. Standardized evaluations, which identify where a kid stands on certain abilities compared to peers their own age, are less helpful for intervention purposes than a profile that documents a child's present strengths or skill repertoire and weaknesses. In the area of social skills, where children with ASD have a core deficiency and are likely to score much lower than peers their age on standardized social skills assessments, criterionreferenced evaluation may be especially pertinent. While abilities are defined into a progression toward achieving larger goals, CBAs are also more sensitive to shortterm gains over time than standardized tests. Moreover, many CBAs enable the direct connection between intervention objectives and certain teaching strategies that may be used to assist a child in learning the skill and skill deficiencies as detected by the assessment.

In comparison to other widely utilized kinds of social skills evaluation, CBAs therefore have unique benefits. Moreover, social skills assessment and training within a child's academic curriculum are especially helpful since effective integration into customary educational settings depends on the development of social skills that are suitable for their age [5]. The inclusion or exclusion of a number of criteria that are consistent across assessments has been used to evaluate the CBAs for social skills with children diagnosed with ASD that have been evaluated here. While the CBAs that are being given are related to intervention objectives, not all of them are specifically tied to teaching techniques for the goals that are being taught. In terms of speed and convenience of goal implementation, those that more seamlessly combine assessment and intervention, such as the Assessment, Evaluation and Programming Systems, skills, the star program, and the help, may benefit practitioners. Also, they provide a more accurate assessment of the child's development over time and if the intervention is having the desired impact. Furthermore, those that are connected to a developmental progression, such as many of the CBAs examined here, offer guidance in determining how a child's skills compare to those expected for their chronological age and whether any developmental milestones must be met before the acquisition of ageappropriate skills.

A child's learning patterns must be understood, and models that emphasize shortterm acquisition of objectives and more regular reevaluation allow for more restricted and effective training. They also stop goals from being continued when only small progress is being achieved. At three months, both the ESDM and the SCERTS model stress skill reevaluation. The area that each CBA covers is a factor in the decisionmaking process. While a broad range of different disciplines are addressed, every technology featured here has a social component. Other curricula take a more comprehensive approach, including a range of developmental domains, and may be used to concurrently understand a child's social and other strengths and shortcomings. This strategy may be advantageous for kids who have more severe developmental delays as well as for instructors and therapists who are not only concerned with helping kids improve their social skills. The eight domains of a comprehensive assessment, according to Gould, Dixon, Najdowski, Smith, and Tarbox, are social, motor, language, adaptive, play, executive functions, cognitive, and academic abilities. This is the only CBA assessed in this that fully addresses each

of these aspects. While a kid is encouraged to make developmental gains equally across various areas, comprehensive skill evaluation and intervention may be helpful to optimize learning potential. Instead, some curriculum places a stronger emphasis on the evaluation of social skills.

These programs excel at offering targeted intervention by further subdividing social development into distinct skill sets. For a wider range of intervention, extra programs should be included when a specialized CBA is chosen. It is noteworthy that the POWER Solving program is the only evaluation examined here that lacks a set of objectives. Instead, a generalization strategy is used to educate students problemsolving skills with the aim of applying these skills to a range of contexts. While the majority of the studied curriculum models were developed using empirical research on normal development, ASD development, and behavioral concepts for teaching children with ASD, the majority of these curricula have not been experimentally tested. The Early Start Denver Model, help, and skills are a few examples of exceptions to this rule. The effectiveness of these approaches has been examined in contrast to other curricula for young children with ASD. The validity and dependability of these models have been supported by a number of empirical investigations, most notably one that employed the ESDM in a randomized controlled experiment. In peerreviewed research examining the models as applied to kids with ASD, these and other curricula have also been used [6].

Some of the curricula described here transcend developmental levels for therapists or researchers dealing with kids from a larger age range. These CBAs may be useful for use with a broader age range of kids or for usage over time as a kid becomes older. However, since these criterionbased evaluations are developmental in nature, they could still be useful for people with skill deficits who are chronologically older than the curriculum's recommended age range. For intervention activities, nevertheless, ageappropriate adaptations can be required for those who are chronologically older. Third, the degree to which caregivers are included in the diagnostic and treatment planning varies across the CBAs offered for children diagnosed with ASD. The inclusion of caregivers in some of the models is essential because it gives practitioners a more full view of how children are performing. Lack of information may be a problem when depending just on reports from one source or on direct observation. When parents are given a voice in contributing to their child's skill evaluation and development, caregiver involvement also encourages the generalization of abilities across contexts. Particularly the SCERTS and help models are renowned for their significant caregiver component. These models place a strong emphasis on caregiver participation in the assessment process, goal selection, and the identification of any extra supports that may be necessary to help the child acquire and keep abilities.

Recommendations

Several of the CBAs and cor responsive curricula examined in this have not been extensively tested, even though some models do have demonstrated empirical backing. Consequently, additional study is required to determine if the CBAs used inside the models are efficient and successful at defining the objectives of intervention as well as the results for the model as a whole. Data on reliability and validity would also add to the case for using these models. To ensure that chosen areas and objectives are valued by children, families, and professionals, social validation studies are helpful. Also, it will be critical for researchers to compare the outcomes of these curriculum models to other social skills teaching approaches that are now accessible. This would be beneficial for comparing the relative usability, efficacy, and effectiveness of each

model and for figuring out if certain functional domains could be better serviced by particular models. Determining which models could be most appropriate for a certain kid and family would benefit from an analysis of possible moder ating variables.

As was already said, not all CBAs are closely related to certain educational goals and pedagogical techniques. NECCCSA, Eden, and the Carolina Curriculum are those that are most directly related to participation. For center or schoolbased programs that need greater degrees of uniformity, these models may be very helpful. The choice of a CBA should take into account the areas covered in this chapter in order to best fulfill the child's unique requirements. While there is a learning curve or training process associated with most CBAs, the flexibility to customize treatments to address particular child deficiencies is highly desired. One cannot overstate how crucial skill evaluation and goal setting are, particularly for children with ASD in the social arena. For kids who are currently receiving assistance, the integration of CBA and intervention into current educational programs might be taken into consideration. The engagement of a team of professionals and caregivers in various contexts should be emphasized to support the best learning and generalizability of a child's social skills due to the pervasive interspersion of social demands throughout everyday interactions [7].

Admonition

Effective intervention is an idiographic process, even though the adoption of a CBA method may be quite advantageous, especially in terms of facilitating communication between customers and service providers. A codified system like a curriculum that will contain enough depth and supporting evidence to properly match goal sequence and priority with a specific individual's attributes and past learning experience, in the context of current need and priorities, does not now exist and may never do so. There will always be a need for a thorough and exact assessment of the person, the establishment of a continuous, iterative evaluation of goal setting, student achievement, and instructional strategies, as well as sensitivity to potential sideissues. For instance, more social engagement may result in both good and bad interactions, such as animosity or bullying. In order to prepare for both intended and unforeseen effects of the ongoing evolution of basic to complicated social interaction repertoires, doctors must continually plan a few steps ahead.

Interventions for Social Skills

There are several instances of the usage of fad therapies and fast solutions in daily life that are not supported by objective research. Athletes who practice cupping, a cheap procedure that increases blood flow by pushing the skin away from the body using suction cups, were recently on display during the 2016 summer Olympics. Circular bruising was seen on the bodies of gymnasts, swimmers, and other athletes, which attracted extensive media attention and online articles endorsing this healing technique. These kinds of questionable techniques affect people other than only athletes. It's possible that this book's readers were duped by deft marketing tactics and tales that promoted a specific intervention. We anticipate that many readers have tried a new weightloss method or wellness craze that promised better health and wellbeing without carefully reviewing the data supposedly backing such claims. For instance, the cotton ball diet drew the interest of teenage and teen females in 2013 as it became more and more popular online.

The purpose of the diet is to limit food intake by taking a number of cotton balls soaked in juice before to meals in order to alleviate hunger. Sadly, eating this way is linked to a number of potentially fatal health concerns, including choking, starvation, intestinal obstructions and obstruction, and toxicity from processing chemicals like bleach. Females all throughout the nation embraced this weightloss method despite the little proof of its efficacy and the potential for severe injury [8], [9]. There are several instances of unproven weightloss products, fitness plans, medical procedures, and other interventions. It may be difficult to distinguish between genuine treatment choices and suggestions made by snake oil salespeople due to the abundance of anecdotal reports of success and other deceptive claims on the Internet. None of their effects are impervious to humans. Resources for treating autism often mention this phenomenon as well. In actuality, 414 interventions were discovered by Romanczyk, Gillis, White, and DiGennaro to be posted on 16 popular websites that provide information on autism. Biological, pedagogical, psychological, experiential, and combinational techniques were among the many therapies used. Despite this variation, only a tiny percentage passed the requirements to be classified as having strong or moderate support, and many common therapies still lack proof of their efficacy or show proof of injuring those who get them.

CONCLUSION

The capacity of a person to properly control and deal with an emotional experience is referred to as emotion regulation.

Unconsciously, people use coping mechanisms for challenging circumstances several times during the day. Emotional perception is personal. It is socially acceptable to express our emotions to others in order to have an impact on their actions. We have learnt to fabricate emotions in order to persuade others to act in our favor since emotions have the power to change how they behave. As it impacts how children interpret circumstances, react to them, behave, and enjoy life, emotional regulation is crucial to children's daytoday functioning. Helping kids understand and control their emotions equips them with abilities they'll need as adults.

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CHAPTER 12

DIFFERENT APPROACHES TO UNDERSTANDING PHENOMENA

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ABSTRACT:

When making decisions about patients and clients, practices, and health policies, evidencebased practice incorporates the best available data, clinical knowledge, patient values, and environmental factors. Equal importance is given to all three components. decisionmaking for patient care that incorporates clinical knowledge, patient values, and the best available research evidence. In this chapter author is discusses the clinical expertise.

KEYWORDS:

Children, Clinical, Decision Making, Evidence, Practice, Patient.

INTRODUCTION

Science, pseudoscience, and antiscience are three major categories that may be used to categorize methods for comprehending events. Science is a methodical technique that helps us understand the origins of different events and is based on the idea of determinism. Determinism is a philosophical theory that contends that there is order in the universe and that occurrences are not random but rather are connected to one another in a righteous and ordered manner. By observation and experimentation, science helps us discover and comprehend the legal and ordered relationships between occurrences. According to science, the scientific method is used to gather information about how the natural world functions. The scientific approach often starts by putting out a hypothesis on the connection between two or more occurrences. One or more experiments are carried out to gather data that either confirms or disproves the hypothesis in order to test it. Experiments must include well specified dependent and independent variables that are assessed scientifically, correctly, and consistently in order to demonstrate a legal relationship between occurrences. Strong research designs that guarantee study methods rule out the impacts of unrelated variables, demonstrating a functional link, are necessary to perform experiments with a high degree of control.

A key component of the scientific process is the independent replication of findings. Thus, a growing amount of data generated by the scientific method serves as the foundation for scientific knowledge of phenomena. We contend that the basis for developing therapies for those with autism should be research [1]. Pseudoscience, in contrast to a scientific knowledge of events, makes assertions, theories, and unproven assumptions seem scientific despite the absence of supporting data. Granular claims without empirical support, reliance on anecdotes and testimonials as the primary sources of evidence, avoiding the peerreview process that goes along with publishing in scientific journals, using scientific jargon, and a propensity to promote pertinent materials in newsletters, books, and on the Internet are all common techniques used to promote pseudoscience. Other characteristics of pseudoscience include flawed reasoning and

mistakes in critical thinking. Pseudoscience advocates base their arguments on a number of fallacies in logic and reasoning. The straw man fallacy, for instance, involves making false representations of the arguments made by those who disagree with a pseudoscientific assertion and then utilizing those false representations to demonize opponents. Shifting the burden of proof is another mistake that forces those who disagree with a claim to offer evidence to support their disagreement. Promoters could also practice confirmation bias and the ad hoc fallacy.

Regrettably, there are a lot of therapy options for autism that are essentially pseudoscientific due to a number of factors. Since it takes valuable time and resources away from therapies that have been scientifically established, using pseudoscientific interventions and procedures must be avoided. When used in severe circumstances, therapies and procedures based on pseudoscience have been linked to serious damage, even death. For instance, Baxter and Krenzelok described a case in which a doctor administered the incorrect chelating chemical during chelation treatment, causing a 5 year old autistic kid to have cardiac arrest and ultimately pass away. The open rejection of objective scientific evidence in favor of subjective personal ideology or views is known as antiscience. Similar strategies are used by proponents of pseudoscience and antiscience. Facilitated communication is a classic example of antiscience in the realm of autism. In facilitated communication, a facilitator helps a person write messages on a keyboard. This person often has poor independent communication abilities. In order to help a person physically move their hand toward or away from the computer and type their message, a facilitator may provide handoverhand guidance. Facilitated communication proponents contend that in order to permit authentic selfexpression, it must first uncover a person's hidden and undamaged writing and communication talents.

Yet, a substantial body of impartial, empirically supported scientific study that spans many years has produced indisputable proof that the message is written by the facilitator. The effectiveness of facilitated communication as a treatment for people with autism is still being promoted by facilitated communication proponents despite the overwhelming body of scientific evidence that shows it to be ineffective. Instead, these proponents' arguments are based on anecdotal evidence and data from subpar research designs. Other writers have tried to provide alternative reasons for facilitated communication, including spirituality and challenging what it means to be disabled, given the absence of scientific evidence to support it as a viable therapy. So, continuous use of facilitated communication might be seen as an antiscientific mode of therapy, despite the vast body of scientific data to the opposite. Treatments based on antiscience, like pseudoscience, may cause significant damage to patients and their families or carers and should be avoided at all costs.

Differentiating Between Empirical Data and Evidence Based Practice

The corpus of information obtained via observation and experimentation is referred to as empirical evidence, and it is used to support or refute ideas and hypotheses. The phrase evidencebased practice refers to the process of employing findings from highquality research to guide clinical practice while also taking into account professional experience and knowledge, as well as the unique qualities, culture, and preferences of a client. Practitioners must be familiar with the empirical data pertaining to the efficacy and effectiveness of treatments and procedures in order to recognize EBPs and evaluate if there is sufficient empirical support to categorize them as such. Practitioners may distinguish between therapies that are evidencebased and those that are not by being conversant with the empirical data.

EBP Significant

The phrase evidencebased practice (EBP) has gained popularity recently, maybe as a result of a greater focus among consumers and practitioners to determine what works in the provision of therapeutic services. Moreover, professionals in a variety of fields are often asked to prove the value of their services by describing how, in comparison to other treatment alternatives, they get the desired results and how much it costs. Evidencebased practice guidelines were created to assist professionals and parents in reaching the intended results for the clients they serve. These recommendations might also serve as a basic overview of various therapies and the evidence supporting them. Several professional organizations value EBP and specify its use in their moral and professional rules. According to the Professional and Ethical Compliance Code for Behavior Analysts, behavior analysts have the obligation to offer scientifically supported, mosteffective treatment techniques and rely on professionally generated information based on science and behavior analysis. In a similar vein, school psychologists should provide services that the profession regards to be responsible, researchbased practice, according to the National Association of School Psychologists' Standards for Professional Ethics.

Professional organizations work to guarantee their members provide the best care possible via these regulations, which ultimately results in significant longterm effects for service users. It is crucial to depend on research to guide treatment choices since the federal and state governments utilize information regarding EBP when deciding how to allocate funds. Current government legislation has emphasized the use of EBP in selecting and carrying out educational initiatives. Significantly, the Every Student Succeeds Act of 2015 is one of the first federal education laws to utilize the phrase evidence based practice in that way. The U.S. Office of Management and Budget also published a letter in 2012 asking department heads of federal agencies to take evidence of effectiveness into account when reviewing programs and allocating funding. While no common definition of EBP has been approved, a number of separate organisations and scholars have sought to build one. The majority of these definitions share the same fundamental ideas. Broadly speaking, most definitions suggest that a practice is evidencebased if it makes use of the best research findings currently available, the practitioner's clinical skills, and the client's values and the situational context.

Highest Quality Research Evidence

Similar to how many organizations have sought to define EBP, there has been debate about what precisely makes up an empirically supported treatment. One set of standards put out by Horner et al. described techniques for assessing singlecase study designs. The following requirements must be met: the procedure is operationally defined; the context for use is specifically defined; the procedure is implemented with fidelity; the results must be functionally related to changes in the independent variable; and the results have been replicated by at least five studies carried out by three different research teams across three locations, with a minimum of 20 participants. These criteria provide a way for readers of scientific literature to assess the methods used in a research and if the findings agree or disagree with earlier findings from the same approach [2].

Examining the Literature

Several organizations have examined various techniques and assessed the quality of the evidence they provided using a predetermined criterion. Interventions are often rated according to how wellsupported they are by research or both, and then classified along a continuum from those

practices with strong support to those with weak support. The Task Force on Psychological Interventions of APA Division 12 outlined precise standards for each category in its report. A wellestablished therapy, according to the APA task force, must include treatment manuals, a list of pertinent participant characteristics, be carried out by at least two separate research teams, and either two betweengroup randomized control trials or nine singlecase study designs. If practices mention participant characteristics, are carried out by two distinct research teams, and feature either two randomized control trials or three singlecase study designs, they may still be classified as probably effica cious even if they do not satisfy these criteria. Several organizations have also made a distinction between behaviors with inadequate data to draw a judgment and those that do.

DISCUSSION

Clinical Expertise

To provide services with the maximum chance of success, practitioners must combine scientifically validated therapies with the unique features of their clients. Clinical expertise specifically refers to a practitioner's degree of knowledge and capacity to analyze, implement, and achieve positive client results from the scientific literature. The following are some ways in which this competence can manifest itself: assessment, diagnostic judgment, systematic case formulation, and treatment planning; clinical decisionmaking, treatment implementation, and patient progress monitoring; interpersonal expertise; ongoing selfreflection and skill acquisition; appropriate evaluation and use of research evidence in both basic and applied science; and comprehension of the impact of individual and cultural differences. Practitioners must consider contextual information when making judgments about anything from the therapy to utilize to whether they are competent to keep working with a client. Hence, a crucial element of EBP is the use of clinical experience since it calls for clinicians to assess and comprehend elements of therapy delivery that go beyond only scientific results [3].

Context And Client Values

The addition of any clientspecific information that could affect the universality or maintenance of a therapy is the third and last element of EBP. Clinical therapies that are put into practice without taking clientspecific factors into account can be less likely to result in meaningful longterm results. Practitioners should take the client's preferences aspirations, beliefs, and religious or cultural customs into account when creating a treatment plan, as well as contextual data such age, developmental stage, academic proficiency level, and socioeconomic situation. For instance, while teaching a new skill, a practitioner may be given the option of choosing between two equally effective therapies. The practitioner should talk to clients and caregivers about their preferences as well as the client's current skill level before determining which therapy to use. Also, the practitioner should carry out a stimulus preference and reinforcer evaluation if the therapy depends on the use of positive reinforcers to make sure that functional reinforcers are being used.

Staying Current with Scientific Literature

There are a few more viable avenues for contacting the literature, in addition to the reviews already mentioned. Nonetheless, it is crucial to acknowledge that there are a variety of obstacles that practitioners must overcome in order to stay current with academic material. An great assessment of a number of obstacles to sustaining competency via regular interaction with the

literature is provided by Carr and Briggs. Most significantly, they provide recommendations for easing these difficulties so that practitioners may handle this significant role more easily. One significant obstacle is searching the literature. Instead of relying on databases that publishers typically make accessible for searching inside a given journal, Carr and Briggs advise utilizing a somewhat more thorough search engine, such as the ERIC database, for which the BACB offers free access to accredited persons. Nevertheless, we encourage practitioners to take into account a number of other crucial activities and resources, which we explain next, in this constantly evolving technological and Internet environment.

Doing the search is an often difficult activity but a necessary step before contacting the literature. Searches of the literature can produce hundreds or even thousands of results, many of which are unrelated to the issue or query at hand. Google Scholar is a potent search engine for locating relevant material, as mentioned by Carr and Briggs. Google Scholar offers two tools that are quite useful. A list of all articles that have mentioned a certain publication is the first thing the cited by function returns. For professionals who are acquainted with a foundational paper on an interest issue, the referenced by function may be extremely useful. Consider Brian as a practitioner who is passionate about functional analysis. Iwata, Dorsey, Slifer, Bauman, and Richman's pioneering paper on functional analysis is mentioned by Brian. His search yields 1084 functional analysisrelated publications, from which he may choose to narrow it down by specifying a certain publication era and/or key words within the results, producing a manageable 36 results.

The referenced by feature may assist in lowering the amount of search effort necessary, making it easier to find relevant literature, and decreasing the total number of articlesincluding the number of unreviewed and irrelevant papers found in search results. The second feature of Google Scholar, which is covered in greater depth in the next section, is a link to the sources from which an article may be obtained [4]. Another resource available to practitioners is current therapy summaries based on current empirical research, which are made available by several organizations. For instance, the Society for Science in Autism Therapy offers succinct summaries of recent studies in autism treatment. Therapy summaries may save the time and effort needed to find articles in the literature, increasing the effectiveness with which practitioners find them. But, it's crucial to keep in mind that treatment summaries are meant to provide a concise summary in a style that's easy to read. As a result, readers will probably need to review the original article for usage with a client since treatment summaries probably do not offer enough methodological information to support correct execution of a therapy with a service receiver.

We strongly advise readers to exercise care when relying on material gained from internet forums despite the fact that contributing to them might provide helpful information quickly for a number of reasons. First, it may be challenging to find the correct balance between the kind and amount of client information to give while looking into a client's treatment alternatives. Responders may make unsuitable or even damaging advice if they lack adequate knowledge of a client's background, environment, and goal behavior. On the other hand, divulging excessive information may go against moral principles and a person's right to privacy or secrecy. It may be difficult to assess the credentials of those who answer to enquiries in online forums. Yet, we acknowledge that it could sometimes be essential to check online forums if all other options have been explored. We thus advise asking individuals for useful sources that you may consult rather than asking for particular treatment recommendations while visiting internet forums.

Getting to the Article Content

The difficulty in obtaining material found via a search is another significant obstacle mentioned by Carr and Briggs. Several databases just let users read paper abstracts and titles, which don't provide enough information for a practitioner to use such processes with a service receiver. Also, the price of buying a single article or subscribing to a magazine may make it impossible for practitioners to keep up with scientific literature. The rise in popularity of ResearchGate, a free social networking site where anyone may discuss their past and present research, is an important development since Carr and Briggs. Researchers may submit articles, books, conference presentations, data sets, and more on ResearchGate's platform for members to view for free. An integrated technique for obtaining articles found via a literature search reduces the work required to contact the literature. Google Scholar search results include links to papers that are accessible on ResearchGate. However not all the research published on ResearchGate has gone through peer review, thus it should be treated with greater suspicion than previously published work. Publishers may also set posting deadlines, which would limit the accessibility of recent research.

Yet, for those who lack access to premium journal subscriptions, open access publications are still a feasible choice. Subscribers and the general public may read and reuse articles published in fully open access journals and publications that enable open access for free. Open access removes the financial barriers to accessing the literature, but because there are so few behavior analytic journals that support open access or allow the publication of behavior analytic work in open access journals, it may be difficult to find relevant and sufficient behavior analytic research to stay current with the literature and inform practice. As an alternative, the BACB announced in November 2016 that it would be adding free subscriptions to a number of the top behavior analytic journals, including Journal of Applied Behavior Analysis, Journal of the Experimental Analysis of Behavior, and Behavioral Interventions, with more to come in coming years. Last but not least, if a reader is interested in their work, writers are often willing to share it by email [5].

Skepticism Toward Science

After contacting the literature using one or a combination of the approaches previously discussed, it is crucial to assess the value of an experiment and the applicability of the studies that were found for a particular circumstance or goal. Despite researchers' best efforts, research is a dynamic process, and there is no such thing as a perfect experiment. Instead, scientists must continuously strike a compromise between practical and logistical constraints and experimental control. As a consequence, the methodological rigor of study varies greatly. The tradeoffs that scientists must make when creating an experiment may run the gamut, with certain experimental components being more essential to the validity of a study than others. In certain cases, a study's findings may be questioned just as much by a number of relatively small methodological flaws as by one significant one. The fact that experimental designs are supposed to be flexible and adaptable to match the demands of a specific research question rather than having a set of clear guidelines for how to construct an experiment further complicates study assessment. Hence, while evaluating the value of a research and seeking to distinguish between those with more compelling evidence and those with less compelling evidence, one must exhibit scientific skepticism and critical analysis. Although there are no hardandfast guidelines, we provide the readers certain factors to take into account while assessing a study's validity. To guarantee that practitioners choose the most effective and suitable treatment or instruction procedure for a

client, scientific skepticism is also essential. For instance, practitioners should consider if it is appropriate to apply the results of a research to their particular circumstance. Practitioners should assess if a study is pertinent to the location, the purpose of the presenting issue, and whether the therapy or procedure is within the scope of the interventionist's expertise, among other things.

A Framework for Tackling the Use of Unsupported Interventions

Even after giving it careful thought, parents or other service providers could opt to use an unproven therapy. In these situations, it's critical to uphold ethical standards while advocating for the client, helping the client's family, and helping your coworkers. It should be noted that federal law mandates that students with disabilities get the support assistance required for them to profit from their education. Yet, the treatments or practices that make up support services have significantly increased over time and may now even include anti or pseudoscientific techniques like facilitated communication. Even though there may be no evidence to support the intervention or, in the instance of facilitated communication, evidence documenting the intervention's ineffectiveness, these interventions are sustained poor court [6]. An initial response may be to address decision makers by informing them that there is no evidence to support the intervention and that it should not be utilized if a parent or colleague plans to employ an unsupported treatment. To ensure that the client gets the right care, it may not be best to respond in a quick or aggressive manner that ignores their viewpoint or interests.

We conclude the article by proposing a databased decisionmaking model that can be used by professionals in collaboration with parents and other professionals in the event that an unsupported intervention will be implemented. This is because it is advised that professionals develop a set of guidelines to facilitate a decisionmaking process. The model's goal is to provide guidelines for reasonable and informed decisions to be made by parents and professionals, and it should not be construed to imply that collaboration entails agreement with the execution of interventions. This paradigm enables the client to use databased decision making if the intervention is going to be implemented despite one's best efforts. The following elements of the model are included on the assumption that parents, potential customers, and other service providers have been consulted:

1. **Informational Meeting:** Have a discussion with the parents regarding the intervention and anticipated results. Parents may not always be aware of the anticipated results, so this is a chance to confirm that there are expected results and to explain them. When service providers don't know what to measure, they can't gauge the impact of an intervention. Do your own study on the intervention and its effectiveness in the literature before and after the meeting. gives a thorough considerations list for choosing and using an intervention. Be specific about the behavior that parents want to change with the intervention at this point. With the aid of this knowledge, you can decide which behaviors should be addressed first and which may wait until you have developed an intervention that is supported by research [7].
2. **Do no Harm:** If the intervention has shown to be detrimental, start a conversation regarding the prior results, communicate that the current decisionmaking model will not be appropriate, and end involvement in accordance with ethical standards. This suggested decisionmaking paradigm should not be used, for instance, by practitioners meeting with parents who plan to administer the dangerous Miracle Mineral Solution to their children.

3. **Making a Decision:** Have another meeting with the parents to go through your results and their plans for the intervention. The decision to proceed with the intervention will be made by the parents. Set up your data collecting methods and create baseline data as necessary for every new activity that you may start documenting. Create phase change lines for activity that has previously been captured on graphs. Setting criteria for behavior modification based on anticipated results and timelines will enable future decisionmaking that is clearly supported by facts. Prepare for any side effects or immediate consequences of the intervention, such as a temporary escalation in a certain behavior. Be prepared for brief behavioral changes or, maybe, longterm intervention impacts.
4. **Continuous Evaluation:** Analyze data every day, and meet with parents every week to discuss the results and targets. Keep track of any modifications to the target behavior and other behavior as well as any expected or unexpected side effects [8].
5. **Modification or Termination:** After reviewing and analyzing the facts on the anticipated outcomes, a choice regarding whether to continue, stop, or alter the intervention will be taken. The objective of the databased decisionmaking model is that the parents will agree to cease the intervention based on preestablished criteria and a review of the data if an intervention is not producing the desired results, or maybe even producing negative results.

CONCLUSION

This article's goal is to enlighten readers on the dangers of anti science and pseudoscience, as well as why and how to embrace evidencebased remedies. We combined materials into simple checklists and models that may be rapidly used when necessary in order to complete this work. gives a checklist to aid in spotting warning signs related to therapies that are deemed to be pseudoscientific. Moreover, this provides ideas on how to keep up with academic literature in a cheap and resourceconscious manner. Provides a long list of questions to guide readers as they assess published studies' scientific validity, recognizing that readers will eventually be obligated to do so. offers a thorough checklist of factors to take into account while choosing and using an intervention, too. In the event that readers are a member of a team that chooses to pursue an unproven therapy despite the absence of empirical evidence, the also provides a decisionmaking model to assist a collaborative, databased review of the treatment. Professionals often have the issue of preventing themselves from falling victim to deceptive marketing tactics in a world of fast cures and fad autism treatments. We advise readers to keep uptodate on sciencebased therapies and EBP and to use them wherever possible, but we also advise them to consult their ethical principles in cases that resemble those in this article. We also urge readers to choose a trusted colleague who can provide guidance and assistance when faced with moral conundrums or difficult circumstances. The Association for Behavior Analysis International's helpline is another resource that behavior analyzers may use to get advice.

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CHAPTER 13

IMPORTANCE OF DISCRETE TRIAL TEACHING

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ABSTRACT:

A person may learn social skills and comprehend social conduct via interventions and instructional techniques. Learning about the verbal and nonverbal cues used in common social interactions is the aim of social skills training. In this chapter author is discusses the using prompting and modeling within Discrete trial teaching (DTT).

KEYWORDS:

Autism, Children, Discrete, Social, Trial, Teaching, Therapy.

INTRODUCTION

A teaching strategy known as discrete trial teaching allows for highly customized education and the quick presentation of goals in discrete parts. Discrete trial teaching (DTT) has a strong emphasis on repetition, and the way it is structured makes it possible to give a lot of learning opportunities quickly. Many autistic spectrum disorder sufferers who learn often may need repetition in order to retain information. Although learner motivation is often poor, DTT has been praised as an effective method of transferring information and has been a cornerstone instructional technique for educating individuals with autism. However, many people consider using techniques such as cognitivebehavioral therapy, Social StoriesTM, Relationship Development Intervention®, Social Thinking®, and other types of interventions in addition to applied behavior analysis to address social skill deficits because they believe that DTT is most relevant to instruction in teaching compliance, imitation, and appropriate toy play.

It is reasonable that some individuals may not comprehend how DTT applies to teaching social skills. For all, the final results of social skills teaching differ greatly from the context of learning. Objectives often call for the spontaneous application of abilities in unfamiliar, untrained circumstances with the expectation that the learner would adapt to each situation and modify his or her answer. These are high expectations for teachers, who could be drawn to solutions that seem to be more in line with these ideals. The public's impression of the impact potential of ABA may be damaged if behavior analyzers are persuaded to pursue interventions that are not scientifically supported as being successful [1]. A variety of instructional techniques are used in the literature to teach discrete trial methodology, including modeling, prompting, error correction, multiple exemplar training, accelerated intertrial intervals, priming sessions, video modeling, observational learning, behavioral skills training, script fading, and computerbased instruction. These teaching methods are regarded DTT components because they are each separately supported by behavior analytic research that demonstrates successful outcomes in the education of a variety of target skills. The use of DTT should be taken into consideration when

trying to teach various social objectives since the research supports the effectiveness of these strategies to teach differing social skills.

DTT has been used to treat social skill deficiencies for many years, with consistently impressive results. There may not be enough chances for practice to reach mastery when social skills are only taught in the natural environment. On the other hand, DTT for social skills enables more practice of the abilities, which may then be taught to generalize into the right circumstances. DTT was thus used to achieve these goals, just as it used to achieve many other learning, academic, and other abilities. The first goals of social skills treatments were social responses and social initiations. There are several alternative prompting hierarchies available in DTT that may be utilized to encourage appropriate response. This opportunity for accurate response, together with the many possibilities for response offered by DTT, may be helpful for the acquisition of social skills. The use of various cues to teach social skills is a major focus of social skills research. These prompting techniques, nevertheless, are often used in a DTT format. These studies are thus examined since they actually demonstrate the use of DTT, even if the focus may be on the tactical use of prompts.

DISCUSSION

Using Prompting and Modeling Within DTT

Since they allow for errorless learning, which is thought to be vital for students on the autistic spectrum, prompting and modeling are crucial components of DTT. Prompt hierarchies and other prompt kinds may be effective in the social skill education process. Progressive prompt delays may be particularly useful for teaching abilities that need for verbal modeling. Delaying the prompt's delivery may lessen the need for prompting and promote autonomous response. Nientimp and Cole employed a continuous time delay inside DTT to train three participants to audibly answer to social greetings in an early example of the use of DTT to address social responding. To teach empathy responses, Schrandt et al. used prompt delays, modeling, manual prompts, behavioral rehearsals, and reinforcement in a discrete trial framework. Prompts with a time delay have been proven useful for training intraverbal replies. For instance, Ingvarsson and Hollobaugh used a discrete trial format with a progressive prompt delay to illustrate the acquisition of intraverbal answers. Jones et al. used a different method of prompting. During joint attention training, alternated gazing or following a visual route to the toy with an appetizing reinforcer were used if reacting to the discrimi native stimulus did not occur. Afterwards, both prompting methods were dimmed using a time delay and a mosttoleast prompting method [2].

By utilizing the discrete trial format to teach social skills, experimenters find success with various sized blocks of trials in addition to the progres sive prompt delay. Nientimp and Cole gave their students training in five distinct targeted greetings in blocks of 10 trials, with generalization tests administered by classmates who were generally developing after the baseline circumstances. Jones et al. also taught joint attention techniques using 10 trials each session. Schrandt et al., in contrast, presented training sessions in significantly larger blocks of 30 trials, with seven of those trials serving as training trials and three of them serving as nontraining probe trials for each answer category. A discriminative stimulus, the participant's reaction, and an errorprevention prompt delay sequence made up each trial. The prompts declined from a 0s delay to a 1s delay and then to a 3s delay. Throughout these training sessions, correct unprompted replies were rewarded with tokens and praise that was particular to the behavior.

Some researchers have subjected individuals to several smaller blocks of trials within a single day. In one research, Jones, Feeley, and Takacs provided opportunity for participants to use spon ta neous language up to six times during 10trial sessions each day. After mastering, opportunities for each target response were then alternated with previously mastered targets. Opportunities for each target response were originally offered in isolation. Similar to Gena et al., who ran a sequence of 14 trials, four of which were probe trials and ten of which were training trials, other researchers have alternated training sessions with probe trials. The teacher must find a balance between offering sufficient chances for practicing the skill and the learner's tolerance level when choosing the number of trials to be employed in DTT. The behavior analyst must make sure that generalization is shown and that abilities translate to realworld settings and circumstances, which is maybe even more crucial.

Behavior analysts must take into account not just the number of training trials utilized, but also the kind of prompting hierarchy that should be used. Nientimp and Cole discovered that all participants improved their ability to accurately reply to social greetings when they used a continuous time delay prompting approach, with two of them attaining 100% accuracy across trials and the third improving to 50% accuracy across trials. DTT and prompt delay techniques have both been used to illustrate the acquisition of manding for information. Participants were instructed by Ingvarsson and Hollobaugh to say, I don't know, please tell me, in response to questions for which they lacked the answer. The authors came to the conclusion that the rapidpaced DTT format may have contributed to the participants' speedy acquisition of the anticipated response. Some researchers have focused on empathic reactions like joy or pleasure, sorrow or suffering, and irritation. While employing dolls and puppets to illustrate various situations, Schrandt et al. found gains in empathic responding when therapy was added across response categories.

Most importantly, generalization from training to nontraining probes and from dolls to real individuals was established. Depending on the circumstances, people may be obliged to participate in a variety of empathic or sympathetic social behaviors. The participants showed generalized response in a fresh situation by reacting to staff members who were not involved in the first research [3]. Despite the fact that DTT has been successful in teaching generic responding in certain research, others have discovered that all participants learned the desired response in the experimental context, but have found inconsistent outcomes when generalization probes are used. It is crucial for the instructional approaches used to teach social skills to promote and accomplish rapid learning of the target abilities as well as the generalization of those skills across situations, people, and time. The talent is unlikely to be proved in the natural environment in the absence of these results.

DTT may be used to teach people with autism the spontaneous reactions that are a necessary part of reciprocal responding in social contexts, in addition to the social skills already discussed. In particular, the response class of social initia tions, tactile prompts have been studied for their potential to aid in the formation of social responses. Three phrasesLook at this, I have, and Do you like to play? were taught by Shabani et al. During training, the adult would activate the tactile prompt and instantly provide a vocal prompt of the initiation phrase. The tactile prompt was put in the participant's pocket. An appetizing was offered if the participant was successful in mimicking the verbal model. The verbal model was progressively diminished over the course of the sessions utilizing a progressive mosttoleast prompting hierarchy until the participant on their own initiative started a social interaction in response to the tactile suggestion. All three subjects

increased their ver bal initiations in response to the tactile signal, but the experimenters were unable to properly fade the prompt [4].

Krstovska Guerrero and Jones administered intervention sessions in a discrete trial style with 10 chances to react each session and 13 sessions per day using a multiple probe design across behaviors. Throughout trials, a prompting method with a mosttoleast hierarchy combined with a time delay was applied. The prior grin, glance and smile, and gaze shift and smile were the three talents that were sought. A new interventionist, novel materials, and each participant's mother were used to evaluate generalization. For all individuals, all intended responses grew, and generalization and maintenance were successfully shown. Whalen and Schreibman targeted joint attention responses and joint attention initiations using a behavior modification strategy that included elements of DTT and crucial response training. This hybrid intervention included giving explicit cues, mixing learnt and unlearned activities, letting the kid pick the activity, taking turns with the child, reinforcing right replies contingently, and developing direct responsereinforcer relationships. All five individuals in this intervention showed increased joint attention as a result of this intervention. Also, each participant's improvements were validated by social validation tests that were performed by naive observers.

DTT and Error Correction

The many chances for practice and reinforcement are one of the factors contributing to DTT's effectiveness. In DTT, people will do a skill several times, therefore it is crucial that they perform it properly rather than getting numerous chances to practice it wrong. Often, errorless learning is used to tackle this. It is crucial to set up an error correction mechanism in other cases when errorless learning is not employed or is only used initially. While DTT employs a wide variety of error correction techniques, almost all DTT related prototypes include some kind of error correction. Some mistakecorrection strategies just include giving the target skill another try to offer the chance for more practice after an error. The employment of a model prompt for the desired answer is a component of other mistake correcting procedures. For instance, Gena et al. taught youngsters to imitate other people's facial expressions by using a model cue.

The therapist would say, Look like me, and provide a sample cue of the desired answer when a youngster gave an incorrect response. In a different research, participants were given the verbal instruction Do this and a model cue while they learned different facial expressions from learners with ASD. In the event of a mistake, reinforcement was withheld. The verbal command Do this, the model prompt, and two facial motor motions were repeatedly given if the attempt was failed. Ultimately, a manual prompt was used, in which the model actually performed the prompt. If the motor imitation sequence failed during mistake correction operations, a manual prompt was utilized to assure a successful response. In certain instances, an error correction method consisting of No, you should say has been put into place whenever an error or echolalic answer occurs. Several research in the field of social skills have employed video modeling as an error correction method in addition to more conventional methods.

Le Blanc et al., for instance, used an exercise to teach perspectivetaking. They encouraged right replies while penalizing bad ones with the playback of a video model and more urging. The participants watched a video while it was halted and questions on perspectivetaking were posed. Although erroneous replies resulted in restarting the movie and a reminder to pay attention until the proper answer was obtained, correct answers were rewarded [5]. Error correction, as previously established, is crucial to DTT. Several different mistake correction techniques may be

used and are effective, but it is crucial for behavior analyzers to understand the advantages of errorless learning for students on the autistic spectrum. This may be especially important in the social realm, as autistic children may face stigma for engaging in social relationships that don't follow societal standards.

DTT and Examples of Training

One worry with DTT is that it may encourage rote response, which only happens in the unique educational environment associated with DTT and might be exacerbated by teaching with limited resources or in constrained circumstances. It is crucial when teaching social skills that the student learns to use them in a natural setting so that s/he can interact socially with others. Using numerous example training is one technique to encourage generalized responding. Individuals will react to a class of stimuli meant to occasion a certain response rather than the single stimulus delivered in DTT when many exemplars are employed to teach social skills. Thus, it is crucial to make sure that many exemplars are employed when instructing social skills to people with ASD. Multiple example training was utilized by MarzulloKerth et al. to teach sharing to autistic kids. Participants in this research were taught to share across a variety of subject courses, and skill generalization was evaluated. The study's technique used a cue, prompting, response, penalty, and intertrial interval in a DTT fashion. The materials were taken away, a video model was shown, and if the proper answer was still not given, a physical cue was utilized to finish the response as part of an errorcorrection method.

After the intervention, all four individuals mastered sharing and applied it to unfamiliar peers, adults, environments, and stimuli. CharlopChristy and Daneshvar also utilized a variety of exemplars to demonstrate how to teach a perspectivetaking task through video modeling. In this process, numerous iterations of the Sally Ann Task were used, in which participants watched a scenario and answered questions about the viewpoints of the various characters. The many examples utilized in this research featured various characters participating in various settings and having participants answer similar questions about their points of view. Lastly, when teaching social skills to students with autism, many peers have been used within multiple exemplar training to improve stimulus generalization. To prevent rote responses while employing DTT, it's crucial to design for generalization. This may be accomplished, for example, by multipleexemplar training. Behavior analysts who are trying to teach social skills that are readily transferable to the real world should take this into serious account. The use of various exemplars makes it easier to get students ready for the wide range of replies they will probably see in the real world [6].

In DTT, Progressive Intertrial Intervals

The intertrial interval is a crucial element of DTT. According to research, brief ITIs promote the learning of the desired abilities. Francisco and Hanley examined the impact of various ITIs' durations on the development of social skills in two preschoolers. A concurrent multiple baseline architecture was used to evaluate the deployment of distributed and progressive ITIs. In the dispersed ITI condition, participants received five trials for each targeted social skill during the preschool morning session and five trials during the preschool afternoon session. Throughout each session, these trials took place around every 30 minutes. With the exception of increasingly increasing ITIs after the first response opportunity, the criteria for the progressive ITIs were the same. Opportunities were therefore offered 3 seconds, 10 seconds, 30 seconds, 2 minutes, 4 minutes, and 16 minutes after the initial attempt. The study's findings showed no improvement

after the distributed ITI condition but an instant improvement when the progressive ITI condition was put into place. These findings suggest that brief initial ITIs might be helpful for trialbased social skill instruction.

Using DTT Priming Sessions

A common practice called priming involves presenting a stimulus before sessions begin in order to strengthen the stimulus's establishing and/or reinforcing effects. In priming sessions, Zanolli et al. employed DTT to compare the rates of spontaneous initiations in autistic children to those in peers who were normally developing. Prior to the activity, priming sessions were held using the same materials, in a lowdemand setting, with simple tasks and reinforcement provided on a full schedule. The targeted reactions were, in descending order, Give me that, Look at me, Show me yours, Smile, Touch, and Look. Although the third individual only saw 10 trials each session, the other two participants saw 14 trials each. The results of the priming sessions were effective in the future therapy sessions. In addition, the priming sessions created salient initiations, enhanced effective response to initiations, and successfully boosted the rate of initiation above average rates of usually developing peer's initiations. As was previously mentioned, Nientimp and Cole taught three participants how to reply vocally to social greetings by using a continuous time delay inside DTT. Participants received two warmup exercises for each of the five target greetings before each training session.

The instructor gave the greetings during this priming process and then promptly asked for the right answer. The findings demonstrated that independent correct social interactions grew while echolalic responses decreased. This study supports the use of priming as a strategy to help DTT for social skills objectives achieve its goals [7]. Kasari et al. used a somewhat different method of priming. 5 to 8 minutes of DTT were added in the teaching procedure to prime the treatment objective. A verbal cue came first, followed by a model, and finally a physical prompt in the hierarchy of prompting. This prompting hierarchy was utilized to facilitate an effort at communication or social contact, which was then sustained via reinforcement. The same ability was then taught in a more informal, semistructured environment away from the table. Instead of a teacherdirected method, this was carried out on the floor with the help of the students. Two other tactics that are often utilized on the floor include imitating the child's behavior with toys and integrating the child's activity interests into play routines. In order to teach the objective skill, systematic prompting and reinforcement were used. Findings showed that improving participants' joint attention required both formal and less formal interventions.

Using Video Modeling Within DTT

Using appropriate emotion, sharing, assisting, and perspectivetaking are just a few of the social skills that may be taught to people with ASD using the effective teaching approach known as video modeling. The use of video modeling to teach social skills has a number of potential advantages, including the possibility of a learner's interest in technology increasing. Moreover, behavior analysts may specifically concentrate on the instructional aim while creating video models, which makes it more prominent for the learner. In video modeling, a variety of presentations are employed, including those that show peers, adults, or even the participant doing the target skill. In most cases, this is referred to as first person or third person point of view. Also, whereas some video models just feature the speech pertinent to the social skill being taught, other video models incorporate voice overs that explain the event. Overall, video modeling is a useful method for teaching social skills to those with autism spectrum disorders.

The use of a trialbased approach, which as was already indicated allows for quick training and many possibilities for responding and reinforcement, is one efficient method for using video modeling. Gena et al. increased the emotive behaviors of compassion, admiration, and disapproval using video modeling, in vivo modeling, reinforcement, and error correction techniques. After the in vivo and video modeling treatments, each participant displayed contextually appropriate emotional response. This expertise was also generalized to fresh situations and therapists. During followup appointments held a month and three months after the end of the course of therapy, these effects persisted. To teach a generalized aiding repertoire across activities, Reeve et al. employed a multiple baseline approach among participants. Also, participants underwent a multicomponent treatment program that included a discriminative stimulus, training, consequences, and generalization.

Cleaning, replacing broken goods, picking up objects, sorting materials, finding stuff, transporting objects, putting items away, and setting up an activity were all considered forms of helping behavior in this research. All four individuals made the proper assisting reactions when the discriminative training cues were present. To evaluate the generalization of aiding reactions under probing settings, novel stimuli were applied. The goal helpful response increased across new stimuli, novel locations, and novel therapists, according to generalization experiments. Children with autism often show a lack of empathy, in addition to lacking the social awareness necessary to assist others when they are in need, as has been welldocumented in the literature. The ability of perspective taking, which is a component of empathy, has also been taught to children with autism via video modeling in conjunction with reward. Le Blanc et al. used video modeling and reinforcement to teach perspective taking to three autistic youngsters. The authors used a multiple baseline methodology to assess these methods.

A film with participants was halted while questions on the participants' perspectives were posed. After three straight accurate trials, the training sessions were over. The subjects all performed poorly on the main tasks at baseline but improved after the intervention. Moreover, generalization was shown to be true across all participants' innovative verbal or physical replies. Sharing is a crucial social skill that may sometimes need to be taught explicitly to autistic individuals. Multiple example training was utilized by Marzullo Kerth et al. to teach sharing to autistic kids. Participants in this research were taught to share across a variety of subject courses, and skill generalization was evaluated [8]. For a number of talents, it has been discovered that the effects of video modeling transfer from the training environment to the real world. According to LeBlanc et al., video modeling is a useful technique for enhancing perspectivetaking abilities. Two out of the three individuals effectively generalized by responding to inquiries about an untrained example. By doing probes for sharing in unfamiliar environments, with novel persons, and with unique stimuli, MarzulloKerth et al. were also able to show generalization with sharing.

A repeated baseline evaluation of the treatment package's effects revealed that it was successful in improving sharing behavior among all three individuals, with indications of skill maintenance and generalization. Using video modeling and in vivo modeling, Gena et al. were able to show comparable effects in raising the emotional behavior of three individuals. The proper reaction was modeled during the inperson modeling condition, and verbal and nonverbal cues were employed to direct the participant to emulate the model. After an adequate display of emotional reactions, reinforcement was given. If a mistake was made during the invivo modeling condition, the therapist offered a complete verbal model as well as the proper facial expression, instructing the patient to say, I'm really sorry for you. The same processes were used during the video

modeling condition, however the error correcting process was different. In this case, the mistake correction method was showing a video of a peer modeling the activity and vocal prompting from the therapist, You do it too. After the in vivo and video modeling treatments, each participant displayed contextually appropriate emotional response. This ability generalized to unfamiliar settings and novel therapists as well. During followup appointments held a month and three months after the end of the course of therapy, these effects persisted. In order to successfully teach social skills to people with autism, it is crucial that the techniques used, such as video modeling, can generalize to a range of situations and people.

When used in conjunction with the DTT format, video modeling may be an effective method for teaching social skills. By employing video modeling in this manner, the learner has several chances to practice the desired social skill as well as numerous opportunities to see it used well. The conventional elements of discrete trial teaching were connected together with these elements. DTT requires the use of signals and reminders, whether they are given by a person or a video. These many chances for practice and observation may aid in the acquisition of new abilities. Moreover, if a student is engaged in technology, the method in which the education is provided may inspire them to pay more attention to it. In order to educate certain students with ASD social skills, video modeling should be taken into account.

CONCLUSION

In addition to other therapy modalities, social skills education is a powerful tool for managing behavioral issues. If created to meet the requirements of young people, it encourages healthy psychological development. In order to educate preschool children ageappropriate social skills and competences, such as communication, problemsolving, decisionmaking, selfmanagement, and peer connections, social skills training is not a single curriculum but rather a set of behaviors.

It teaches individuals how to better express their needs, feelings, and opinions to others. Programs that teach social skills promote connection with others and are intended to help participants become more assertive and communicate more effectively.

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CHAPTER 14

OBSERVATIONAL LEARNING WITH IN DISCRETE TRIAL TEACHING

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ABSTRACT:

The process of learning via seeing other people's activities is known as observational learning. The desired behavior is seen, remembered, and imitated. Children are more likely to engage in observational learning, often referred to as shaping and modeling, since they mimic the actions of adults. In this chapter author is discusses the behavioral skills training within Discrete trial teaching (DTT).

KEYWORDS:

Autism, Behaviour, Children, Learning, Observational.

INTRODUCTION

Social skills include several intricate verbal interactions that may fulfill a broad range of purposes. Since people need to be able to watch other people's conduct and modify their own behavior to the social context, observational learning is a crucial part of social skills training. When someone is able to see another person react and then act in response to what they saw, they are engaging in observational learning. Although though this is a talent that naturally develops in people who are usually developing, people with autism spectrum disorders may need to have this ability specifically taught to them. As children become older, observational learning becomes more applicable in a variety of contexts. Many kids utilize it for informative purposes and may use it to figure out what to do in class, learn new things, or solve unusual difficulties [1]. Despite the value of observational learning as a skill for students on the autistic spectrum, there are a number of precursor skills that must be mastered first [2], [3].

An person must pay close attention to the relevant environmental cues in order to effectively adapt his behavior to the circumstance. Moreover, for observational learning to occur, the person must be able to faithfully mimic the actions of others. Individuals with ASD may benefit from observational learning as it relates to the development of social skills once these essential skills have been taught. The teaching of many various skills, including the imitating of facial expressions, play skills, and social interactions, may be facilitated by observational learning. The necessary abilities need to be built in order to build observational learning, which may be accomplished via the use of DTT. Attendance, delayed imitation, and consequence discrimination should all be taught to people. After receiving this instruction, people are ready to engage in observational learning. The learner will be able to access linked reinforcers more rapidly and may need less prompting during observational learning sessions if the preparatory skills are properly trained. For a number of various activities, including a hidden object task, a computer task, an academic assignment, a construction toy job, and a building toy task, MacDonald and Ahearn trained autistic individuals to participate in observational learning using

a trialbased methodology. For each of these activities, abilities were taught in blocks of nine trials, with tactile prodding ranging from least to most to encourage proper response.

None of the participants completed the observational learning activities on their own during the preassessment. Five of the six subjects showed proper replies on an untrained test after receiving instruction on a particular assignment. Garfinkle and Schwartz used a multiple baseline design with four male participants ranging in age from 3 years, 7 months to 5 years, 5 months in a research that aimed to teach imitation of a peer's social behaviors. Sessions of instruction were known as small group peer imitation training. The training process, which had four phases in all, was repeated until each kid had gone through it twice. The training process included the instructor giving the small group instructions, choosing a leader, providing a cue to encourage initiation, and rewarding imitation. Participants showed improved social behavior after the intervention, including more peer contacts and closer to peers. Both in small group and free play situations, peer imitation behavior increased. De Quinzio et al. employed DTT in conjunction with modeling, prompting, and the provision of reinforcement to enhance the ability of autistic children to imitate different facial expressions shown on a model.

Participants were instructed to mimic the model's expression by using a leasttomost prompting hierarchy and an error correction process. In between 80 and 90 percent of the training trials, all three subjects reacted to face representations. Also, it was deduced from the pattern of responses that face expression was a useful discriminative stimulus. Reinforcement only took place once the face model imitated correctly; it never happened after mistake correction techniques. Three male adolescents were trained to provide aid by Harris et al. utilizing prompting and confederate reinforcement. Similar to this, Reeve et al. taught youngsters with autism a generic repertoire of helpful activities. When a peer expressed their difficulty to complete a task, Harris et al. employed that peer as a confederate peer by orally urging the participant to ask, May I assist you? The confederate peer would express gratitude to the participant after the person had assisted. A multiple baseline design across participants on the first training task and a multiple baseline across tasks for each participant were used to assess the intervention.

A minimum of 5 days and a maximum of 15 days were spent in training. As the training went on, all three participants demonstrated an improvement in learning rate as seen by their quicker mastery of tasks two to three than they did task one [4]. The range of abilities that are being taught in diverse contexts, from academics to toy play, shows the value of DTT for teaching observational learning and/or the precursors. Although other studies have shown success in the teaching of facial expressions and social interactions, certain treatment plans have been proven to be helpful in teaching observational learning of motor responses. In general, observational learning is a crucial part of social interactions because in order to be socially effective, people must be able to observe other people's activities and copy their conduct. Behavior analysts are teaching crucial behaviors that will enable the execution of a number of various social skills by explicitly teaching the abilities connected to observational learning.

DISCUSSION

Behavioral Skills Training Within DTT

Clear teaching and repeated exposures to someone who is already competent with the skill are the cornerstones of behavioral skills training. The student gets to practice the skill with the skilled individual while getting both encouraging and constructive criticism. This method has

been shown to be efficient for teaching a number of skills, including social skills. We will provide a basic introduction to BST here, and the on BST has more detailed information on BST and DTT. BST has been used in a trialbased method to teach precise listener behavioural tact. In the first component of their experiment, Peters and Thompson taught four kids between the ages of 5 and 9 how to behave as listeners. The intended reaction of restoring listener attention, however, was not enhanced by the ability to manipulate nonverbal listener behavior. After that, participants learned how to engage a discussion partner who isn't listening by asking a question of them. The skill was once again taught via BST, and mastery was assessed using a trialbased method.

After this intervention, all participants learned within 36 teaching trials how to pose a question to a disinterested listener in order to pique their attention. The experimenters included two followup tests examining the efficacy of BST which was assessed in a trialbased approach three out of four individuals indicated generalization of taught abilities at followup, while the fourth subject needed extra training. All of the tests showed promising outcomes when the experimenters specifically looked at the training of a range of skills connected to reacting to a conversation partner's interest. Conversational interactions provide a variety of difficulties for those with autism spectrum disorders. Children with autism often have trouble reacting to conversation partners' interests in a way that is acceptable, which adds to the difficulty these people have forming and sustaining friendships with their peers. When they engage in offtask talk or fail to reply in ways that foster natural banter, it could also stigmatize them. Educating people with autism how to recognize interest and disinterest might increase their sensitivity to social signals and lessen embarrassment and conversational difficulties.

Fading Script inside DTT

People with autism spectrum disorders have been taught to utilize scripts and script fading techniques to participate in language related to social interactions needed for play. Moreover, sharing toys has been taught to people with autism using trialbased script training processes. Sharing toys is a crucial social skill that people with autism often struggle to master. For those on the autistic spectrum, social scripts have been demonstrated to be useful in teaching social commenting and other social skills. Script fading processes entail giving people a cue on the appropriate words to use in a social setting. This might be a written script or an aural script, and prompting techniques are employed to encourage the learner to appropriately copy the script. The usage of a script is progressively reduced as a student achieves success with it, until the learner can produce the desired answer on their own. For those on the autism spectrum, script fading techniques have been demonstrated to increase both scripted and spontaneous interactions.

There are several methods to utilize and modify script fading techniques. Although some encounters are guided by a teacher, others may take place in the context of spontaneously occurring stimuli. Using various techniques, a technology has emerged where script fading has helped to promote suitable and meaningful social interactions. A number of toys were arranged on shelves in a treatment room, and participants may access each toy once every session, allowing for one trial with each toy, according to GarciaAlbea et al. Each toy had an audio button with a recorded social script attached, and in order to access the toy, participants had to go up to the item, push the audio button, and correctly recite the social script [5]. There were no observable participant reactions before the intervention began. All individuals shown increases in

scripted, unscripted, and innovative answers after the intervention. During repeated example training across untaught stimuli, generalization was shown to be possible. This intervention was able to successfully show that the appropriate environmental cues retained control over the participant's reaction.

Participants were taught how to correctly remark on toys using a variety of examples from several script frames by Groskreutz et al. For a total of 15 script training sessions, distinct features of each toy were added to the script frames. If participants did not employ the scripts on their own, leasttomost physical prompting was used to encourage them to do so. After two to seven sessions, the participants attained the script frame mastery requirements. By adding an unique scriptframe technique, Groskreutz et al. expanded the existing literature on extended script frame processes. This new scriptframe technique could have helped explain how untrained play activities and untrained remarks led to stimulus generalization. Three boys with ASD between the ages of 4 and 6 were taught to begin peer interactions related to sharing toys using script training by LedbetterCho et al. The three boys were required to sit at a table together in a therapy room as part of the procedure.

Toys were given to each boy in a random sequence, and they were told to share them with their pals. The youngster was required to read the script that was connected to the offered toys throughout the experiment's script training phase. Each participant showed improvement in their peertopeer communication once the script was introduced. Responding to peer initiations was an issue that all participants persisted with throughout the session. This could be accounted for by the absence of prepared peer answers. A trialbased approach and script fading were both used by Pollard et al. to educate autistic people how to ask for shared attention. This method was used to teach three kids, aged 4 to 7, how to ask for each other's attention simultaneously. Several toys were given Look, it's a scripts to connect to them as part of the experiment. A 2 second prompt delay was employed to urge the participants to participate in the required verbal answer after the youngster had been physically prompted to become familiar with the script. After therapy, each participant individually made requests for shared attention. Also, we saw an increase in spontaneous language for two of the three individuals. These findings expanded on the earlier studies by evaluating generalization in real settings, supporting the idea that scripts are useful for training collaborative attention.

The social script has to be faded once the desired answer has been learned so that the person may respond on their own. Despite the fact that all script methods entail some kind of fading, there are several ways the script is faded. When using a written script, words may be taken out of the conclusion when each phase's mastery condition is satisfied. Some students would need a slow fadeout of the script, but other students could be able to pick up scripts very rapidly. A script frame rather than the whole script may be utilized in certain circumstances. Children were trained by Groskreutz et al. to remark on play using various script frames, such as See, it's a. Similar scriptframe techniques were employed by Pollard et al. to train autistic people to pay attention to toys together. Using this approach, participants were taught how to ask for attention by utilizing a script frame. The employment of scripts and scriptfading techniques may be used to teach a range of vocal responses linked to numerous different social skill domains, such as requests for joint attention and toy conversation abilities. In the aforementioned publications, it was shown that scripts and scriptfading techniques were useful for training participants to provide both scripted and unscripted replies, and that these responses often generalized to other discussion partners.

DTT's Computer Based Education

There are numerous various methods to implement the discrete trial teaching style, either by instructors or with the aid of a computer program. More effective and precise teaching delivery is one advantage of using a computer software. Simpson et al. used a computer program to help four autistic volunteers with their social skills. The computer software offered a video demonstration of various social abilities. Four distinct movies were shown to the students, who had the chance to view each one twice. The learner was given verbal cues to correctly navigate the program by the instructor who was there. Each student participated in three daily sessions that each included 12 trials. The 45 minute sessions were spread out across the course of the participants' school days. Once the computerbased intervention employed in this research was implemented, all participants demonstrated improvements in the targeted social skills. DTT and computerbased intervention work well together and have several benefits.

For instance, people often find instructional programs given via a computer to be particularly engaging, which may boost compliance with the intervention. As was already indicated, using computerbased programs may also reduce certain teacher mistakes, shorten the time between reinforcements, and control the gradual fading of reminders depending on student achievement. A positive effect in terms of improved performance of targeted social skills may result from the combination of enhanced interest levels in computerbased education and the rapid speed of DTT. DTT may be delivered in a variety of methods, including formal and informal settings, as well as via live instructors, video models, and computer applications. When trying to teach any of the aforementioned social skills, DTT should be heavily considered due to the effectiveness of this approach as shown in the supporting literature. As the ultimate and most socially meaningful result of instruction, future research should concentrate on demonstrating the universality of the abilities taught in social skills treatments. The most effective methods for teaching certain skills will also be determined by further study into the various instructional arrangements, the use of different prompts, and the modes of instruction [6].

Teaching by Accident: Successful Progress

Learner growth is the goal of any instructional program. We instruct in a manner that allows children with autism spectrum disorder to learn in the most typical settings possible and continue to grow successfully throughout time and in many contexts. Incidental teaching is a contextualized method of training that uses naturally occurring occasions, or incidents, to impart important skills in the context of the child's preferences and activities. The purpose of this is to demonstrate the potential advantages of incidental education for enhancing social competence in autistic children. Competencies are made up of sets of behaviors that, when used in certain ways, produce particular results. In this setting, social conduct may include a broad range of abilities, including navigating, mimicking, conversing, sharing, and bargaining.

The social effects of our effective teaching span a broad spectrum, from play partnerships to temporary friendships to durable and devoted relationships. Each child's specific competence objectives will differ depending on their social community's beliefs and conventions. With the expectation that the practitioner will situate these objectives within the framework of significant competences, our examples and recommendations concentrate on social behaviors. The goal of incidental instruction for social skills is to maximize motivating factors and existing circumstances to assist learners in acquiring cohesive social skills, sustaining social engagement, and forming good connections. The structure of this is based on evidencebased practice.

Successful clinical work is thus founded on a firm grasp of the fundamental principles and processes, the best available research findings, and clinical expertise. To address this, we first describe the theoretical framework that underpins incidental teaching, then we provide examples of incidental teaching techniques, summarize the empirical data, and last we offer some important suggestions based on theory, research, and our clinical experience [7].

Theoretical Foundation and Foundational Steps

We discuss the underlying theory since it is one of the three key components of effective evidencebased practice. A practitioner may be better able to apply the processes faithfully and generalize and extend them to new scenarios and teaching issues if they are familiar with the theory and fundamental mechanics. Although there has been some study especially on accidental instruction, there are still many areas that have not been covered. But, there are many unintentional teaching opportunities in a child's environment, both those we make and those we observe. As a result, incidental teaching may become a common teaching approach used over the course of a child's day. Understanding the fundamental ideas thought to underlie effective behavior change can help you take full use of these chances.

This is comparable to professional cooks who are familiar with the chemistry underlying recipes. They can effectively accept, modify, and develop much beyond a recipe from a box thanks to this understanding. Common preschool approaches that emphasize teaching inside and via children's highpreference play activities were the source of incidental teaching techniques. The University of Kansas' Center for Research in Early Childhood Education codified, behaviorally conceived, and applied the processes to the language development of children living in poverty in the late 1960s and early 1970s. Later, the strategy was applied to different populations and sectors. Also, the empirical research background that supports incidental teaching is acknowledged as having had a significant impact on the eventual creation of a number of successful naturalistic teaching models and is regarded as a established practice in the context of evidencebased practice.

The operant learning hypothesis conceptualizes incidental instruction. Operant learning, one of the learning processes investigated in behavior analysis, conceptualizes behavior by taking into account the passage of time and how actions change in response to chronologically ordered stimuli. According to the hypothesis, conduct may be changed by planning the kind and timing of environmental physical and social events. These occurrences will change the probabilities of behaviorrelated gains or declines. The act of dividing temporal occurrences into units is referred to as a contingency, which is a dependent relationship between several temporal events. Many of tests that validate the operant learning processes involved in stimulus control and consequence control provide credibility to the idea. For illustrations of this study basis, see works like Learning by Charles Catania.

With natural interaction partners and events tailored to the child's interests, incidental education incorporates physical or social occurrences in the child's natural surroundings. The dependent relationships, or contingencies, are organized around the interests of the child and taught in a practical setting. Incidental teaching in the context of social conduct is a strategy for setting up circumstances that result in better behavioral improvements between interaction partners. From a behavioral perspective, the fundamental premise is that all social interactions rely on their environment and that partners will moderate one another's behavior via a series of contingent interactions. The ability must be understood in light of the child's objectives for his or her social

conduct, the level of support received from others, and the ability of others' mere presence and response to foster the behavior in the child's natural environments. In other words, a more contextualistic explanation takes into account the aims and purposes of the behavior from the viewpoint of the kid as well as the social reinforcement the child gets through interactions with others.

While analyzing social conduct, the ongoing issue is the social partners' discriminatory behaviors and effects. It also incorporates the child's drive to act in response to societal pressures. Pre sented is a common technique for presenting an operant contingency. A contingency is a connection in time that is dependent. Each event has an impact on those that come after it. The antecedent events that establish the occasion for a reaction to occur or not occur are referred to as the stimulus conditions, abbreviated as SD in the schematic. Stimulus control is the name of this step in the procedure. R stands for the behavior's response topography. The youngster responds to the stimulus circumstances by doing something, or is expected to do so. The subsequent stimuli, or what happens next, will either amplify or diminish the reaction. The increase or reduction in the reaction will depend on the stimuli that come after it. The term for this is reinforcer control. Events that change the value of a consequence by increasing or decreasing its importance are known as motivating operations. Environmental arrangements are ways to organize motivation and make sure that desired activities and resources are available, but controlled by the interaction partner. The incidental teaching contingency is not complete without the MO.

The efficacy of incidental teaching approaches is said to depend on consideration of all four components of the contingency and how they interact. The child's interests are taken into consideration while planning the contingencies, and the natural environment's complete or approximate criteria conditions are used as the stimulus and reinforcement conditions. In the incidental teaching contingency, three elements are particularly crucial: student choice, instructor responsiveness to student progress, initiations, and emotion, and responsespecific reinforcers [8]. The youngster must first express a liking for an activity or event in some other manner. This leads to the incident of teaching, which is also known as a childinitiated learning opportunity. The child's initiation implies a preference, and it is desirable that it be a positive reinforcement contingency rather to one containing negative reinforcement or punishment contingencies, particularly in the case of social development. In this sense, a youngster who is edging closer to the social partner and exhibiting favorable affect indices is more likely to be prepared for and receptive to an inadvertent teaching contact and under the influence of favorable reinforcement contingencies.

A tiny youngster could grasp for a blue automobile that is locked within a container that only his older sibling can access. Instead of grimaces or tears, the young child's reach is accompanied with smiles and raised eyebrows. The older brother might utilize this introduction as a cue to begin a teaching contact with the little brother. Theoretically and methodologically, this enhances the likelihood that the conduct being taught will have a reinforcing consequence and that the brother has been balancing the necessary responses so that his sister is still happily starting and approaching the social situation. These are examples of naturalistic teaching methods that use emotion as a component. The second issue is that incidental instruction requires a responsive instructor who tracks the student's development and makes necessary adjustments. In other words, instruction should be progressive, requiring the student to engage in social

behaviors that are more complicated in more complex circumstances. For instance, at initially, the brother may just need to say, Blue automobile.

Yet for the activity and the system to advance, they must get increasingly intricate and socially resilient. For instance, the siblings might construct a race track and include additional interactions such as requests to crash the cars or instructions to be followed, such as Give me the truck so I can crash into your car, or actions to imitate, such as adding pieces of the track during the play activity before gaining access to the zipline to activate the car through the track. Naturally, the instructor strikes a balance between the answer criteria and availability to reinforcement even as the needs for responses get more complicated and varied. By depending on indications like child approach and initiations that are accompanied by indices of satisfaction and enjoyment, this is more likely to provide positively reinforcing contingencies. Lastly, there must be a connection and consistency between the child's reaction and the punishment. For instance, if a youngster requests a blue vehicle, they will get a blue car instead of a green bus, a potato chip, or a token.

Specific responsereinforcer connections may enhance a particular contingency theoretically, and from a methodological perspective, it is more likely to be a meaningful and functional connection in the child's everyday life. That is, the contingency will be preserved, and the taught answers are ones that are more likely to be employed in the natural environment. Because of this, evaluation in a natural setting is crucial to the process of incidental teaching. Like any educational initiatives, we start by imagining and evaluating. A crucial element of incidental education, according to S. AlaiRosales et al., is participation from the child's stakeholders. This is crucial because the way that teaching is organized should be based on the objectives and circumstances of the child's home setting. Understanding the stakeholders' actions and preferences is an essential part of the evaluation process since they are the major participants in this social context. Once realistic, significant, and possibly beneficial stakeholder objectives are recognized, the evaluation process continues. Analysis of a child's present surroundings and abilities is also a component of assessment in particular, variables from the current and succeeding least restrictive contexts as well as clues from the criteria discriminations in the natural world are taken into account. Ecological evaluations, stakeholder interviews, and curricular guidelines are used to achieve all of this [9].

The creation of the educational programs starts as soon as certain objectives are decided upon. The teacher's utilization of naturally occurring events to provide the context for instructing desirable social behavior is a crucial component of incidental teaching. There are methods for seizing chances that arise naturally Observing a child's preferences in their current environment, or providing controlled access to highpreference events. Due to the limited activities and interests that are one of the distinguishing characteristics of ASD, children with ASD will often need both techniques. A technique for setting up inviting and beneficial accidental teaching situations has evolved to some extent. In inclusive early childhood education settings, McGee, Morrier, and Daly, for instance, provide extensive instructions for developing an incidental teaching environment. McGee and colleagues suggest structuring the physical environment as a whole, alternating the availability of toys and activities that are of high and low choice, and offering strategies for generating particular accidental teaching opportunities.

Every time, the atmosphere is set up so that kids have to act to get to the targeted social and physical activities. Examples of particular tactics to generate accidental teaching opportunities

are also given in textbooks like An activity based approach to early intervention by Johnson, Rahn, and Bricker and Educating Young Children with Disabilities in Natural Settings by Noonan and McCormick. Noonan and McCormick, for instance, list six specific ways to set up the environment, or motivating operations, including having engaging materials and activities, having items visible but out of reach, providing insufficient or missing portions, offering choice situations, setting up situations where assistance is required to complete the activity, and creating unexpected or silly circumstances. Every time an interest is sparked, a youngster may take the lead, and this presents a chance for teaching to take place. We provide two straightforward examples to help clarify the theoretical ideas and fundamental accidental teaching techniques. The first shows a very young infant engaging in social orienting, while the second shows an older youngster engaging in social bidding.

CONCLUSION

The enhanced chances for social skill practice that may occur less often in the natural world are only one of the numerous potential advantages of utilizing DTT to teach social skills. DTT may also be used in a natural environment to help students learn social skills that can be used in other contexts. While universal outcomes are still the desired objective for these interventions, there have been some proven generalized impacts, especially in the development of key but elusive abilities like perspective taking and joint attention. It is crucial that physicians use DTT in the right situations, such as when addressing social skill deficiencies. Behavior analysts emphasize evidencebased treatments that result in socially important changes, with a major emphasis on efficacy and efficiency. While the field values naturalistic techniques and still embraces and assimilates them, we must be careful not to be too quick to give up on successful treatments and methods. Several factors inside DTT may help physicians create interventions that are as realistic as feasible. It could be desirable to conduct massed trials in an contextual way as opposed to scattering trials throughout the day in naturally occurring or intentionally crafted settings, for instance. Additionally, programming for generalization may be made easier by using different language in different experiments. To address these deficiencies, multicomponent packages with several evidencebased components might be used. Overall, the research shows that DTT may be a helpful method for teaching people social skills. Peer imitation, persistent time delays, modeling, prompting, and reinforcement are just a few of the teaching techniques that have been used to teach increasing social interactions using DTT. Under the heading of social skills, DTT was used to teach initiating and responding, verbalizing replies to social greetings, maintaining eye contact, being seated and focused, responding to queries from adults, and imitating skills.

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CHAPTER 15

A BRIEF OVERVIEW ABOUT SOCIAL ORIENTING BEHAVIOR

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ABSTRACT:

The orienting response includes behavioral, physiological, and postural adjustments such rotating the head and focusing the eyes on the stimuli, a decrease in motor activity, and autonomic reactions like vasodilation and a slowing of the heart rate, etc. In this chapter author is discusses the incidental teaching.

KEYWORDS:

Autism, Behaviour, Children, Orienting, Partner, Teaching.

INTRODUCTION

For a number of reasons, communication partners' social orientation is seen as a crucial behavior. Getting oriented to your social partner can signal interest, attention, comfort, or discomfort, allow a person to refer to another for information about the outside world, and can be a way to learn the fundamentals of developing other skills, such as those related to communication and emotional competencies [1], [2]. These are only a few of the explanations for why social orientation may be seen as a teaching objective. Jamal, the youngster in our illustration, is 2 years old and has autism. Jamal does not address people by name, avoids eye contact, or turn his head when others turn to look at him. Jamal spends the most of his time stacking books, opening and shutting doors, and running in circles around the home. He appears too really like roughhousing and tickling games. In order to improve his social abilities, his parents are receiving instruction in the technique of incidental teaching. In this instance, the social consequence is his delight of tickling, and his family members are the interaction partners that create the situation and provide the appropriate social consequences.

The conversation between the parents starts after a few weeks of it. Jamal grabs their hands, and they tease him until he becomes exhausted and retreats to one of his lonely pursuits. His mom said of the present exchange, it seems as though he is merely interested in our hands, with some discomfort. Jamal's orienting behavior will be improved, and his parents and Jamal will develop greater social connections as a result of the addition of accidental instruction [3]. The motivational operations are set up to start the accidental instruction. Instead of waiting for Jamal to stop the activity, the parent first briefly pauses it till he gets there, and then they resume tickling. This gives time to adjust to the deprivation and several opportunities to rehearse the reaction. It also teaches the reciprocity and backandforth nature of social relationships, which is maybe more crucial

As soon as he approximates the goal reaction, the parent immediately produces a clear facial expression and movement to indicate they are ready to have fun and tickle.Finally, parents

increasingly need solutions that are complex. The parent asks Jamal to reach first, and as soon as he does so successfully, they further ask him to turn his body in their direction and then gaze at them. This demand for a changing reaction is a shaping process that advances via the results. The consequence stimuli make up the contingency's last component [4], [5]. The enjoyable tickles come just after Jamal's social orientations and are positively reinforcing. The response needs rise and grow ever more complicated as his S. AlaiRosales et al. social responding steadily improves.At last, the parents started to offer more chances and integrate additional social cues into the conversation. For instance, his mother stopped tickling him and started putting raspberries on his tummy. She made the raspberry noise to signal this when Jamal glanced at her, which caused Jamal to giggle a lot and keep gazing at his mother in anticipation.

His mother observes the laughing as a joyful initiation and waits for him to turn around before speaking again. Now it seems a lot more like we are connecting and conversing, his parents said.An illustration of a social bid accidental educational contact is provided by the social bid example. Devon, an 11 year old student in a science, math, and technology charter school, excels in math but needs extra help in his other classes. The majority of his time is spent alone, either playing video games or compiling data on basketball and baseball players. He is regarded as being socially isolated. NBA2K is his favorite video game. He either plays the game by himself or with his father. Over the last several weeks, his father has been working with him on social tolerance. His father used to merely sit with Devon as he played, but now he engages in brief games with Devon. They play coop, which requires a split screen and a controller for each player. Devon's tolerance for having someone play simultaneously has been increased by his dad purposefully playing coop for extended periods of time.

His intervention team has determined that incidental teaching would be a suitable approach and that his interest in NBA2K would be a good way to work on social interactions with others. To work on social bids is their choice. Social requests are a technique to get others' attention, express interest, and make requests. Devon's family gathers with his maternal grandmother, aunts, uncles, and cousins every weekend. He often only uses his dad's phone when the family is eating, cooking, and interacting. As others gather in the family room to play video games with their cousins. Dad has enlisted their assistance to engage Devon more [6]. The motivational processes are handled in order to set the ideal circumstances for accidental instruction. Dad first leaves his phone in the vehicle. As a result, there is a chance to play NBA2K in several methods. The cousins happily agree to let him ask them to play it for a bit. He also requests that they play cooperatively. Dad offers to accompany Devon into the family room if she requests it. Second, his father selects a few social interactions to focus on and determines the cues and indications for each reaction. One of the cousins will be encouraged to ask, Who wants the controller? Dad will also suggest passes and shots. Verbal prompts will be used first, followed by gesture signals.

The prodding will rapidly disappear as Devon succeeds. Finally, Dad and the cousins will expect reactions that are particular to Devon's initiations and interests when the situation calls for them. When he enters the room and requests to play, they give him the controller they shoot the ball when he says shoot; and they pass the ball to him when he requests a pass. In this instance, prompting rather than shaping is used. Although Devon made all of the replies with his father at home, access to the reinforcing consequence is more timedependent in this instance. These factors suggest that prompting is more effective. Devon's social bids are the last component of the contingency, known as the consequence stimuli. Devon should be more likely to use these reactions with his cousins during family weekend time if he has the controller, is scoring points,

and has access to the ball. Ultimately, the family began to add new possibilities and integrate additional social reactions into their interactions. For instance, his cousins began requesting that he bring additional versions of NBA2K, and they also questioned him about the various player metrics. They created up opportunities for social connections around that interest and searched for online baseball games. Instead of isolating himself and bearing it out until it was done, he began to have responsibilities for involvement during family weekends [7]. Each of these instances exemplifies the fundamental notion of the incidental teaching interaction inside the operant learning theory's threeterm contingency. The important research on applications of accidental teaching is reviewed in the next section.

Empirical Proof

Leo Kanner recognized that social isolation was the most obvious trait of people with ASD in his first clinical description of this population. In accordance with the most recent clinical definition of ASD, this social dysfunction is categorized as socialcommunicative deficits that show up in three distinct domains: deficits in socialemotional reciprocity, deficits in nonverbal communication, and deficits in maintaining/understanding relationships. The empirical basis for accidental teaching of social conduct is reviewed below, along with a description of each application's significance to the area of socialcommunicative deficiencies in ASD.

Origins of Incidental Teaching

Hart and Risley established an educational framework for enhancing spontaneous, complex speech for underprivileged toddlers in a series of groundbreaking experiments on language enrichment. Hart and Risley showed that although students had more knowledge, or the accurate categorization of colors, when questioned after receiving conventional teaching, they still lacked the skill since they were seldom seen using color names outside of the classroom. It was necessary to design learning opportunities or incidents that were influenced by natural, environmental cues in order to encourage spontaneity. It was also necessary for teachers to prompt elaborate language and conditionally present relevant, preferred stimuli in order to encourage complexity. As a result, Hart and Risley described the fundamental steps in incidental teaching. The child initiates or requests an item, the teacher may prompt the child to provide a more detailed request depending on the quality of the initiation, and the teacher grants access to the preferred item. The teacher places a variety of preferred materials in an area that is out of reach but visible to the child. Preschoolers' spontaneous use of complicated language is expanded to freeplay interactions with peers following the deployment of incendiary instructional techniques and sustained after the cessation of the teaching methods.

Autism Spectrum Disorder applications

Due to the benefits of improved generalization, incidental teaching techniques were included into S's lesson plans. persons with ASD to address the low generalization produced by analog teaching procedures, including discrete trial instruction. AlaiRosales et al. By setting up adultinitiated learning chances that were under tightly regulated sensory circumstances and included dependent access to highly valued, but often fake, and irrelevant goods, discrete trial teaching promoted fast skill development for people with ASD. As a consequence, students extended their ability repertoire quite fast, but the abilities failed to stick over time and transfer to situations with natural stimuli. Reading, receptive identification, and preposition usage, on the other hand, are abilities learned via incidental education that are easily generalized for people

with ASD. Incidental teaching techniques may be effectively used with the adult population, despite the fact that research on incidental teaching has shown widespread effectiveness with preschool populations.

For instance, FarmerDougan found that using a peerdelivered incidental teaching approach for persons with developmental impairments who functioned as either a peer tutor or peer learner during a lunchmaking routine increased acceptable asking. Peer tutors were taught to watch peers' movements toward an object, put it out of reach, ask the learner to seek it vocally, and then provide the item in response to requests using a combination of modeling, teaching, and prompting. Training led to an increase in suitable requests, which spread to peers and staff members during untrained tasks. However, even after the session was over, these demands continued. According to FarmerDougan, this is probably due to initiations contacting naturally existing reinforcing factors, such as access to the object and peer social interactions. Originally, incidental teaching techniques were intended to make language more complicated by presenting learnerspecific elements that were dependent on the target language.

Incidental teaching techniques are specifically made for teaching requests or responses that are sustained by primary or material sources of reinforcement. Instructors would probably need to systematically fade control from primary reinforcers to social reinforcers or incorporate techniques to actively program for generalization to social reinforcers in order to improve responding maintained by generalized social reinforcers through incidental teaching. McGee and Daly's work with three autistic children, who were trained to utilize ageappropriate social reactions during play utilizing incidental teaching processes and stimulusfading techniques, is one noteworthy example. Early in the learning process, the instructors delayed access to a chosen object; nevertheless, when a kid requested one, an adult made a social remark, encouraged the child to make a certain social response, and offered conditional access to the desired item.

Teachers used promptfading techniques to encourage participants' autonomous social response before making a social remark when the kid already had access to a favored object in the final fading stage. The experimenters offered praise and gave the youngster access to the object as long as they continued to use a social term. The experimenters evaluated the widespread usage of social terms among instructors and environments after this instruction sequence. Two of the three individuals shown generalization with a new instructor, and all three participants demonstrated generalization to a different freeplay activity. These results imply that primary reinforcers lost influence over social responses and were replaced by social reinforcers [8]. Language may be controlled by natural social reinforcing contingencies and not only access to favored objects by choosing activities that may be sustained by natural sustaining circumstances. To boost social interactions of a child with autism during playtime, McGee, Almeida, SulzerAzaroff, and Feldman taught normal preschoolers how to serve as a peer tutor and utilize accidental teaching tactics. To promote social initiations, peer tutors were given the target child's top picks. When the target kid showed an interest in an item, the peer tutor encouraged the youngster to ask for it and then gave it to him or her based on the request.

The findings indicate that there were positive, collateral changes in reciprocal social connections as a consequence of the target children's increased requests to peers while playing. In other words, peer tutors raised their initiations and reactions to children with autism even though there were no programmed requirements for such actions, and children with autism increased their initiations and responses to peer tutors even though their initiations were not targeted. It is

possible that peer social contacts had a role in the dissemination of the effects of incidental instruction to other social activities. Using a Likerttype rating scale with visual representations of answer alternatives after the intervention, peer tutors also said that the autistic youngsters were more likeable. These findings demonstrate the value of include peers in social therapies and provide a paradigm for enhancing socioemotional reciprocity and relationships between peers and people with autism.

Education of Change Agents

Considering the success of incidental training techniques, educators and caregivers should be given the knowledge and abilities to use these instructional techniques in the child's natural environment, such as the home and classroom. Caretakers in the home environment, preschool teachers and paraprofessionals in the school setting, therapists in the clinic setting through telepractice, and peer tutors within a play context have all been trained effectively using training packages that combine instructions and performance feedback. Recognizing the kinds of contextual setups that are likely to affect child response may be challenging for instructors, even if there are successful instructional approaches for training change agents to use incidental teaching tactics. All four of the instructors who took part in the training assessment struggled to name strategies that would help toddlers with ASD connect socially, according to Kohler et al. Yet, social contacts increased after this critical phase was attained. The classification of learner affective behavior as favorable or unfavorable depending on the approach used may allow future study to take into account training programs aimed to explicitly enhance change agents' identification of successful vs ineffective environmental arrangements.

Clinical Consequences

The environment must first be set up to encourage learner initiations under the direction of naturally occurring stimuli, often by limiting access to desired things. Nonetheless, any arrangement that encourages the learner to express an interest is ideal. This includes giving out tiny or insufficient portions of favorite products, allowing the learner to make their own decisions, setting up scenarios where they will require help, and generating unexpected circumstances. Whichever the method used, the social teacher should be careful to set up an atmosphere that provides a naturally occurring signal and creates a positive reinforcement scenario rather than a negative reinforcement scenario where the kid reacts to an indirect command. For instance, if a kid is playing with a toy and the teacher removes it for a moment, the child asks for it back, and the instructor gives it to them.

This is True if the toy is taken away in a way that is comparable to taking turns or other naturally occurring situations, where small breaks in play are necessary for interaction with the object. As the teacher is training the student to engage in a response that gives access to preferred stimuli and is compatible with the natural environment, AlaiRosales et al. are consistent with the incidental teaching process. Yet, if the play is intrusively stopped, the teacher is instructing the learner to act in a way that allows them to access their chosen stimuli once again. The student may start to avoid the teacher if this is the main sort of instructional engagement in the later scenario, although requests may grow in both scenarios depending on the antecedent circumstances. Similarly, earlier research indicates that rates of toy play fall when instructors encourage responding at the start of toy play, suggesting that including a response requirement at the start of a target response may act as a punisher.

Important Suggestions and the Verdict

While the idea and processes for incidental teaching are rather straightforward, actually putting them into practice may be challenging and timeconsuming. As outlined by Slocum et al., our suggestions are placed within the framework of evidencebased practice in applied behavior analysis. That is, the results of research are combined with client values, clinical knowledge, and experience. In order to make our advice more manageable for clinicians working with autistic children, we have separated them into four categories based on our experience.

Both the Big and Little Picture

The large picture is described as anything that gives the complete perspective in MerriamDictionary. Webster's Regarding the course of therapy, Leaf advised therapists to keep the larger picture in mind while they attend to the specifics. The large picture in terms of social skills is the creation and maintenance of meaningful and rewarding social interactions, whereas the smaller picture consists of the immediate objectives during a teaching interaction. Indeed, incidental instruction has the potential to undermine as well as advance the overall objectives. As teaching is a relationship in and of itself, poorly managed incidental teaching interactions may harm relationships on the one hand while also helping to develop each particular behavior that is taught on the other. Imagine, for instance, that Devon's cousins made him ask for the controller and then spent several minutes correcting his pronunciation before handing it to him. Additionally, imagine that Devon's father frequently requested that Devon use clearer pronunciation when prompting Devon's bids during playtime.

This kind of connection is often carried out with the greatest of intentions and is sometimes suitable. His enthusiasm for music, for instance, may be utilized to improve the precision of his articulations. Yet, in the provided case, the objective is to promote social contacts and strengthen his relationship with his family rather than to improve articulation. In this situation, the response demand can be higher than the reinforcer's value or it might change the reinforcer's value. Nonetheless, Devon or the cousins might experience societal shame and disgrace as a result. In fact, in such conditions Devon is more likely to withdraw from social engagement with his relatives and function as an unpleasant event. The little image takes precedence over the broader picture. Devon may benefit more from articulation practice in other teaching contexts when social behaviors and results are not the main objectives. In a similar vein, picture two siblings playing a block game together on the floor, gradually extending interactions and sustaining involvement.

In this case, extending and continuing the encounters would be the overall objective of any accidental educational engagement. In this situation, the physician has to be aware of the possibilities that are most likely to keep the engagement moving and prevent interruptions. For instance, the doctor may provide the sibling with a bucket of extra miniatures that would fascinate both kids and be simple to include in the play.

The sibling could need a complex social reaction before granting access to the figurines. Such contingency management must facilitate societal outcomes rather than obstruct them. It is often beneficial to have a team to keep an objective view on the efficacy of ongoing procedures and learning results. The social partners, informants, and collaborators in the child's life are stakeholders. They may provide a wealth of insight in balancing the social validity of shortterm and longterm objectives.

Students with ASD Have Little Interests and Activities

The practice of accidental teaching first emerged with children who struggled with language. Also, those kids had very ordinary hobbies and pastimes that served as reinforcers. ASD affects many people. Learners with ASD have difficulties in the communicative and social domains as well as unconventional, rare, and restricted activity participation and preferences this may pose a number of difficulties in the context of incidental teaching, the first of which is the need for the teacher to have a preferred method of advancing the student. This might imply the necessity for particular processes to broaden activities and interests for students with ASD. Second, although though incidental teaching falls under the broad category of Naturalistic Developmental Behavioral Treatments, it is crucial to emphasize that numerous extensions have been specifically created for people with ASD.

Each of these naturalistic techniques was created in a particular setting and integrated with specialized techniques for the learning environment, answer formats, and outcomes. They also have empirical validation and are particular to ASD. Every time, the development of the naturalistic models particularly addressed the special incentive arrangements needed for kids with unusual and constrained interests. Furthermore, owing to the pervasiveness of the disorder, incidental teaching is likely to be one of many instructional arrangements made throughout a learner's clinical or academic career. S. Experiences with schooling by AlaiRosales et al. The learner's success will thus be reliant on concurrent instructional programming that spans several domains, environments, forms, and models. The child's interests, development, and wellbeing should be taken into account while making the specific progressions and selections.

Happy Development

Maybe our most significant advice is happy growth. The category of educational tactics known as sensitive and responsive interactional practices includes incidental teaching. The Division for Early Childhood of the Council for Exceptional Children provides strategies to encourage socially responsive interactions. They are compatible with what we have discussed here in the context of incidental instruction both practically and conceptually. In order to increase learner initiations in the context of naturally occurring activities, they advise instructors to observe and respond continuously gently to a child's range of affective responses.

They also advise that the consequences be appropriate and related to the child's interests and preferences and that the instruction advance along with the child's developing skills. We have shown the support for these suggestions as they pertain to incidental instruction throughout the through our conceptualizations, examples, and evidence. Finally, we recommend happy progress as the standard for evaluating the continuous effectiveness of accidental teaching techniques. Happy progress is the arrangement of positive reinforcement conditions that are clearly signaled by the learner's happy and uncoerced initiations, reinforced naturally by responsespecific reinforcers, and taking place in the context of progressively more complex competence over time across behaviors, social partners, and situations [9].

CONCLUSION

In conclusion, a variety of tactics are suggested by the research base for enticing inquiries and eliciting explanations; the most effective one will rely on the unique learner and their present preferences and circumstances. The instructor's ability to observe and react to the learner's

behavior at each level of the teaching process is therefore a crucial component of incidental teaching. Based on student responses, the teacher must distinguish between successful and poor environmental settings. Paying close attention to the learner is necessary in order to recognize and react to each child's beginning. Also, in order to define the proper criteria for target replies for each particular accidental teaching engagement, the instructor must evaluate the learner's skill set and present reaction. For instance, if the student's repertoire does not contain single words, it would be inappropriate to push them to vocally request using adjectivenoun phrases; instead, if the learner has a vocal repertoire, the teacher can begin with oneword requests. Similar to this, the precise social skills that should be taught rely on the child's present repertoire and general understanding of the domains and progressions of social conduct in standard and atypical development.

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CHAPTER 16

SOCIAL COMPETENCIES: PIVOTAL RESPONSE TREATMENT STRATEGIES

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ABSTRACT:

The fundamental tenets of behavior modification are built upon and improved upon by pivotal response therapy (PRT). PRT teaches and reinforces new, prosocial behaviors by using a child's natural incentives toys, games, and activities that a kid desires and enjoys. In this chapter author is discusses the social competence.

KEYWORDS:

Autism, Behaviour, Children, Environment, Pivotal, Response, Treatment.

INTRODUCTION

A comprehensive intervention program called pivotal response therapy is used to address the basic social communication weaknesses linked to autism spectrum disorder. Pivotal Response Treatment (PRT) is acknowledged as a therapy that has been empirically verified. These therapeutic approaches focus on many crucial developmental areasimportant domains that, when addressed, also result in gains in a wide range of abilities [1], [2]. PRT was first thought of as the Natural Language Paradigm since many of its constituent pieces were developed as a result of studies targeted at promoting communicative speech. Researchers observed that the application of certain therapeutic procedures has a significant impact on behavioral learning paradigms using motivational principles. The resultant language acquisition data, in particular, was shown to be superior than a more organized applied behavior analysis technique when utilized to measure social communication abilities [3].

Intervention programs often give priority to treating the communication difficulties that are present in ASD since they are frequently thought to be the most difficult. The science is now at a point where the majority of children who are identified with ASD are predicted to acquire some degree of communicative phrase speech due to significant advancements in early identification and early language intervention. Children with ASD are no longer seen to be uneducated, and expectations for longterm outcomes have greatly risen. This transformation indicates a paradigm shift in how the illness is understood. The increased usage of words to describe intellectually advanced people, such as highfunctioning autism, has contributed to a greater understanding of the variety of cognitive capacities among persons with ASD. Priorities for intervention attempts have changed along with adjustments in expectations. The learning of play skills, social skills, and interpersonal competence to operate effectively in natural surroundings and circumstances have become apparently insurmountable hurdles now that effective intervention procedures exist that allow the majority of children to acquire spoken language.

DISCUSSION

Social Competence

Developing social skills is not a passive developmental process. Instead, it is an active transactional process because over time, interactions between a person and their social environment have an impact on one another. For instance, when a parent initiates fun interactions with their toddler, the baby is more likely to initiate eye contact, direct grins and laughs, and language initiations. The parent's future motivation to participate in comparable interactions alters as a result of the child's good social reactions. A transactional, mutually impactful dance that improves the bond and benefits both family members socially is created over time by both sides. Analogous transac tional interactions take place between peers who are the same age as the kid as they mature and enter different social environments. Regrettably, if one or both partners' social responsiveness is impaired, the transactional development of social competence may be interrupted.

Children with ASD have significant difficulties because of this since these conditions often have a negative influence on the frequency, quality, and responsiveness of their social interactions. These restrictions limit the relationships that may occur between peers and between parents, having a profound impact on how people grow later on. A person's peers no longer see them as an interesting or attractive social partner when their degree of social competence falls below a certain threshold. For instance, peers are likely to overlook or openly reject a person who is either not making social bids or using improper or developmentally immature social methods. This prevents the person from getting the social chances they need to help them build their social skills. This baseline level of social competence is markedly reduced in the presence of a social impairment like ASD, severely reducing the possibility of social traction and momentum developing on its own [4]. Growing evidence suggests that deliberate attempts to enhance the development of social competence may be quite successful. The teaching of certain abilities may be split down into its component elements and delivered using behavioral learning techniques. Children may be strongly motivated to acquire and utilize new abilities within an interpersonal context by offering incentives for skill development.

Early intervention is expected to be able to address social vulnerabilities that arise throughout development, giving children the fundamental building blocks they need to fit in with their peers and enter a transactional, selfsustaining social learning environment. PRT is an example of a very successful intervention strategy for fostering early social skills in ASD children in order to promote desired longterm results. By layering motivating methods on top of a threestep behavioral learning contingency, PRT tactics first focus on language development. A chosen stimulus and a requestmaking prompt are given to a youngster. The item is contingently supplied if the youngster attempts to verbally request it. This interaction helps the youngster make a stronger connection between using language and getting what they want, which in turn promotes language learning.

The use of motivational techniquesspecifically, child selection of intervention materials, use of simple bids to attract child attention, combination of previously mastered and novel learning tasks, use of natural/logically related reinforcers, and the immediate reinforcement of any reassuring responsedrives skill development but also has another advantage. There seem to be unintended, lateral advantages in other development areas. Increased motivation seemed to provide a momentum for development and assist progress in many areas at once. In particular,

there were frequent improvements in problem behaviors, eye contact, directed facial expressions, and general engagement with social partners and their environment in addition to linguistic gains.

Kid's Choice

As an extension and augmentation of early task variation research, it has been shown that emphasizing a playbased therapy environment and letting a child choose the play materials and activities maximizes engagement and learning. A scenario where a kid is ready to do everything to keep access to the play materials is created when the properties of intervention stimuli boost child attention and interest. The use of language as a social communication tool may be encouraged at this time with the greatest degree of success via intervention. A prompt is used to direct the youngster to vocally request the activity when such activities are interrupted. An older child's interests serve as a natural area of expertise when they are extended into the arena of social skills interventions. By incorporating these interests into a play activity, a kid may make use of their current theme knowledge and seem to be an authority figure to their classmates. Also, by concentrating on these subjects, the activity's real goal is successfully hidden from the kids with ASD, which lowers performance anxiety. According to research, these arrangements greatly boost the involvement and social interactions of participating youngsters.

Shared Management

It is important to create shared control over the stimulus materials after an activity has been recognized. A youngster who has unrestricted access to a particular object or activity lacks motivation to make vocal requests since doing so would not alter their present experience. Conversely, if the kid's parent or therapist can amusingly share control of the activity, the youngster will now be motivated to speak with the adult. Lately, emphasis has been made on employing kidfriendly activities that call for a social companion, strengthening the idea that adults are crucial playmates. The use of cooperative arrangements supports the use of shared control in PRTbased social skills treatments. Opportunities are established for a kid with ASD and a peer to cooperate together to complete the activity by splitting the resources of a mutually engaging activity between two playmates. They must cooperate to finish an artwork, building project, or board game by asking each other for access to each other's supplies.

Child Focus and Well Defined Learning Opportunities

Before presenting a learning opportunity, it is crucial that a youngster be paying attention to the relevant stimuli. The child's attention has to be captured, so parents and professionals are encouraged to take action. This may be done by standing in the child's line of sight, holding out the thing they want, or giving them a nonbinding preview of an activity. Once you have a child's attention, you may offer them a chance. Youngsters with ASD seem to have trouble focusing on the most important components of their surroundings. It is best to use simple language when trying to elicit a child's first language attempt.

A youngster will probably respond less readily to verbal cues to speak if they are exposed to continual language usage throughout a session because the relevance of such cues is diminished. Adults are advised to restrict their language usage to singleword cues that are only used to indicate a kid needs to make a request when a youngster is first learning language. With the help of these straightforward questions, a clear expectation for a spoken answer is developed [5].

Usage of Tasks for Acquisition and Maintenance

A delicate balance between the acquisition of developmental skills and the maintenance of motivation must be struck throughout intervention attempts. The desire to remain in an intervention session will soon decline if participants are only exposed to difficult new abilities. On the other hand, excessive exposure to activities that have already been learned or are almost mastered will probably result in a high degree of engagement but is unlikely to produce significant skill growth. When combined, child responsiveness and appropriate response are enhanced. PRT strikes a balance between the two kinds of learning experiences to produce highly motivated students [6], [7].

Natural Recommendation

Early interventions aimed to improve social communication impairments by repeatedly presenting concrete learning challenges and using little treats and praise as reinforcers. While improvement was made, intervention sessions were often tedious and there was no internal work motivation. The use of natural, functionally connected reinforcement represents a paradigm change in the field of autism treatments. Reinforcement, a logical progression from the child choice paradigm, started to become inherently woven into the learning activity itself and no longer depended on random stimulus elements. Early language learners developed the motivation to repeat verbal cues and start conversations on their own. Reinforcement occurs naturally in social environments that have effectively included a child's interests and choices when applied to instructional attempts to teach social skills. Children who play games with embedded themes have a natural chance to talk about and receive information about these interesting elements. Discussions on favored subjects may also help social treatments that target important conversational techniques. In this situation, the chance to impart knowledge on a favored subject and have a social companion share your interest in it serves as enough reinforcement to practice a difficult conversational skill or tactic.

Quick Support for Reasonable Efforts

In skill learning paradigms, the perception of reinforcement predictability has a direct impact on desire to continue learning. When rigorous reaction standards are set, it is quite probable that skill efforts won't meet these standards. PRT places a strong emphasis on rewarding any sincere attempts to master a particular ability, guaranteeing constant access to positive feedback. As motivation is valued more highly than perfection, these flexible objective criteria actually encourage earlier mastery of difficult developmental activities. Peers developed the ability to reward appropriate attempts at responding when utilized in peerfacilitated PRT sessions, changing the responsiveness of the social environment to support the social and play abilities of children with ASD.

Social Reinforcement

Several PRT empirical studies have attempted to specifically target social engagement and social skills. Instead of seeing a rise in social involvement as a byproduct, PRT protocols were changed to prioritize social interaction throughout the learning process. Children with ASD were not thought to be disengaged, but rather to prefer sensory stimulation and involvement with narrowly focused theme interests over social connection. The underlying qualities of favorite activities and things might be better understood by analyzing their preferred interests. These characteristics

might then be taken and used to the creation of a similar social activity. The focus was on activities where having a partner along for the experience was crucial. The social companion either enhanced the characteristics of a previously nonsocial interest or produced a novel experience with components known to have motivating properties. The same threepart contingency was still used to provide opportunities, but this time, access to favored items and nonsocial activities was swapped out for access to a motivated social exchange. The distinction between traditional forms of incentive and social motivation grew less clear as social contact took center stage as a reinforcer.

These studies' findings were quite positive; fundamental early social skills including verbal initiations, eye contact, and directed facial expressions were greatly improved. There was a direct elicitation of social behaviors that are necessary prerequisites for later social learning, namely close attention to one's social behaviors, response to verbal input, and sustained levels of engagement, by enhancing the social motiva tional components of the learning opportunity. When parents received training in these intervention techniques, even more significant results were produced. Parent social habits were studied, and the results showed that they greatly benefitted as too. Throughout these interactions, the parents' synchronous participation and good emotion rose. Timewindow sequential analyses were done in order to better understand the direction of the parent and kid gains.

The timewindows immediately after the commencement of each parent and child social activity were examined for a similar reaction from the other party. Our findings showed that parent social actions were being directly influenced by the emergence of kid social behaviors. In a similar way, kid social reactions were being elicited by parental social behaviors. The reciprocal interactions that followed served as proof of a strong transtional interchange that lasted long after the parent education session was over. Social motivation is now recognized as a workable early intervention target as a result of recent advancements in PRT research literature. The cornerstone of social competence is today understood to be prolonged immersion in one's social environment, which is dependent on a foundation of social motivation. These new PRT techniques aim to enhance a person's propensity to seek out and participate in social interaction, which in turn promotes the development of language, social skills, emotional development, and social cognition.

Community Initiatives

In the past, motivating kids to communicate was accomplished by demonstrating the value of language in attaining everyday objectives including satiating basic human needs like hunger and thirst, obtaining wanted objects, and avoiding undesired actions. Yet underlying problems with behavior and development continue to remain. The first is the probability of instant dependence. Many children take on the character of a passive agent of their environment, capable of consistently responding to linguistic signals but far less likely to initiate conversation. Children need to be able to effectively speak out for themselves without needing outside signals and reminders. Social competence, on the other hand, calls for the use of language for purposes other than satisfying one's own desires. Moreover, social connection is just required to share experiences. There seems to be a lot of benefit in encouraging language usage for simply social purposes after the linguistic basis has been established.

Another critical area of development seems to be in initiating. Research shows that they are significantly reduced or completely nonexistent in kids with ASD, and they may be a good

indicator of how things will turn out in the long run. Being an active agent in one's life is essential because it guarantees that the person can successfully advocate for themselves, market themselves, and control themselves. PRT techniques that encourage selfinitiations include promptfading and incentive techniques. Children's incentive to react is specifically employed to assist an initiation via the use of time delay and visual prompt methods once they have shown dependable repetition of a verbal cue. A language opportunity is established by nonverbally luring the youngster with the activity of interest and waiting for a more spontaneous verbal bid rather than the expected verbal command. It is often possible to harness the momentum created by numerous verbal cues to make it more likely that the same verbal bid will be made even in the absence of a further cue. As spontaneous language usage can be predicted, the focus of intervention may change to focusing on more social language functions.

Initiations of Questions

A diminished perceived feeling of intrinsic desire resulting from social engagement is one of the difficulties in encouraging social language with those with autism. Due to the perceived reward value of social interaction, verbal communication for solely social purposes is often done. Sadly, people with autism spectrum disorders often have lower intrinsic reward values. Using current motivation looks to be the solution. This resource is used to encourage social inquiry since there is value in achieving desired nonsocial results. The distinction between social and instrumental demands is specifically combined into a method that encourages queries with highly wanted goods. In the end, questionasking techniques have been directly connected to increases in the range of questions used by kids with ASD. These processes include hiding kidfavorite items in opaque containers or other ways, then prompting the youngster to inquire. The exposing and labeling of the desired item, together with the chance to engage with the stimuli, reinforce the child's reaction to this trigger. The intrinsic reward value of asking questions is promoted by repeating these steps numerous times with more objects in the container. When a kid develops this ability, these methods are broadened to incorporate the usage of neutral and unfamiliar things, teaching them to ask questions in order to learn the names of a range of different materials.

Student Interaction

The secret to social competence as people become older is peer engagement. Peer gatherings are organized using the PRT components to make sure that both sides benefit from the social opportunities offered by these encounters. While the interests of both parties must be taken into account, the composition of childpreferred stimuli is broadened to include mutually reinforcing activities. Even in the presence of less than ideal interactions between the youngsters, finding the overlap in interests guarantees that motivation is maximized to boost involvement in the trade. Thematic interests have been effectively blended into wellliked children's activities to generate activities with a broad appeal, as was previously said. Adult facilitation is used to increase a child's awareness of other people's social cues, while urging is used to make sure that socialization attempts are rewarded.

To imitate the shared control setting found in an adultfacilitated PRT session, the materials of a playdate activity are distributed among the kids when it is possible to do so. Children are encouraged to make requests of one another in order to access desired playthings, which opens up many opportunities to boost both requests made of and answers made to peers who are the same age.

Self-Management

The groundwork is laid for selfmonitoring social interactions when social drive, linguistic sophistication, and cognitive development coincide. A third crucial area of growththe domain of selfmonitoring, control, and regulationis on the verge of development at this point. Those that are typically developing continually engage in continuing selfregulation to make sure that their presentations are wellreceived. Self management techniques may be specifically taught to those who have less developed monitoring abilities. Key skill definitions and techniques for observing how these abilities are used are given to children with ASD. As they did not naturally arise, these specific talents are often not intrinsically satisfying. Hence, by providing opportunities for children to get rewards for trying to employ the selfmanagement procedures, motivation is increased. Following a few unsuccessful first tries at the new ability, attempts are made to get access to the childfavored item. This tool is very helpful for honing social dialogue skills when used for social development [8].

Managing Oneself in Conversation

While using selfmanagement techniques in social interactions, conversational difficulties are first deconstructed into their component elements. Questions and assertions make up the majority of the continuous word stream coming from conversational partners. A statement is used to convey experiences, views, and viewpoints, whereas a question is described as any effort to learn information from the other person. In any discussion, there are countless questions that might be asked, thus throughout these educational attempts, we try to limit the possible answers. Making a leading remark, or a statement that purposefully leaves out desirable information and establishes the framework for an apparent inquiry, the conversational facilitator introduces the idea of question asking.

Leading comments that direct the listener toward a certain followup question raise conversational expectations, such as I went someplace very enjoyable yesterday, I spent time with someone incredibly fun this morning, or I ate something really excellent for lunch. After the talent has been used, the question is answered, and the dialogue moves on with further details and another leading remark. After having had enough practice chances, the person has amassed enough of the required number of practice opportunities to qualify for the reward of their choice. Empathetic inquiries may be used as a more advanced skill to demonstrate interest and care to a social partner, improving perceived social desirability. Attempts are made to lessen the prompting features of the remarks made once queries to leading statements are raised. The person is still urged to ask the right question, but neutral phrases are provided that more closely mimic standard conversational bids. Every statement is taught to lend itself to a variety of potential inquiries.

When the art of asking questions is adequately mastered, focus switches to target statements. Statements are offered as ways of connecting people with shared interests or experiences, creating networks of empathy, or disclosing private information to provide fresh conversational material. Once again, the person is urged to control how remarks are used in response to social invitations. When hearing a certain social bid The person is advised to come up with a suitable remark to say, such as I just had a flat tire, I discovered $20 on my way to work, or I like seafood so much. Again, the words' leading quality gradually fades over time to more closely resemble natural talks. When these two elements are mastered separately, an attempt is made to educate students how to selfmanage a more complicated conversational framework. People are instructed

to answer a specific topic, provide a few details, and then ask a question that is thematically relevant to their response in order to return the conversational volley to their partner. This format is meant to help both people who dominate talks with excessive, irrelevant information and those who contribute little to social interactionsbringing both sides to a medium ground to offer balance to the conversationhave more productive conversations. While participants are told that real conversations are far less rigorous, this framework serves as a general framework to assist organize conversations and increase their predictability. As a person matures, the ability to maintain a conversation opens the way to more profound, longlasting interactions with others [9].

CONCLUSION

Using motivating techniques to encourage selfsustaining social skill usage is the ultimate objective of comprehensive PRT strategies. This intervention package has historically been utilized as a language intervention, using the use of behavioral and motivational tactics to hasten the learning and complexity of this fundamental social ability.

The utilization of spontaneous social initiations, play skills with peers, conversational bids and answers, and self-monitoring of social performance are just a few of the numerous abilities linked to social success to which these ideas have now been applied. Adequate interpret sonal immersion, which is maintained through comfort and proficiency in the application of age appropriate engagement tactics, is a prerequisite for social competence. The usage of single words and multiword phrases in speech is originally elicited by a foundation of desire to utilize verbal communication tactics. The use of selfinitiated language is therefore encouraged in order to develop socially engaged individuals who can speak out for their own demands. The promotion of question asking techniques to combine instrumental and interpersonal communication aims is thus given priority. Self-management techniques are used to shift skill acquisition responsibilities away from adult facilitators and encourage self-monitoring social learners after the capacity to ask and respond in social situations has been developed. PRT aims to create the social competence required for acceptance in one's interpersonal context, enabling access to immersive experience learning that may subsequently support further social growth.

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CHAPTER 17

UNDERSTANDING SOCIAL ABILITY: THE EARLY START DENVER MODEL APPROACH

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ABSTRACT:

Play is used in the Early Start Denver Model to develop children's interest in activities and other people. It teaches youngsters that talking with others is beneficial and enjoyable, which motivates them to keep trying. It also attempts to develop communication and self-expression abilities.We utilize our social skills on a daily basis to connect and communicate with others. They include both verbal and nonverbal cues such gestures, body language, facial expressions, and speech. In this chapter author is discusses the early social development in ASD.

KEYWORDS:

Autism, Children, Learning, Social, Spectrum.

INTRODUCTION

The early start denver model incorporates both a specific teaching subject and a set of teaching practices that reflect empirical information gained through years of study in learning science and developmental psychology. The ESDM combines the principles of applied behavior analysis, allied health professions, and early childhood intervention into a comprehensive intervention for young children with ASD and their families by integrating research involving both typical learning and developmental patterns and atypical developmental and learning patterns seen in autism spectrum disorder. Some of its most potent impacts, according to a number of controlled and single subject designs investigations, are shown in the socialcommunicative domain. How ESDM conceptualizes sociocommunicative development in ASD based on empirical research and applies those notions to a manualized intervention that strengthens kids' social skills.

Theoretical Foundation

Human newborns show a clear preference for social engagement from infancy on. Early developing social abilities and the social experiences they enable are the origins of the behaviors and motivations that are the bedrock of all human civilizations [1]. This extensive inclination for social interaction and communication is the result of a complex interplay of bio behavioral systems that have been formed by evolutionary constraints that have favored sociability due to its usefulness for survival. Human kids learn via social contact with other people rather than having vast hardwired information like other animal children, which is advantageous since it allows for flexible and contextdependent learning. Early social development promotes learning both directly through observation and the acquisition of new behaviors as well as indirectly through interaction with others because children's desire to engage in social interactions draws others' attention, engagement, and a pedagogical attitude to them. The most recognizable and permanent

aspect of ASD is impairments in socializing, therefore attempts to treat these symptoms must be guided by a knowledge of the mechanisms driving early social development. The next sections will examine current findings in the field with an emphasis on normal social development and how it is disrupted in autism spectrum disorders (ASD).

Early Social Development

The desire to participate in social interactions and the capacity to comprehend them are driven by a set of system preferences and certain neurocognitive resources that are active from birth. Compared to nonsocial stimuli, newborns pay greater attention to people's faces, voices, and movements, and they prefer making physical touch with living things over inanimate ones. Additionally, throughout the formative years of development, kids prefer social interactions to solitary pursuits and actively seek out and enjoy social connection. Children can quickly amass a wealth of knowledge from and about the social world thanks to this early emerging social motivation, which is supported by a network of brain areas including the amygdala and orbital and ventromedial regions of the prefrontal cortex. This knowledge further shapes children's ability to navigate their social environment. Early emerging neurocognitive systems that allow children to interpret social cues support and are supported by the propensity to interact with social stimuli. One of them is the social perception neural circuit, which reacts only to biological motion as opposed to nonsocial motion and is housed in the temporal lobe of the brain.

Also, babies have mechanisms designed specifically for identifying and processing communication intentions. These systems, which include the subcortical and cortical regions of the socalled social brain, enable quick interpretation of overt signals like direct gaze and other nonverbal signs that suggest one is the object of another person's attention and possible future behavior. Both social cognition and social communication depend critically on the ability to read the communicative purpose of others' conduct [2]. Infants utilize gaze signals to direct and coordinate other people's and their own attention toward a common attentional focus starting in the first year of life. In a similar vein, newborns perceive a person's glance at a certain item as signaling that that object is the goal of the person's attention. The infant may view herself and others as having the same visual and emotional experience because to this early developing capacity for initiating and responding to joint attention, which is supported by neural pathways that operate in parallel in posterior and anterior brain areas.

Children have a special aptitude for imitation that enhances skill acquisition, fosters emotions of socialaffective relatedness, and fosters psychological closeness between the imitator and the model beginning in the earliest hours of life and continuing throughout life. The mirror neuron system, a specialized brain network, is one of many interconnected neural systems that underlie imitation behavior. The brain areas in this network react similarly to doing a certain motor act as well as to seeing a similar motor act being done by others, enabling the observer to comprehend other people's actions as if they were being performed by himself. Several brain regions that light up in response to both seeing and experiencing certain emotions and sensations have been shown to have similar mirror characteristics. Children may be impacted by the emotions and moods of others around them thanks to this mechanism, which is the basis for empathy, long before they make conscious judgments about the feelings of others.The child's participation in joint play and care routines, during which adults and children are engaged in a coordinated and mutually reinforcing choreography that involves reciprocal imitation, sharing of affect, and turn taking, shapes and is shaped by the socialcognitive and socialaffiliative processes described above. The

youngster has a multitude of possibilities while participating in such cooperative activities repeatedly to recognize and appreciate the relationships and correspondences between their own actions and those of others, developing knowledge and neurological specialization in social interactions [3]. Through such iterative processes, where infants are exposed to learning opportunities that help to develop and strengthen the pathways of the social brain, children can become more adept and sophisticated at processing social information and navigating their social environment over the course of their entire lifespan.

DISCUSSION

Early Social Development in ASD

All the abovementioned processes are impacted by the social development patterns of children with ASD. Infants with ASD tend to be less receptive to their name being called, less interested in social situations and others, less socially engaged, less likely to copy others, and less likely to initiate and react to collaborative attention during the first 18 months of life. Moreover, research including older ASD children have shown decreased prosocial conduct, less empathy, and decreased displays of enjoyment in social settings. These early social developmental abnormalities are anticipated to have a cumulative impact on brain specialization and behavioral organization. The reduced propensity to watch and mimic others, seek out and play with peers and adults, and engage in routines of shared activities all have an adverse effect on the opportunity to learn from and about the social world. In turn, this is probably going to lead to lessened brain and behavioral experience with the social environment, which will have an impact on both the social and nonsocial elements of development. Reduced social attention is linked to difficulty in learning new activities, and issues in following others' pointing or gaze direction are linked to subsequent challenges in the language domain.

Also, as children with ASD are less likely to initiate social interactions with their carers and are more interested in things and their sensory qualities, their conduct makes it less probable for them to benefit from the reactions of the caregivers. This might lead to a virtual deprivation of social experiences, which would make social challenges even worse [4]. It is probable that early social disruptions reflect differences in the builtin neurocognitive processes that support the socialaffiliative and socialcognitive skills seen in normal newborns, even if the biology underlying social deficits in ASD is far from entirely understood. In the social brain and mirror system, for instance, functional and structural abnormalities have been observed, despite the fact that autism does not have a unique or universal neural signature that sets it apart from other disorders. Children with ASD may be less inclined to participate in activities that offer the input necessary for the specialization of the neural networks that enable the experienceexpectant development of the social brain as a result of these early anomalies.

The processing of social inputs may include other, nonsocial brain regions if there is a lack of social specialization at the brain level. For instance, multiple research shown that people with ASD may interpret emotions based on explicit norms and surface perceptual cues. Neu roimaging studies have shown increased activity in visual processing regions and decreased activity in social brain areas during emotion and social comprehension tasks for people with ASD, which is consistent with behavioral results. Engaging in compensatory nonsocial behaviors might impede people with ASD from understanding how others behave implicitly and embodied, which makes social interactions intuitively understandable, meaningful, and rewarding even before infants have an explicit conception of how other people think. There is general agreement

in the field that early emerging social deficits act as a barrier to participation in cultural practices and social learning experiences, thus representing a critical target for treatment, even though the iterative processes connecting initial biological abnormal ities to the differences in social behavior characterizing ASD are not entirely clear.

Social Relationship

Understanding the social domain weaknesses and strengths of children with ASD is necessary for the development of remediation techniques. Significantly, the study concentrating on attachment patterns in this community demonstrates that not all aspects of sociability are impaired for people with ASD. Selective proximityseeking, distress, and decreased exploratory behavior upon separation from the caregiver, as well as relief upon reunion, are some of the behavioral manifestations of attachment, a term coined by John Bowlby to describe the visceral and enduring affective bond between children and caregivers. When a kid expresses worry during periods of separation from the caregiver and is immediately reassured by reunion, the attachment quality is deemed secure, whereas it is deemed insecure when this pattern is not present.

Several characteristics of subsequent wellbeing, including emotion control and reaction to stressful circumstances, have been shown to be predicted by attachment quality. In the past, some hypotheses claimed that ASD was brought on by disordered attachment processes or thought that ASD meant there were no bonds [5]. Yet, empirical research in the field has contested the idea that ASD social symptoms necessarily prevent connection from developing. Children with ASD respond differently to caregivers versus strangers, make efforts to reestablish proximity with caregivers after a separation, engage in more proximityseeking and less explorative behavior when around a stranger, and display behavioral patterns that are, for the most part, consistent with a diagnosis of secure attachment, according to early research by Sigman and Ungerer and subsequent research.

There are more children with ASD who exhibit impulsive or disordered attachment than in the general population, albeit their numbers are comparable to those of mentally equivalent children without ASD who have other disorders. As a result, children with ASD may create strong socialaffiliative bonds with their caregivers even if they may exhibit ASD symptoms. Children with ASD may not be able to fully benefit from the social learning opportunities built into attachmentdriven episodes of childcare provider closeness due to impairments in shared attention, communicative imitation, and sharing of emotions. Hence, intervention efforts must account for such intricate patterns of both intact and damaged socialaffiliative development. This entails taking use of the chances provided by the ability to form strong socialemotional bonds with loved ones as well as resolving the social shortcomings that limit the social growth and social learning opportunities provided by attachment relationships.

Peer Interaction

Peer relationships are just as crucial to a person's social development and our comprehension of ASD therapy, although being often disregarded. Peers offer opportunities for learning and practicing social skills that adults cannot, as children gain a unique understanding of their own and other people's contributions to social interactions through their interactions with peers who share their interests, preferences for activities and materials, and emotional responses. Typically developing youngsters begin to exhibit an interest in their peers at a young age and by

toddlerhood are able and motivated to participate in group activities designed to achieve common objectives without adult guidance. They collaborate and communicate with their play partners throughout these play exchanges utilizing gestures, facial expressions, body postures, and reciprocal imitation to reach mutually acceptable agreements. The chance to practice complex social and cooperative behaviors while engaging in play activities with peers promotes the development of sociocognitive and social emotional abilities like mentalizing and empathy.

For instance, research suggests that children who grow up with siblings of a similar age demonstrate more advanced understanding of others' thoughts and feelings than those who do not, likely because they have more opportunities to practice and improve their social and emotional skills through peer play. Moreover, participating in group activities with peers is encouraged in highquality child care settings, which is good for the development of social skills and communication. The capacity to develop and keep friendships, a trait that is strongly connected with wellbeing throughout the lifetime, is based on routines of play with peers. Many ASD kids choose to make their first moves toward adults rather than their peers only seldom. It is challenging for them to learn, put social skills into practice, and form friendships, which exacerbates their social challenges. They also have a decreased tendency and capacity for imitating, taking turns, and sharing experiences with others. Children with ASD find it particularly challenging to interact with peers for a variety of reasons.

Peers may be less likely to interact socially with a youngster who doesn't initiate, doesn't react to their initiations, or whose initiations are unusual than they are with adults. Furthermore, even when playing with a peer, children with ASD may be overly directive or unable to follow the peer's lead. They may also have difficulty sharing resources, taking turns, adapting to changes required by the activity, or managing their frustration when a peer does not behave as expected. Peers, in contrast to adults, might not make an effort to modify their behavior to address these issues by being patient while waiting for the child to respond, scaffolding the child's language, clarifying or simplifying the game rules, and/or modifying their communications and actions to facilitate the interaction. Peer relationships may thus impose particularly high demands on being attentive to and comprehending others' behaviors and messages, managing frustration, and being adaptable and sensitive to circumstances that change quickly. The many obstacles to successful peer relationships must thus be addressed in interventions.

Learning and Cognition's Social

According to the research thus far, it may be possible to prevent the cascade consequences of social impairments for people with ASD by detecting early disturbances in social behavior. The development of a social behavior repertoire in young children with ASD may have positive implications on their development in a variety of areas, according to this hypothesis. Early methods to intervention concentrated on changing the topography of social behaviors using the same techniques used to change any other behavior. But, intervention literature is beginning to recognize the importance of socialemotional and socialpragmatic components of sociability [6]. The idea that acquiring new words and actions in ASD is restricted by the socioemotional involvement between them and their social partners has been reinforced by empirical studies on language and imitation. Little children, for instance, are more likely to copy peers and adults with whom they have a strong emotional bond. They are also more likely to acquire a new language if they play with someone who speaks it rather than just seeing someone else speak it on TV. Children also learn new words and acts by first comprehending the intention of their

social partner to impart new knowledge. This body of literature supports the relevance of the socialpragmatic dimension of communication and the role of preverbal socialemotional engagement in the acquisition of language and socialization skills, and is difficult to incorporate into operant conditioning accounts of language and socialization.

This viewpoint holds that the development of social and communication skills is a precondition rather than an outcome of preverbal affective and cognitive connectivity between newborns and their social partners via involvement in sociocultural behaviors like play and daily routines. Early development occurs within a framework of emotional engagement, a desire to share meanings, and a preverbal awareness of others' communicative aims. This framework is not merely the setting in which infants learn to interact with others it also plays a direct role in social development. The significance of socialemotional connection and awareness of one's own, others', and shared objectives are highlighted in intervention strategies based on this research to help young children with ASD learn social skills. According to this framework, the ESDM aims to create a social pragmatic and social emotional foundation for the development of social behaviors so that complex behaviors like word use are built on the social infrastructure of shared attention, emotions, and goals, as well as the use of communicative acts for multiple pragmatic functions during meaningful and rewarding daily routines.

Promoting Social Development

One starts with a youngster in the ESDM by developing dyadic interactions that are very enjoyable for the child. Consider the following situation involving bubble play and 24monthold Jason, a quiet, selfcontained, and isolated youngster who has just received an ASD diagnosis and is neither verbal or using conventional communicating gestures Jason, who is tinkering with some DUPLOS®, is approached by the therapist Terri, who brings up a bottle of bubbles. Want bubbles, Jason? She holds out the bottle to him and inquires. He turns to face her, glances at the bottle, then reaches out a hand. You do want bubbles, right? She then blasts a big stream of bubbles in Jason's direction as he approaches and enjoys batting at them. Terri reacts joyfully and enthusiastically to this. As soon as the bubbles are gone, she blows another powerful torrent, to the delight of the animated toddler. As the bubbles are gone, Terri blows again, and this time he responds with a smile.

Terri keeps holding the bubbles even after they stop popping while expectingly eyeing Jason. She reacts right away, Ah, you want bubbles, as he attempts to start the bubble routine by approaching and looking into her eyes. Bubbles! Yes. and blasts them once again. With tremendous joy and exchanged grins between the two, this situation is replayed a couple of times. She delivers him the closed bottle on his subsequent initiation, stating, You want bubbles! since Jason is still very eager by the bubbles. The bubbles are at hand He takes them, examines them, attempts to open, and displays a bewildered expression. You want help? She extends her hand and asks. opens the bubbles and says, I'll assist you, before blowing a large stream. He does not provide the bubbles. After repeating this scenario twice more, Jason hands her the bubbles and says, Here are the bubbles, while pleading for her assistance. More bubbles or a book, please? As she presents the two items, she inquires. The book is reached for by Jason. You want the book, right? She offers it to him and motions for him to sit on a beanbag chair. She holds the book in front of them and says, Sit down, as she assists him in sitting in the chair [7].

We can clearly observe the fundamental components of social learning in this discussion. The youngster becomes acutely aware of the accommodating adult and starts attentive to them,

starting social conversations, and complying with their wishes. The youngster rapidly learns that the partner reacts conditionally, and the two of them start exchanging action and emotionfocused messages back and forth. The relationship is balanced both the kid and the adult alternate between being the leader and the responder at different times. Shared control over the activity means that both the adult and the kid have some influence over it. Shared smiles and eye contact are employed for many different things in this episode, including conveying emotions, making requests, and reciprocating dependent motor actions. These are the pillars of social learning and development that underpin the ESDM approach to therapy.

Also, there is topnotch behavioral teaching going on. The adult establishes extremely obvious, threepart contingencies that swiftly develop the desired behavior since the kid is highly motivated, the adult is teaching, and the adult is focused on teaching. The kid learns quickly and requires just a few repetitions since the learning target is based on the child's existing performance and represents a very tiny step forward. The adult employs effective prompting techniques, fast prompt fading, and jumps right into chaining together two replies. A youngster that is highly driven receives several trials, and new behaviors are swiftly constructed upon the child's foundational abilities. We'll go through how the ESDM therapist creates the teaching materials and intervention strategies to develop each child's knowledge and social skills in the section that follows.

Assessment Techniques and Treatment Objectives

The therapist is working from a highly precise set of shortterm treatment goals in the ESDM, as they are in all other highquality interventions, which have been created after a rigorous evaluation of the child's behavioral repertoire. Before starting ESDM therapy and then again every 12 weeks after that, a qualified ESDM therapist analyzes each child by having them complete the ESDM Curriculum Checklist. The therapist may evaluate each child's abilities across all developmental domains, including receptive communication, expressive communication, social skills, play skills, cognitive skills, fine motor skills, and adaptive skills, using this allinclusive testing method.

A list of talents in each area is organized in a developmental order from less developed to more developed. The curriculum assessment was created as a tool to assist early intervention professionals in capturing the child's present level of skills and developing suitable treatment goals. It is a crucial part of the ESDM therapy. The therapist evaluates the child's abilities based on how they perform in common play and care tasks while using a mix of interactive, observational, and parent interview procedures. The behavioral goals for the next 12 weeks of ESDM therapy are then developed using this knowledge [8]. Let's take a quick look at how a therapist may utilize parental input and observations of the kid during the evaluation to formulate tailored and ageappropriate social communication objectives for a young child called Alex.

Observation

The therapist gives Alex plenty of chances during a curriculum evaluation to ask for a toy or a favorite snack while it is kept out of his grasp. The therapist notices that Alex keeps reaching for the object to get access. The therapist also notes that Alex hardly ever makes eye contact and never asks for anything by making a point or speaking. These observations are noted by the therapist on the checklist [9].

CONCLUSION

Training in social skills is crucial since it is essential for the academic and personal success of so many kids. Since they have never learned how to relate to their peers or because they have trouble generalizing in other social contexts, many kids fail to get along with them and have pleasant relationships. Success in the workplace is based on social competency. Put your social skills to the test and fill up any gaps if you want to reach your professional objectives. Specialized knowledge is not the essential foundation for a successful career. Humans are social animals, and we have created a variety of means of expressing our ideas, thoughts, and emotions to others.

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CHAPTER 18

CHALLENGES PRESENTED BY ADDITIONAL DISABILITIES OR IMPAIRMENTS

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ABSTRACT:

The majority of people who are labeled as having many impairments have more than one substantial impairment, such as an orthopedic impairment, a sensory impairment, or behavioral and emotional problems. In this chapter author is discusses the children with significant cognitive impairments.

KEYWORDS:

Autism, Children, Disorder, Diagnostic, Social.

INTRODUCTION

Because that social difficulties are a prominent feature of ASD, it often happens that parents, educators, and interventionists believe that ASD is to blame for all of a child's social issues. This is an unfortunate instance of diagnostic overshadowing, which is the propensity for the presence of one disorder to overshadow the existence of other illnesses that may be contributing to or accounting for the particular issue being evaluated. The professionals on the ESDM diagnostic or treatment teams must take into account the possibility that additional issues are contributing to a child with ASD's social difficulties and learning, and address these within the child's individual treatment plan, as ASD frequently cooccurs with other disorders. Significantly problematic parentchild relationships, a lack of understanding or speech, the presence of serious attention issues, a profound lack of interest in other kids, issues with controlling anger and aggression, and children with significantly diminished cognitive abilities can all contribute to additional social difficulties. Given the difficulties these frequently present for therapists in terms of choosing activities, identifying appropriate learning targets, managing conflicts that may arise with children and parents, and ensuring enough repetitions for learning, we will focus on two of these topicsparentchild relationship issues and significant cognitive impairments.

Major Problems in Parent Child Relationships

While young children with ASD and young children who have parentinfant interaction issues may have a range of symptoms, differential diagnosis is a crucial first step since the symptoms are present for distinct causes. Nonetheless, both sets of issues are undoubtedly present for some kids and parents. Thankfully, there are many similarities between the parent early start denver model approach and mainstream practice in infant mental health therapy, giving the therapist a toolset for tackling both sets of challenges [1]. Both young children with disordered attachment patterns and those with an avoidant attachment style may exhibit behaviors that cause parents to wonder whether their kid has an autism spectrum disorder (ASD). Some of the symptoms that

coincide with those of ASD include stereotypies, abnormally disorganized attachment patterns, a lack of eye contact, a lack of approach to parents for support or comfort, and difficulty with cuddling. Children who ignore their parents may also have poor eye contact, a lack of comfort and aid from the parent, and an apparent indifference to the parents' presence and their comings and goings.

The assumption was that children with ASD did not show preference for the parents, seeking of comfort or help, security in the presence of the parent, responsiveness to their comings and goings, proximity seeking, or pleasure in affectionate interactions. At that time, ASD was regarded as a primary disorder of attachment. Yet a nearly twodecadelong, international line of research has shown that young children with ASD may exhibit either secure or unstable attachment patterns. This is also true of children with other developmental problems, even if the proportion of securely connected children with ASD is lower than in generally developing children of the same age or mental age. Secure attachment in ASD also exhibits traits with other developmental components of the disorder, such as communication, learning, and social behaviors, that are similar to those observed in usual development. Lastly, parental responsiveness and sensitivity to child signals are connected to attachment security in ASD, just as they are in conventional development. As a result, attachment security seems to be a legitimate concept in ASD.

Yet, compared to normally developing toddlers, children with ASD may display their attachment security in somewhat different ways. Stereotypy is particularly significant in this context since an ASD youngster may utilize it to express positive delight or pleasure upon seeing a parent, as opposed to anxiety and agitation. Problems in the parentchild connection may often be expressed via the parents' descriptions of their own experiences. For young children with ASD as well as young children without ASD, parental separations, severe anxiety disorders, depression, and/or open, angry conflicts may be accompanied by noticeable changes in child behavior, such as sleep and poor eating, sadness or avoidance, increased crying and clinging, increased irritability or anxiety and fearfulness, low energy or fatigue [2].

The ESDM practice would assign a team leader who is trained in both parentchild difficulties and ESDM to a family and child who are battling both ASD and relationship issues. It would also provide opportunities for regular reflective supervision with another clinician, typically as part of the peer supervision provided by all ESDM team leads. By frequent ESDM activities including home visits, routinebased assessment procedures, parent conversations, and coaching, a full grasp of parentchild and family dynamics may be acquired. Every ESDM therapy delivery should include weekly or biweekly parentchild coaching since it allows for a focus on the growth of sensitive, responsible parenting and any potential obstacles. Referrals for individualized therapy may also result from parent descriptions of their own mental health concerns. Here is a case description of a situation where both types of issues were present and were effectively handled by the ESDM therapy.

Presentation of a Case

His diagnostic team suggested LM, who was 27 months old and whose parents were from the Middle East, for intense therapy and ESDM parent coaching. He had early feeding issues as a baby and underwent illnessrelated hospitalizations twice in his first year. His parents were single parents who had little interaction with their own relatives since they lived far away from them. While feeding and sleeping were never easy for her, his mother remembered him as a lovely,

uncomplicated baby who brought her much joy throughout his first year. The second year of his existence saw him change, losing his few words, retreating, becoming unpleasant, irritable, and typically either alone or furious, according to mom. The parent's therapy objectives included fostering some communication, lowering tantrums and anger, addressing food and sleeping issues, and assisting in the development of play activities with the child and with toys. While they had purchased the ESDM parent guidebook, they were unsure of how to approach the activities with their kid [3].

The father handled all of the parentchild interactions during the first parentchild contact when both parents were present. The therapist worked with him to carry out the ESDM play interactions necessary for the curriculum evaluation. He also took care of the child's runny nose, soiled diapers, clothes, and all meals and snacks. LM was a little, slim, and quiet 2yearold. He carried him into and out of the room. Both the mother and the toddler avoided eye contact and avoided physical contact with one other. The child's mother characterized him as often furious and said she was terrified of him because he had hurt her in the past by kicking, biting, striking, and throwing items. In the second assessment visit, during which the same interactional patterns persisted, the therapist engaged the child in a task of block stacking next to the mother. After establishing a routine of giving the child blocks to stack, the therapist then handed a block to the mother instead, who immediately withdrew. The mother offered him the block with encouragement, and he accepted it effortlessly and piled it. This new habit persisted. The mother mentioned her concern about being wounded as she thought back on the event.

The mother and LM returned alone the next week with news that the father had to go back to his parents' house in another country to cope with his father's death and the necessity to handle family business. He was kicking and screaming as his mother brought him into the room, but as soon as she set him down, he calmed down and started looking for a toy. I invited the mother to play with him a bit to help him get ready for the session after we had spoken for a while to learn about the circumstances at home. She went to him and started moving him right away, which triggered another tantrum. She moved back and sat down next to me on the ground. She concurred with my observation that it seemed that he disliked being physically directed. The first therapy session's theme was Go into the Spotlight, so we spoke about ways to capture her son's interest by being nearby, supporting him, expressing interest and approval, and copying him with toysall without giving him any requests or directives. She hesitantly stepped closer to him from the side as he was now happily engrossed in a sorting box. She picked up the block and put it in front of him after I urged her to deliver him a block that had gotten out of his reach. He took it out of its slot and placed it there. You aided him, and he took it, I said in response [4].

She started to describe what he was doing when I pushed her to remark on it. He glanced at her once or twice while she was working. I urged her to go more in front of him because she was standing next to him so he could see her more clearly. She did, giving him another block that was out of his grasp as well. She gave it to him, and he placed it inside. The mother spoke, described, passed out blocks, helped if one dropped off, and pointed to the right hole if he was having difficulties locating it while they sat there for a while. When his mother gave welltimed comments, LM seemed at ease, calm, and responsive, and he turned more and more to her. She said how shocked she was that he allowed her to participate in her reflections thereafter. I remarked that he seemed really at ease and that he seemed to like her company and engagement. She grinned and seemed pleased. Throughout the course of our sessions, I began to give LM snacks, and he accepted them by consuming finger foods and spoon foods. I promptly handed

this over to his mother, who was overjoyed to watch him eating, which soon included drinking from a cup and using a spoon. As she got him home with her, she described a huge issue she was having: getting him out of the car seat. As she shut off the automobile and attempted to remove him from the seat, he was enraged and struggled vehemently. She was concerned that she wouldn't be able to remove a violent, flailing youngster from the seat in a secure manner. We spoke about how much he despised being physically handled in general, and I questioned her about what kinds of things may encourage him to get out of the vehicle. She said that while he adored their iPad, they had to deny him access to it since they had been instructed he shouldn't spend any time on screens. As she came home, I wondered what would happen if she told him he could play with the iPad when they went inside the house and took it out of the car's glove box. It crossed her mind, and she reasoned it may be useful.

He entered the therapy room alone for the first time carrying a toy train at the beginning of the session the next week. The mother responded that the car seat routine had gone really well right from the start when I asked her how it had gone. She carried him out of the bed, set him down, and held his hand as he went to their destination clutching a favorite thing whenever she provided itwhether it was a train or an iPad, which he seldom received. She continued by telling me that she had successfully utilized a transitional toy to get him onto the changing table and into the vehicle in the morning. The tantrums and upsets drastically decreased that week as a result of his excellent response to them. He was also eating solids at the table while we were eating. I remarked on how well she had collaborated with him, considered potential obstacles, and found a method to explain what would happen next to him in a manner he could comprehend. She beamingly remarked on how fast he picked things up, and we both agreed that he was a smart young man. She also said that she had him demonstrate to me how he had begun to count and recite letters. Her faith in her son's capacity to learn as well as in her capacity to instruct him and comprehend what he was saying was rising.

We kept working on the parent manual's topics in the weeks that followed, emphasizing things like parallel play, giving children choices and opportunities to communicate, imitating and helping, narrating and applauding, taking turns without taking over, and understanding nonverbal communicative behavior. All of these procedures call for parental sensitivity and responsibility, and both mother and child found them to be successful. LM rapidly learned to make a variety of gestures, including as pointing to indicate a request, head shaking to indicate opposition, waving to say hello, and starting to babble and mimic certain phrases. In addition, he approached his mother more often for support and consolation, became closer to her, gave and demonstrated items to her, and expressed enjoyment in touching and cuddling with her. His temper tantrums weren't often. Dining at the table developed become a custom. The father returned from his absence to a situation that was substantially different from the one he had left. He expressed how pleased he was to see the closeness that had grown between the two of them when I asked him how it felt to have his kid now habitually turning to his mother for support and comfort rather than to him.

DISCUSSION

Children with Significant Cognitive Impairments. Is it permissible to utilize the ESDM with children who are chronologically older but not developmentally older than the recommended ages? is a question that ESDM trainers are often asked. The typical answer to this is that, for children with ASD who may be 9 years old but have language and play abilities comparable to

those of a 2yearold, we do not believe the ESDM to be an appropriate therapy. There are a number of reasons for this. First of all, the ESDM's method of engagement is heavily influenced by studies on the features of adulttoddler interactions that promote language development, cooperative social conduct, ageappropriate toy play, and play with other young children. This is the developmental orientation of the ESDM addressing the requirements of children with atypical development by employing the learning pathways that we are aware of as contributing to learning in normal development, provided that research shows that these learning pathways also exist in ASD.

This technique teaches young children with ASD to operate in regular contexts and activities as their peers of the same age do in order to prepare them for agebased contextual expectations. It is both a developmental and a functional approach. Children with ASD who are in school have classmates who are in school, older children are the majority of their settings, and differing expectations of peers, adults, and other situations depend on the child's age. Their capabilities and requirements are evaluated based on how well they perform in various settings. There is minimal evidence that a developmental strategy can enhance the results for schoolaged kids with severe intellectual disabilities and ASD. Applied behavior analysis, a branch of learning science, has been used successfully to teach young kids practical skills that promote their capacity to engage in and interact with peers their own age in a variety of activities.

Children's communication, motor, selfcare, cognitive, social, and behavioral skills must be assessed in order to identify their strengths and the skills that can be taught to them right away to help them become more independent and have more satisfying interactions with peers and adults in everyday situations [5]. How does the clinician decide whether to take a developmental path and when to take a more functional approach for young children who have substantial cognitive deficits in addition to ASD? The simple answer has to do with the child's developmental requirements in relation to his or her age. The main factor to consider is if the developmental strategy will encourage the use of objects, interactions, or activity routines that are out of date with the child's chronological age. If so, the developmental method must be modified to include ageappropriate materials and adapted activities given the emphasis on supporting children and adults with disabilities in their inclusion and engagement in community, social network, and family environments that is emphasized in the ESDM.

Proof for ESDM's Effectiveness

Using the ESDM to enhance outcomes for young children with ASD has been the subject of more than 15 studies, including those by Australian, Italian, Canadian, and American writers. The impacts of the ESDM administered in group day care settings, parentimplemented ESDM taught through parent coaching for a limited number of hourly sessions, parent coaching delivered via telehealth, and the ESDM delivered at high intensity have all been studied in papers. In 14 out of the 15 publications, improvements in general development, language, adaptive behavior, and/or behavioral issues were noted. Three randomized controlled trials, a comparative research employing a highquality community intervention as the comparison, and three studies with single subject designs make up the studies with the most stringent designs [6]. In two of the three published RCTs, the ESDM was shown to have beneficial outcomes when compared to community therapy.

In the earliest articles on ESDM results, Dawson et al. examined the outcomes of 48 children who were randomly assigned to 20 hours of 1:1 homebased, interventionistdelivered ESDM,

twicemonthly parent coaching, and daily parent practice. During the course of the 24 months of therapy, the community group received an average of 18 hours of community intervention, compared to 15 hours per group in the ESDM group. The research showed that the ESDM group had achieved several noteworthy improvements when compared to the community group, including noticeably greater IQ growth, scores on adaptive behavior, language improvements, and symptom reduction. Electrophysiological differences between the groups after treatment and an agematched group with usual development was another crucial discovery. This research demonstrated usual brain responses to gazing at faces as opposed to things in the ESDM group but atypical brain responses to faces as opposed to objects in the community therapy group as compared to the typical group. Following up with these two groups several years after treatment revealed that the ESDM group had maintained several areas of improved function in comparison to the community controls, including differences in IQ scores that were approaching statistical significance and improvements in social communication ability as measured by the Vineland and ADOS.

The results of a very low intensity parent coaching intervention employing ESDM approaches were compared to community treatments in the second RCT, which was conducted by Rogers et al. In this research, the average treatment time for the community group was 3.7 hours, compared to 1.5 hours for the ESDM group. Both sets of parents improved their parenting techniques, and both sets of kids showed comparable accelerations in their linguistic and developmental rates. As compared to community therapy, the ESDM did not provide improved parent or child performance. Nevertheless, it required just 40% of the intervention hours utilized by the community group to achieve the same results in both parents and kids, and the ESDM parents showed much greater working relationships with therapists than the comparison group [7].

It involves providing 14 families with low intensity telehealth parent counseling and ESDM parent implementation. For a period of 12 weeks, parents participated in weekly 1.5 hour coaching sessions and had access to a website that included, among other things, a goaltracking program to track daily practice of PESDM topics, child behaviors taught, and activities used modules with text instruction, video examples, practice exercises, and frequently asked questions and a resource center of website links and toolkits. Ten families that were randomly assigned to the community treatment comparison group had their children's and parents' results compared. Also, these families had access to the website's general content as well as a weekly 1.5 hour tele health session without coaching. Findings showed that the experimental treatment had a substantial impact on the parent fidelity of the ESDM implementation. The two groups' kid social communication showed no discernible variations. The significance of these results is related to the many studies that have been repeatedly shown to show a favorable correlation between more responsive parenting and longerterm, more advanced language development in young children.

There are presently two more RCT trials being analyzed. Both a multisite study of the 97 children participating in an intense ESDM treatment compared to community intervention and a study of 30 children and parents in a parent coaching study comparing two versions of the ESDM parent coaching model are presently being prepared for publication [8]. Together with these three RCTs, Vivanti et al. carried out a wellcontrolled trial of 57 Australian children with ASD between the ages of 18 and 60 months, of whom 27 received 12 months of 15 or more hours per week of ESDM administered in a group setting with staff ratios of one adult to three children. The ESDM group was contrasted with a tightly matched group of 30 kids that received

early intervention for at least 15 hours per week for 12 months from excellent public preschools using a variety of empirically supported intervention techniques. The ESDM group significantly outperformed the control group in this research, as well as in the Dawson et al. 2010 study, in terms of receptive language scores and overall developmental rate. A number of studies employing single subject designs have examined the parent coaching version of the ESDM. Eight parents and eight kids, ages 1226 months, who received 1 hour of parent coaching each week for 12 weeks were profiled by Vismara et al. After six onehour sessions, the majority of parents were able to grasp the ESDM tactics and kept them up during a 12 week follow up, according to the research, which also showed that children's social communication skills had improved.

Nine parents and nine children, aged 16 to 38 months, received parent coaching through telehealth for a period of 12 weeks, according to Vismara et al. In accordance with a grading method, faithfulness was attained on average after 6 hours, and child social communication improved as parental fidelity grew. Eight parents and eight kids between the ages of 18 and 45 months participated in Vismara et al. Parents also had access to a selfguided website and got weekly 1.5 hours of telehealth coaching. In accordance with gains in parent fidelity, parents attained fidelity in an average of 7 weeks, and child social communication rose. Colleagues in Australia and Italy have published further ESDM research using prepost designs. It suffices to remark that both articles confirmed the findings from the more rigorous ESDM trials in their reporting of developmental acceleration and improvement in child language, cognitive, and behavior difficulties since prepost designs do not provide solid testing of effectiveness.

Further research are required to look at how the ESDM affects molecular components other than IQ, the severity of autism, and language development.

Our objective has always been to significantly alter the developmental trajectories and outcomes of children with ASD, and language and IQ are the best indicators of bad vs improved results in ASD in later life. For this reason, we have concentrated on these broad outcomes in our first investigations. However, since these are broad constructs that encompass improvements in a variety of child skill and knowledge areas, it is important to understand the developmental shifts, or mechanisms, behind these enhancements in fundamental behavioral constructs in order to determine how to target interventions for maximum effectiveness and economy. We also want to comprehend other ESDMaffected aspects of learning and change, such as attention, social preference and social reward, emotional arousal and regulation, the formation of abstract concepts, relationshiprelated aspects like emotional contagion, inter subjectivity and knowledge of other minds, and selfformation [9].

We must carefully examine the traits of children who answer more quickly and those who respond more slowly, as well as which children need customization of the strategy as outlined in the ESDM decision tree.

We also need to know if the adjustments increase the learning rates of children, which is equally crucial. Lastly, we need to evaluate the intervention's components in a sequenced intervention design, such as the decision tree, to see how well our heuristic method based on clinical knowledge stands up to empirical evaluation. The curriculum tool, or at least a condensed version of it, has received support from recent psychometric analyses as a valuable tool that strongly correlates with both conventional developmental measures and standard ASD symptom and severity assessments.

Clinician Implications and Advice

The reader has probably drawn numerous conclusion from the foregoing account of how an integrated intervention that draws on both developmental research and learning science approaches the chance to enhance the social development of young children with ASD. One encompasses the several skill, learning, and development areas that support children's growth in becoming responsive social partners with others. The skillful use of verbal communication, including both deliberate verbal communication and its unintentional synchronization with nonverbal signals in the gestural, postural, and emotional domains, is very important. Another entails having a sophisticated and adaptable repertoire of ageappropriate social and objectoriented games, vocabulary, and play and learning materials, as well as engaging in a variety of activities of all kinds that allow kids to engage in the same activities as kids of similar skill levels.

A third skill is the capacity to interact reciprocally with others throughout all of these activities, including observing what others do, imitating them adaptably, seeing other people's goals and contributing to them, being able to follow a partner as well as to take the lead, asking to participate, inviting others to participate, observing others' affective displays and reflecting them back, and sharing emotion messages and materials with others. A fourth entails having ageappropriate understanding of what other people believe, feel, and experience in order to understand their point of view. There are probably yet more. There is no one field of study that can fully equip a single professional with the knowledge necessary to evaluate social involvement in all of these ways and create effective treatment strategies. The intricacy of social development is best supported by a multidisciplinary therapy team. Interdisciplinary involvement in creating treatment plans and monitoring treatment success in the social domain is one consequence and suggestion.

Following closely on from the first clinical implication and recommendation is the second. A variety of developmental and behavioral skills need to be evaluated, developed, and integrated in realtime interactions with other kids in order to create an effective treatment plan for social development for a specific child. The second social environment for preschoolers is made up of playgroups and playdates, as well as recreational and religious organizations. To build a personalized strategy to assist social development, broad multidisciplinary knowledge is required. We must start at home and in other settings with peers who are the same age if we are to prepare young children with ASD for life in the community at ages 5, 15, and 25, when the expectations, practices, and cultural norms are most clearly represented. These contexts cannot be replicated in artificial settings, and what we teach kids in such environmentssuch as therapy and specialized settingsmight not be useful to them in realworld situations.

The ESDM places a strong emphasis on collaborating with parents and family members in homes and other communal settings because of this. This is why we urge families to look out inclusive settings for their kids, and within such settings, we make a lot of effort to support kids indirectly so that their main social partners are the other kids and adults there. If a partner is present in such situations, and there are enough learning opportunities to enable quick learning, we think that the necessary learning for a specific kid may be integrated into the continuous daily activities and interactions of everyday life. The implication and suggestion are to incorporate the individual treatment plan for social development for a young child with ASD into social contexts, routines, and activities of family life as well as contexts that contain community age

peers and the adults supervising and teaching them, supported as necessary by additional adults who support adequate learning opportunities through indirect rather than direct interactions.

CONCLUSION

For young children with ASD, it seems that the ESDM method is an effective intervention that specifically improves socialcommunicative function. The effectiveness of the intervention in typical public community settings has not been as clearly shown. The majority of research conducted to date have featured universitybased intervention studies, and the handful that have been more communitybased have not employed evaluationfriendly study designs. These studies must be carried out, and we are now working on one examining the parent coaching model. To determine if this intervention strategy is successful for widespread adoption, RCTs of communitydelivered ESDM are required.

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CHAPTER 19

VIDEO BASED INSTRUCTION FOR AUTISM LEARNERS

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ABSTRACT:

A remote training technique called videobased learning uses live or recorded video to impart new information and skills. A multisensory learning experience that promotes engagement and memory retention is provided by videobased learning, which makes use of pictures, graphics, onscreen text, and audio. In this chapter author is discusses the video modeling.

KEYWORDS:

Autism, Behaviour, Children, Learner, Video.

INTRODUCTION

When Harring, Kennedy, Adams, and PittsConway examined video as a component of intervention for teaching shopping skills to persons with developmental impairments, videobased education first appeared in the literature. This was in 1987. The authors of this research noted the beneficial impacts of VBI to encourage generalization. These researchers gave practitioners an alternative to live action models by presenting their models through video and gave them a new way to simulate actions that are difficult to simulate in vivo. More than 40 studies analyzing various components of VBI have been conducted in the three decades since that publication, in addition to a dozen narrative literature reviews or metaanalyses. Access to video has changed throughout time, moving from videotapes and videodisks to DVDs and portable DVD players, smartboards and mobile devices, as well as wearables and augmented reality [1]. The expansion of VBI research is most likely a result of mobile technology's rising ubiquity and high level of social validity.

Autism or special education are not the only populations that may learn through copying videos. While the technique has been around for a while, it is not often referred to as VBI. Whole television networks have found success on the notion that VBI may be fun and useful for learning new skills.

The basis and justification for utilizing video as a teaching medium are its high level of social validity, simplicity of usage, and, most significantly, effectiveness. It is normal practice to search web databases for video models to discover solutions to home issues. Nevertheless, the use of VBI to promote learning by people with autism is the main emphasis of this. This gives instructors and therapists who want to apply VBI knowledge on research that has realworld applications. The reasoning and practical factors for deploying VBI widely are the first topics of discussion. This covers the rationale for utilizing video as a teaching tool as well as a review of variables that are known to have an influence on or are hypothesized to have an impact on VBI. After that, the article's emphasis changes to provide a detailed background on the study,

application, and issues around utilizing videos to teach social skills and practical life skills. The reader is expected to have a deeper comprehension of why and when to utilize video in this situation, as well as enhanced knowledge of how to use VBI with students who have been diagnosed with autism.

Rationale

Why pick a hightech solution when a lowtech one is available? The greatest justification for using hightech solutions is to assist in achieving better results or to provide a more rapid or efficient conclusion. More than concrete proof of improved efficacy, logical considerations are a major part of the case for employing VBI. Some of the pioneering work in this field continues to provide convincing justification for using video in education. According to Haring, Kennedy, Adams, and PittsConway, the ineffectiveness of this process for specific skills is one of the obstacles to program ming for generalization by training many exemplars. The authors specifically took into account the variety of communitybased contexts that would need to be sampled in order to achieve generalized response. The authors proposed that using a simulation in the form of actors portraying the skills in various natural settings might provide the level of multiple exemplar training required for generalized responding. They acknowledged that response generalization is an important goal for instructional programming for people with autism.

One would discover a variety of methods, from air dryers to different towel dispensers, if they conducted an ecological inventory with the goal of finding the many ways to dry one's hands in the restrooms of shops, restaurants, and other public meeting places. While it would be ideal, sampling each of these on training excursions may not be K.M. Ayres et al. logistically possible. When video modeling is used in training, students may be able to sample a greater variety of exemplars while still developing generalization skills [2]. VBI may also restrict or concentrate the instructional universe in a manner that is impossible to achieve in the natural world, in addition to delivering highquality examples of a variety of stimuli. According to Sherer et al., videobased instructional setups may improve attention to critical stimuli because they may make them more prominent. Also, because natural fluctuations that can happen spontaneously in the natural world are not a concern, educators have more control over how stimuli are presented in videos. The teacher can be sure of the model's quality thanks to this separation and control. An instructor may reuse the material and make sure that parents or assistance teaching the same skill utilize the same model by using a highquality model. In contrast to viewing two or three separate models of a chained task and inconsistent adherence to a task analysis, this may provide a sense of continuity for training and increase acquisition.

Factors for Making Instructional Videos

Two required skills are a minimal need to learn from VBI. To be able to perceive what is shown on the screen, the student must first have good visual acuity. Larger displays may be more effective for certain learners, according to some studies. The learner must also demonstrate generalized imitation, which comes next. If the learner has not yet shown generalized imitation, VBI is unlikely to have the intended results for that particular person. 34 studies that assessed the use of video modeling for people with autism were compiled by McCoy and Hermansen. They focused on the many models that are often used in video modeling, such as adult models, peer models, pointofview models, selfmodels, and a combination of models. At least one participant in each of the included trials, between the ages of 3 and 6, received an autism diagnosis. The

review made clear that those lacking imitation and attentive abilities would have trouble with video modeling, and that further study should be done with people who lack these potentially necessary aptitudes. The authors of this paper are not aware of any empirical research that show the effectiveness of videotaped imitation instruction [3].

When creating a video, a number of other things should be taken into account whether the learner can emulate. Whether you create a video from scratch or look for an existing video to utilize as a model is a key factor to take into account. Highquality video models have been made available by several publishers with the goal of teaching people with developmental impairments practical life skills. They provide straightforward, readymade curricula that may be used in education for teachers and therapists. Convenience may make these movies more enticing, but they might also be less effective. For instance, while teaching chained activities to high school adolescents with autism, Mechling, Ayres, Foster, and Bryant contrasted the effectiveness of films produced specifically for their purposes versus those produced commercially. The researchers found that even while all students reacted to both video formats, using customized movies consistently resulted in greater performance improvements. Consequently, interventionists may think about commercially produced yet realize that they may have better results with films that are generated just for their situation.

When creating unique movies or utilizing professionally produced or borrowed material, the viewpoint of the spectator is another thing to take into account. For instance, from the viewpoint of the individual doing the activity, several studies have assessed the effectiveness of VBI shots. A common name for this is pointofview video teaching. On the other hand, other researchers have utilized footage that was captured from the viewpoint of a spectator. Ayres and Langone published the findings of a study comparing thirdperson video modeling versus POV for the education of gross motor activities. The researchers came to the conclusion that either format may be a good option for gross motor tasks after finding that there were very little changes in terms of pace of acquisition, mistakes, or time in instruction. Nevertheless, they issued a warning that POV may not provide enough information for social skills [4].

Using the learner as their own model is another kind of thirdperson video modeling. In a process known as video selfmodeling, the interventionist records the individual doing the job and removes any hints or inconsistencies to generate a model that may be used as an example during training. The use of VSM is justified in part by Bandura's social learning theory, which claimed that people were more inclined to copy role models who were similar to themselves. Mason, Davis, Ayres, Davis, and Mason published the findings of a metaanalysis examining the effectiveness of VSM for instructing autistic pupils. They found that training social and communication skills had particularly positive impacts. One advantage of creating VSM examples is that it may be done while the instructor or therapist is probing, reacting, and prompting a student through the steps of a skill. When functional abilities were taught through video modeling, substantial benefits were shown across intervention, maintenance, and generalization, according to a metaanalysis by Bellini and Akullian. Together, these metaanalyses provide enough support for the use of VSM in a variety of situations.

The decision of whether to incorporate narration in the film is one of the last options for video creation mentioned here. Several studies on VBI and video modeling, according to Smith, Ayres, Mechling, and Smith, neglected to consider the possibility that participants were reacting to the video examples' narrative rather than replicating it. They looked explored how adding narration

to video affected how middle schoolaged autistic individuals learned to complete multistep chained assignments. They claimed that for two of the participants, video modeling with narration from VideoBased Teaching for Learners with Autism was more effective than the video without narration. The other two participants did not need narration to learn the skills, according to Smith et al., although they preferred watching movies with narration. Practically speaking, this would suggest that narrating the phases in a multistep film is probably advantageous and at the very least offers consistent representations of the terminology associated with certain jobs.

Video Based Interventions

A list of the most important aspects will be useful to different professionals when planning and creating video for teaching, even if the criteria listed next do not include all potential variables one may consider. Professionals should choose how to utilize the film in education once it has been produced for instructional purpose. The use of video in training often falls into one of two major categories: video modeling or video prompting, however sometimes both categories' practices may be combined. The person who will provide the intervention must also be chosen by experts. The bulk of studies on video modeling and VBI has used teachers or therapists as interventionists, however depending on the targeted skill, parents and/or caregivers may also be acceptable. Teaching the student how to manage the delivery of education from the instructional video is another possibility. We will discuss who leads training after briefly describing the variations between video modeling and video prompting.

DISCUSSION

Video Modeling

Video modeling is the practice of playing back a complete video before asking a learner to replicate what they observed. From a teaching perspective, this VBI application is the simplest: produce a video, play it, and instruct the student to copy. Studies have shown the effectiveness of video modeling for a variety of abilities, ages, and skill sets. They have further investigated other presentation techniques, such as chunking and continuous video modeling. While video prompting is often thought to be more effective and efficient when compared to video modeling, some researches have shown that video modeling is really better. In general, video modeling could be advantageous when teaching a skill for the first time since it gives the student a chance to see the whole series of steps without interruption.

Video Prompt

When each distinct stage of the movie is played as required, video prompting may have particular advantages for learners who struggle to pay attention to lengthier films. Usually, the therapist inserts the movie into a methodical promptfading strategy, such as continuous time delay or leasttomost prompting. Just the parts of the film that are relevant to the behavior required at that particular moment are shown to the learner. For instance, if a learner stops on the sixth step of a 12step task analysis after independently completing five of the stages, the therapist would just play the few seconds of video that pertain to that step. If the instructor, for instance, recorded a 90second video and the student needs a prompt at the sixth step, which occurs at the 45th second of the video, this might provide some practical issues. The instructor must rewind

the movie to the necessary point. Instead, if the instructor breaks the movie up into sections or separately records each phase, he or she may be able to go right to the section the pupils need.

Professor

Although a teacher or therapist may provide education via video modeling or video prompting, more work has arisen in the last ten years that focuses on educating students to give instruction on their own. Demands and expected actions will shift from how they were first taught when people with autism enter new contexts. Consequently, teachers should concentrate their curricula on selfinstructional behaviors so learners may start teaching themselves across environments, rather than predicting every variant of a behavior and attempting to teach as many discrete tasks as feasible at school. A pupil gains a crucial ability that gives them more freedom once they learn to selfinstruct. When selfinstruction is explicitly taught, it may result in generalized selfinstructional usage and autonomous selfinitiation of selfinstruction when faced with unfamiliar tasks. Also, learners have the option to pursue learning topics that pique their keen interest. Some children with autism need specific instruction in finding and utilizing video from online resources or published curriculum, despite the fact that several websites provide substantial collections of video that many individuals use to selfinstruct.

Researchers have found strategies to assist students in creating their own instructional aids for the purposes of selfinstruction by recording others executing the job in situations when the internet or other resources do not fulfill the learner's requirements. Making their own selfinstructional materials gives students the advantage of not having to depend on others for the source information. For instance, a mobile device may be used by an adult learning a new career with a mentor or work coach to record any tasks they may need to refer to later. Regardless of who offers teaching, practitioners will be able to create stronger lesson plans for their students by understanding the ways and means of employing video in a number of scenarios. The next sections of this article concentrate on VBI in two distinct contexts: first, social skills, and second, wider life skills. Some of the challenges within those settings vary, as do the motives for employing video in various circumstances. Thera pists can provide effective, empiricallybased education that fits the requirements of their students by exploring the research in these fields and determining how to use it in practice [5].

Social Skills Instruction Via Video

Since seemingly little changes in the environment may significantly alter whether answers are socially suitable or incorrect, social skills are difficult to teach. Even seemingly simple things, like using the elevator, may be quite hard since social norms change considerably depending on the circumstance. Blowing one's nose when alone in an elevator could be acceptable. But, blowing your nose in front of someone else makes it impolite. Similar to this, where one stands in the elevator greatly depends on how crowded it is at that particular moment. The majority of cultures consider it impolite to stand close to the sole other person in the elevator. They stand as far apart as possible in the elevator when there are just two strangers since it is considered acceptable social behavior. Yet, when additional passengers enter and depart the elevator, the socially acceptable distance between other passengers varies.

The way that passengers should face, where they should gaze, whether discussions are acceptable, what subjects may be addressed, whether to ask passengers what floor they need vs moving to give them access to the buttons, and other unwritten elevator etiquette guidelines also

differ. Significantly, the majority of individuals have developed a wide range of social skills and elevator etiquette from a broad history of social experiences. Few individuals have really gotten specific training in social skills for a variety of complex social situations, such as requesting to play a game with friends, asking someone out on a date, or using elevator manners. VBI has been found to be an effective method for assisting social skill development and performance for students with autism and other developmental disabilities, whether initiating conversations, recognizing and responding to socially inappropriate behavior of others, complimenting others, or participating in play activities. Since it enables the insertion of diverse aspects that emphasize important social signals, VBI is excellent for teaching social skills.

Development and Achievement of Social Skills

Communication is innately a social activity, and as children with autism often lack welldeveloped social and communication skills, intervention teams frequently place a high premium on it. Most of the research in this field has been on preschool and elementary school children diagnosed with autism. VBI has proven an effective social communication support for learners with autism. Maybe the most basic kind of communication is commanding. Each request is a command, regardless of how it is madethrough speech, voice output devices, or another symbolic methodand it is supported by actions that correspond to the request. For instance, a young toddler may point vocally and grab for a favorite object when they see it. A caregiver or instructor may notice this pattern of behavior and react by getting the object and giving it to the youngster. Requesting will likely be reinforced, increasing the likelihood that subsequent replies will also depend on vocalizing and pointing in order to get the object.

The learning and widespread use of manding may be supported by VBI. After using a functional analysis to determine that participants were misbehaving in order to acquire their favorite goods or activities, Plavnick and Ferreri hired video models to make the proper requests. In contrast to VBI for communication skills that were unconnected to behavior function, these researchers discovered that acquisition, mastery, and generalization of asking were all improved when VBI was explicitly linked to functional communication. When paired with a picture exchange communication system (PECS), VBI encouraged more quick acquisition and consistent requests among four preschoolers with developmental disabilities, including autism, according to Cihak, Smith, Cornett, and Coleman. In essence, Cihak et al. primed demands via video modeling before presenting fabricated opportunity to do so. These and related research suggest that training young children with autism to ask for things using VBI may be successful [6]. For three preschoolers with autism, MacManus, MacDonald, and Ahearn paired VBI with a series of scripted pretend play exercises in a rather new research.

The researchers created scripted sequences of actions and sentences for learners to imitate in 3 min movies of play sets full of linked activities depending on children's interests. When some elements were absent, the researchers made hasty assumptions to ensure that the scripts were followed. The participants improved their play engagement, made more vocalizations, and showed generalization of stimulus and response. This revealed the effectiveness of videobased education for teaching sophisticated play abilities, which are often seen in peers without social and play deficiencies. Youngsters who have been diagnosed with autism are often said to have a lot of trouble switching between tasks. This problem often manifests as noncompliance with a range in intensity and geography. However easy it may be to restrict access to novel activities and minimize transitions, such accommodations may unintentionally increase the frequency and

severity of extreme behavior that is occasioned by transitions. Using humans to support and strengthen transitions is a typical method, although it is not always possible to implement such a resourceintensive strategy. VBI could provide a useful and efficient solution to this frequent issue.

Priming approaches have been shown to be a reliable, affordable, and unobtrusive strategy to enhance transitions by researchers who have utilized movies to explain and illustrate students' effective transition behavior. Three young children with autism were studied by Schreibman, Whalen, and Stahmer using video models of appropriate transitions in families and communities that often accompanied aberrant behavior. Parents implemented the intervention, which eventually resulted in a complete elimination of disruptive transitions. Participants gained the ability to anticipate impending transitions and the reinforcing outcomes that often accompany them. In another transitionenhancing research, Cihak et al. used video models of autistic kids performing 10 transitions connected to the daily activity routine. Instead of using a visual schedule, the researchers gave students iPods containing the transition films and instructed them to watch the movie corresponding to the subsequent location or activity. They added more cues in response to transition mistakes until the individual with autism reached the intended location. All four participants mastered moving between locations around the school within 8 to 14 sessions, but withdrawal from the intervention led to a worsening of the transitional skills, indicating that video transition models may serve as an important accommodation that should be used for a long time or continuously.

Complicated Social Skills of Play

Play gives kids the chance to practice a variety of social skills that are essential for achieving longterm social goals. For instance, play gives young children the chance to communicate and practice other fundamental skills including commenting, taking turns, cooperating, solving problems, and forming friendships. These and other abilities grow more crucial to all facets of education as children become older, including extracurricular activities. Yet, without specific teaching, children with autism often do not learn or employ these kinds of social skills. The characteristics of VBI imply that it may be used in a variety of ways to aid in the development of social skills in students diagnosed with autism throughout the primary school years. Other research also support this conclusion. For instance, constantly asking others to join a favorite pastime is a crucial playbased social skill.

Grosberg and Charlop highlighted that whereas normal peers often persevere until they find and are joined by companions, learners with autism may rapidly quit up recruiting friends to play an outside activity after being rejected. In order to educate four primary schoolaged children with autism to participate in persistent social initia tions of play with peers, these authors adopted VBI. Videos of a peer being contacted by a model to play a game revealed the first and second peers approached refuse to participate. The model then asked a third peer, who accepted to play. The findings showed that the participants acquired the ability to persistently ask friends to join them in play activities and that the skill is transferable to a variety of settings and friends [7]. Social customs are very contextual and change throughout time. As a result, normal social skills taught in preschool and elementary school could eventually be seen as improper for teenagers and adults. Achieving desired results often depends on developing knowledge and abilities concerning intricate social circumstances involving acquaintances, close friends, extended and immediate family members, and intimate partners. Relationship dynamics alter from youth and

throughout adulthood. The need for complex social abilities, such as chained actions, that may not always encounter reinforcing circumstances, makes it more difficult to understand the subtleties of social situations. Even though there aren't many research that specifically looked at VBI as a social skills intervention for teenagers and young adults with autism, it's important to discriminate between older and younger learners since good social skills develop through time. Four teenage participants with autism were taught advanced social skills using VBI by Plavnick et al. To educate participants how to invite peers to participate in an activity, ask peers if they might join their activity, inquire about the interests of peers, help peers or adults, and continue dialogues, these researchers specifically designed a small library of 15 films and used VBI. The findings showed that all four individuals quickly picked up and kept up their desired social abilities. Similar results from a replication research that used the same skills further support the notion that teenagers with autism may learn a number of difficult social skills using VBI.

Chan and John proposed using video modeling to instruct students in sexualityrelated skills, such as acceptable dating conduct and features of privacy and modesty. There are several sources that provide intervention processes for promoting health sexuality education, even if there are no studies to assist the development of these practices. For students with autism, Travers and Tincani outline decisionmaking principles as well as a justification for doing so. Additionally, people with autism may be more vulnerable to sexual exploitation. Video modeling may be a useful tool for teaching people with autism to reject unwanted advances, recognize risky behavior in others, and seek help if they are being victimized. Sexualityrelated curricula and VBI may well complement each other to produce positive sociosexual outcomes for adolescents and adults with autism, though research should be done to determine which types of VBI, procedures, and skills are most amenable to this type of intervention. The evidence based practice of video modeling has been established as well as its demonstrable benefits, and these factors, along with the need for systematic and explicit instruction for complex social behavior, suggest sexualityrelated curricula.

In pre school aged children diagnosed with autism, VBI has been used alone or in conjunction with other interventions to promote a variety of social skills, such as basic communication abilities, imaginative play abilities, and improving appropriate transitions from activities. Additionally, VBI has assisted elementary school students in developing and applying more sophisticated social skills, such as persistently enticing friends to participate in a favorite activity. Students with autism in primary school may learn leisure skills like playing motionactivated computer games and encouraging discussion via video training. One of the main objectives of life skills training is to help people become more independent so they can participate in society more. Teaching everyday living, career skills, and personal hygiene are all examples of life skills. A lot of these activities need for bulky or costly supplies, making it difficult for a teacher to demonstrate in real time without undoing a step. For instance, if the instructor demonstrates how to turn on a gas stove, they must then extinguish the flame to allow the student to replicate this action. The student who has been diagnosed with autism may duplicate this same performance, which would need the teacher to include more errorcorrection steps. While teaching life skills, VBI removes this obstacle and enables the instructor to plan for a variety of resources that are utilized in a variety of settings [8].

While creating interventions, life skills teachers should take into account the unique collection of resources and the individual's environment. When teaching a certain life skill from one person to the next, there will probably be a sizable number of variants. One talent that changes depending

on the particular materials and setting is laundry. Although some washers and dryers feature dials for each setting, others need digital adjustments. Also, the abilities needed to wash clothing at home vary greatly from those needed to wash them at a laundromat or communal laundry facility. The diversity of materials and environments necessitates the use of particular models in conjunction. The student may experience the life skills activities in their natural environment thanks to the flexibility to customize models based on specific settings and materials, which enables educators to design lessons that are generalizable across settings, objects, and individuals.

VBI differs from other modeling techniques in that it enables urging and instructions to be given in a nonstigmatizing manner when done so using widely used contemporary technology. Most persons with autism who are jobless or who cannot get the right accommodations at employment might benefit from this technology. Less than half of young people with autism who were polled for the Institute of Education Sciences National Longitudinal Transition Study reported having a paid job during the previous two years of the data collection. In addition, 9.9% of people with autism were dismissed from their jobs within two years of the data's collection. These figures unmistakably show that more technology are required to help people with autism in the job. There is a need for vocational rehabilitation counselors that specialize in autism, according to Cimera and Cowan, who found that persons with autism need the most expensive vocational rehabilitation services when compared to treatments for other people who have been diagnosed with disability. Similar to this, career coaches efficiently lower obstacles and improve company accommodations, but these services are costly and difficult to get.

VBI may provide some relief from the significant expenditures incurred by individuals with autism who have little access to employment training. For instance, Sauer, Parks, and Heyn investigated the use of cueing systems as a tool for job training for people with cognitive disorders. The findings showed that video prompts as a cueing system were beneficial instructional aids for people with cognitive disorders who are employed. Similar to this, Burke et al. used video modeling given through a tablet to successfully boost the capacity of individuals with autism to execute shipping jobs at their place of employment. The study's participants and their caretakers thought the intervention was socially acceptable and deserving of endorsement for other people with autism who are employed. In addition to conserving resources while teaching life skills, VBI may use videos as better role models for certain chores that are often seen as private. Toilet training might be seen as immoral regardless of the age or connection to the autistic person, despite the fact that it is an essential life skill that will improve entry to future social and professional settings [9].

Drysdale, Lee, Anderson, and Moore utilized video modeling to instruct students on how to use the bathroom, including how to get there, strip, sit down on the toilet, go, redress, and flush. By 8 days, all of the independent toileting skills were mastered by the study's young autistic boys. Also, compared to when video modeling wasn't employed, using it needed less urging from a caregiver or therapist. There is evidence to suggest that VBI is a useful intervention to facilitate teaching people with autism daily life and vocational skills. Along with being successful, VBI may provide muchneeded assistance for individuals with autism as they start their careers. Practitioners who are interested in utilizing VBI to teach life skills should think about how to adapt the processes for their autistic learners. It is vital to take into account other elements that go along with VBI, such as different promptfading tactics, including least to most and time delay, as VBI is sometimes only one part of a bigger instructional package to teach these skills.

Systemic Instructional Component

The majority of research utilizing VBI examined videos as a standalone, independent variable, in which the participant studies a video model or a sequence of video prompts to learn how to accomplish a life skills activity. While video modeling for people with autism is an evidencebased treatment, the procedures employed may not always include flawless teaching methods. In order for a student to meet the task's mastery requirement, instructors may need to use promptfading techniques and deliver extra prompts. To guarantee the student correctly completes the life skills assignment, a video may specifically be utilized as a component of systematic education. For instance, Smith, Ayres, Mechling, Alexander, et al. taught high school students with disabilities how to do office jobs using a video model in the prompt hierarchy. This method reduced the requirement for two complete sets of office supplies and the resources needed to teach instructors to apply the model while also gradually phasing out the usage of prompts until students were able to use the skills on their own.

In a different form, Mechling et al. combined leasttomost prompting with VBI to create a therapy plan. The researchers showed the participants a video prompt at first that showed only one stage of a culinary activity, and if that wasn't effective, they were instructed to watch the film again using leasttomost prompting. Similarly, Mechling, Gast, and Seid examined a third strategy for integrating VBI into a hierarchy of prompts that participants controlled. A mobile device has three separate prompts loaded for each stage of the culinary operations. All participants selffaded their usage of prompts from most invasive to least intrusive until they completed the tasks independently. Participants may choose the prompt required to finish each stage. Many people with autism may find that time delay methods, in which the teacher gives the controlling prompt necessary to elicit the proper answer rather than working their way up a prompt hierarchy, are a more effective use of class time. As a result, a teacher should think about substituting video modeling for live modeling if a student with autism has a history of properly responding to model instructions. For instance, Graves et al. guided high schoolaged students through three culinary chores at several stations in a typical kitchen using continuous time delay and video cues. The participants first saw a video of the whole cooking process before receiving the task directive, Cook the. According to the video model, a 0 second delay was added to the video prompts for each step. The delay was gradually reduced to 5 seconds until each participant completed the culinary chores on their own. All films, including the priming video model, were taken out of the learning process at the conclusion of the research, and participants completed the tasks on their own. The aim of response prompting techniques is to gradually reduce the prompt until the learner is capable of reacting on their own to the discriminative stimulus, which may be a task direction or inherently occurring environmental cues. Yet, there are other situations when a person may unquestionably rely on a video cue, such as when they have few opportunities to complete activities or if they struggle with short or longterm memory. Learners with autism may selfinstruct through unfamiliar tasks and transitions if they are trained to offer their own controlling cue, improving their independence with everyday activities. Videos may be better seen in these circumstances as a kind of accommodation as opposed to an immediate dependency issue.

Self Instruction

The effectiveness of educating individuals to selfinstruct through videos is supported by evidence. A review of autonomous selfinstruction on chained tasks was done by Smith et al.

During a 34 year period, they discovered 19 studies that satisfied the requirements. Chained activities, which were regarded as life skills, were all included despite not meeting the researchers' inclusion criterion. Six of the eight studies that employed video as the controlling selfinstructional cue did so using portable devices. The authors summarized the various methods by which researchers taught selfinstructional strategies, highlighting the fact that a learner has not generalized these techniques until they are totally free of instructor support, including any prompts to refer back to technology and errorcorrection procedures. Ideally, a student would locate the necessary technology when faced with an unfamiliar activity and go to the precise video model or instructions needed to accomplish the skill. Nevertheless, all of the studies mentioned by Smith et al. either gave participants verbal instructions on how to use the technology, gave them the selfeducational materials after they were given the task instructions, or had the materials already set up according to the given prompt.

This crucial ability should be taught to a criteria, generalization should be planned for from the start, and selfinstruction behaviors should be assessed for maintenance by future researchers and practitioners. In order to do this, teachers must choose carefully the details to include in the work instructions they provide. For high school students with autism spectrum disorder, Smith et al. seem to be the first to study autonomous and generalized beginning of a selfinstructional prompt. The researchers employed progressive time delay to offer a verbal direction to use the iPhone after the task directive to finish an unique kitchen, office, or party preparation job. In at least one situation, each participant individually generalized the act of taking their phone out of their pocket. These results show that in order to educate autistic pupils to selfinstruct, professionals should take into account making the commencement of a prompt the first step in the task analysis. If a student has proven successful with video models delivered via an iPhone, for instance, the steps to selfinstruct would include taking the iPhone out of his or her pocket, pressing the home button, swiping left to unlock, etc., until the student has made available a video model that corresponds to the target task. It is important to teach these skills in the natural environment as well, such as a workplace for vocational tasks, a public university for pedestrian skills, or an actual apartment for daily living tasks. Although the majority of selfinstructional studies using video technologies were conducted in school settings.

Practitioners might utilize Spriggs et altechnique and combine it with Smith et alprocesses to prepare for generalization across contexts during the first learning of selfinstructional abilities. This would entail instructing students with autism to turn on their device, navigate the media library, choose the visual activity schedule that corresponds to their current or directed environment, and watch a number of novel tasks and transitions that are presented as video models within that schedule. When all or part of the procedures are unknown, the technology might then be used as an educational resource for the learner, complete with films arranged by environment that students may independently access.

A relatively recent innovation described in the research literature is the use of video models to assist students in the selfinstruction of life skills. If a student with autism responds well to this kind of technology, we may not need to completely remove the cue and instead think of the mobile device as a prosthesis that they need to interact with their surroundings. On the other side, excessive reliance on technology might work against objectives that aim to improve job completion, efficiency, and accuracy. Researchers should thus discover and assess teaching methods that help learners distinguish between circumstances in which video assistance is required and those in which it is not.

CONCLUSION

Teachers and therapists now have access to materials never before available to them, allowing them to provide teaching in any environment and in line with each student's unique requirements. Moreover, the userfriendly hardware and software designs of mobile devices, together with the increasingly pervasive nature of mobile technology, provide high levels of social validity for VBI in a variety of scenarios. Making and displaying a video to a learner with an autism diagnosis will probably not result in the required improvements in behavior. Teaching with video does not, however, come without important concerns and processes. Adherence to efficient implementation methods is just as crucial to the success of any instructional strategy regardless of the media used. Hence, while developing instructional interventions, particularly those that involve VBI, practitioners in education and related fields should take current research into account. As we've shown, before and after video creation, educators must make a number of choices about the structure and content of their videos. After making these choices, teachers may blend video with deliberate promptfading techniques to promote independence and perhaps move students closer to selfinstruction. There is plenty of data to support the use of VBI for students with autism, whether it is for social skills instruction or general life skills instruction. In addition, instructors may easily find a variety of possibilities independent of the instructional subject due to the vastness of the literature base. Teachers and therapists will probably begin developing new uses for VBI before researchers can examine them as technology develops and possibilities increase. These unique apps will help students' learning requirements if data collection is done with care and overall teaching quality is prioritized. The prospects for VBI and videobased assistance in the near future might significantly alter how people with autism and other disabilities interact with their surroundings, especially with the rise of augmented reality and wearable computers.

Yet, it is unlikely that all students' individual educational requirements would be met if teachers only use one instructional style, including VBI. In order to promote the social, behavioral, communicative, and functional abilities that often make up educational programming for students with autism, VBI should be combined with a variety of evidencebased methods. Teachers and therapists still need to individualize education while utilizing VBI, despite the practical advantages it brings. Using several VBI types for different students and/or talents is one approach to do this with VBI. Education professionals will be better positioned to have a positive influence on their students by enhancing their social and life skills in the now and the future by combining evidencebased methods with VBI modifications for different abilities and learners.

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CHAPTER 20

VISUAL STRATEGIES FOR SOCIAL BEHAVIOR

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ABSTRACT:

Visual learning is a form of learning in which a student makes use of graphs, charts, maps, and diagrams. Learners learn more effectively when they organize knowledge and interact with others through images, pictures, colors, and maps. Social interaction and influence are two aspects of human behavior. One's social conduct affects not just how other people react to the present circumstance but also how they will make choices in the future. In this chapter author is discusses the promote social interactions.

KEYWORDS:

Autism, Behaviour, Learning, Strategies, Social, Skills.

INTRODUCTION

As mentioned in earlier sections of this work, people with autism spectrum disorder often exhibit behavioral difficulties that make it challenging for them to properly connect with the social environment. They could also struggle to focus for long stretches of time and finish jobs that require several steps. Social scripting and script fading as well as the photographic activity plans discussed in this article were created expressly to assist people with ASD in overcoming these difficulties. We will introduce these two approaches, provide a short discussion of the research demonstrating their efficacy, and then provide recommendations for how to use them both together and individually to enhance the quality of life for people with ASD and their families.

Schedules for Photography Activities

With the support of a physical prompting method called graded guiding and a visual cueing approach called photographic activity plans, people with ASD may learn to carry out longer and longer sequences of behavior without adult supervision. At the Princeton Child Development Institute, Pat Krantz, Lynn McClannahan, Greg MacDuff, and his colleagues developed activity regimens. Several researchers have improved and complicated the sorts of tasks that may be taught using activity schedules since their initial design[1]. Activity schedules are interventions that primarily consist of two parts a visual timetable and a physical prompting/prompt fading technique called graded guidance. Activity schedules come in a variety of formats, but the simplest and most often used one is a tiny, threering binder with many pages that each include a pictureeither a photo or an iconrepresenting a particular activity.

Advanced learners may use more complicated schedules that include all of the tasks on a single page in list form on paper or an electronic device, with textual labels for each activity in place of images or symbols. With the use of specialized prompting approaches, which do not include vocal prompting or directions, learners are taught to adhere to activity schedules. To avoid

mistakes, learners are specifically trained to follow the visual schedule utilizing a mosttoleast prompting hierarchy, where the teacher physically prompts the student from behind as they finish the activity schedule sequence. While reducing a student's reliance on adult cues is the goal of training them to follow an activity plan, the instructor refrains from using verbal instructions or verbal or gestural prompts when guiding the learner through the program. Reinforcement may be applied to the teaching processes for certain actions where the student may be struggling if physical prompting alone is insufficient to create independent schedulefollowing behavior.

For advice on how to utilize external reinforcers and when to remove them, please see McClannahan and Krantz.The teacher progressively lessens the amount of physical help given when the student starts to follow the plan until they are able to finish it on their own. The order of the exercises varies from session to session to make sure that the learner is really learning to follow the plan rather than just memorizing it. A graphic, symbol, or phrase often represents a terminal reinforcer, such as a favorite food or activity, on the schedule's last page. More complicated elements, such as options between various tasks and visual signals to utilize electronic clocks to accomplish scheduled activities, as well as indications to initiate social interactions using social scripts, may be introduced when learners develop the capacity to follow schedules. McClannahan and Krantz provide detailed instructions for creating basic activity calendars and typical teaching practices.

DISCUSSION

Activity schedules have been shown time and time again to be an excellent way to encourage autonomous behavior in people with ASD. In a pioneering research on activity schedules, MacDuff, Krantz, and McClannahan taught a sequence of activities to four ASD youngsters using a simple activity plan. The participants in the research were prompted by the activity schedule to do three work tasks and three leisure activities. Participants were trained to adhere to the timetables by the instructors using progressive coaching. The timetable and prompting procedures led to higher levels of ontask behavior from all four individuals across all six activities[2]. In an elementary school resource classroom, Bryan and Gast also employed activity plans and graded supervision to improve the ontask conduct of four kids with ASD between the ages of 7 and 9. The timetables and progressive guiding procedure boosted all participants' ontask behavior throughout academic activities, including teaching and generalization tasks, according to the results.

The authors found that participant response remained at criteria levels even after the progressive direction was eliminated. Yet, participant responding declined when the activity schedule book was taken away, showing that the activity schedule was in control of participant responding. For people with ASD, Watanabe and Sturmey investigated the use of introducing choice into activity plans. Three persons with ASD who had learnt to utilize activity schedules to perform tasks in a work environment participated in the research. When these participants were given the freedom to decide the sequence of their activities and design their own activity schedules, engagement significantly improved compared to baseline settings. These results showed that increasing engagement may be achieved by including choice aspects in exercise programs[3]. Machalicek et al. taught three schoolaged children with ASD how to play responsibly on the playground using activity schedules and correspondence training.

Children were trained to match images from the activity schedule with images on the playground equipment in addition to a onepage visual schedule of the activities that was affixed to

playground structures. As a departure from the usual methods for teaching activity schedules, participants were also instructed to examine the schedule of activities before beginning play using verbal and physical cues. According to the study's findings, all three of the children were able to learn to stick to the schedules, and the intervention led to an increase in acceptable play and a reduction in problem conduct. More recently, three toddlers with ASD were encouraged to play appropriately on a school playground by Akers, Higbee, Pollard, Pellegrino, and Gerencser using an activity program. In this research, kids who had previously played in the same way repeatedly on the playground were taught how to utilize an activity schedule to finish a series of suitable playground activities. Findings revealed that when the activity schedule was provided, all individuals did significantly more suitable playground activities.

Relevance for Researchers

Regarding the usage of exercise regimens, there are still many crucial research issues to be answered. The first one concerns the degree to which activity schedules may be altered or eliminated once they have been established. There aren't many documented instances of activity schedules being effectively deleted or faded as of yet. Usually, when the activity schedule is taken away, learner response levels revert to those from before the intervention. The existence of the activity schedule could, in certain circumstances, stigmatize the particular learner or excessively restrict behavior to the order of activities listed on the plan. Investigating strategies for gradually fading visual schedules may therefore be useful. For those students who cannot fully lose the schedule, it could be possible to change it to a format more suited to their age group, such as a planner or smartphonebased timetable. Future studies may desire to look at these issues as well as others, such as how activity schedules might be used to cue more sophisticated social behavior.

Clinical Application Implications

According to the existing data, activity plans seem to be a helpful tool for practitioners who want to encourage a progression of more complicated activities for people with ASD. It is crucial that the practitioner make sure the learner has the requirements for learning to follow a timetable before instructing a person with ASD to follow one. A student must be able to tolerate physical prodding, show they can independently complete the tasks on the schedule, and show they can match pictures of objects with their descriptions so they can complete an activity when shown a picture of it. Before starting an activity program, the practitioner should work with the learner until any of these basic skills are mastered[4]. The practitioner should choose moderately favored closedended tasks that can be finished in a reasonable amount of time and that the learner already understands how to accomplish when constructing a starting activity plan. Instead than concentrating on the exercises themselves during the early phases of training, the goal is to learn how to follow the timetable.

The following schedulefollowing sequence should be taught to the learner get the schedule book, open to the first activity page, touch the picture or icon representing the activity, get the materials needed to complete the activity, finish it, put the materials back where they came from, get the materials back to the schedule book, turn to the next activity, repeat steps 3–7 until the last page is reached, and get the terminal reinforcer. These actions should be shown to the person via physical cues that are given from behind. The teacher should gradually give less physical assistance throughout the course of the lessons until the student is able to finish the program on their own. Measuring learner performance while adhering to the schedule indicated in the

preceding paragraph is typically how activity schedule data is collected. There are various methods to do this. A straightforward way to gather data is to assign a score to each component of the schedule based on whether it was done independently or required prompting. The percentage of independence is then determined by dividing the number of independently completed steps by the total number of steps. It would be advantageous to note how much urging is necessary for certain learners to complete each stage. Data collection frequency will change based on the conditions of the learning environment. Although recording data during each teaching session may be beneficial in the beginning, this may not always be possible. Alternating between teaching sessions and data collection/probe sessions at a ratio of two to three teaching sessions for every data collection/probe session would be a more practicable alternative technique.

The teacher might choose which activities on the timetable need physical prodding and at what intensity using a 3s time delay process in such a system. The amount of prompting used during the next two to three teaching sessions might be decided using the results from the data collection and probe session. Advanced schedule elements may be added if a student can consistently follow a basic activity plan with closedended activities. For instance, in addition to the preselected events, the timetable might also provide option possibilities. The simplest option preparation is adding a piece of Velcro in place of the single photo on an activity schedule page and identifying the page as a choice page. Two images of the activities are fastened with Velcro to the opposite page. By sliding one of the photographs from the facing page to the activity schedule page, tapping the picture, and then continuing as usual to gather the supplies and finish the task, the learner is able to choose between these two activities. If the person does not choose one of the two activities on their own, the teacher may utilize physical cues to encourage a choice.

The student should then start making choices on their own, and these cues should gradually fade away. The creation of a choice board that is placed close to where the learner completes the activity schedule allows for the incorporation of a more complicated type of decision making. A poster board with Velcro strips on it, which allows you to attach various images of the activities you may choose from, is an example of a choice board. Pictures of these activities may be added to the choice board and a choice page with a piece of Velcro where a photo can be attached when the learner is ready to choose from a greater range of activities, and they can be included in the activity schedule book. Physical cues are used to instruct the learner to approach the choice board, choose a picture of an activity, put it on the choice page of the activity schedule book, touch the image, and then carry out the activity as usual by gathering the necessary supplies[5].

The incorporation of openended activities in activity schedules is a second advanced feature. By teaching the learner to use a specifically made kitchen timer to establish the end point for the activity, it is possible to include activities that do not have a predetermined finish point. The best option for this is a straightforward digital kitchen timer with a pushbutton. The timer's minute button has a little red sticker or is painted red to indicate its color. The timer's start/stop button is similarly colorcoded green. On the image are stickers denoting the duration of each activity in minutes, followed by a green sticker designating the start button. Physical cues are used to instruct the learner to touch the first red sticker on the image and then press the timer's red button. The student is then instructed to touch the second red sticker on the image and press the red button on the timer once more. The learner is instructed to touch the green sticker and then press the green start button once the procedure has been completed for all red stick ers. After

then, the student is instructed to start participating in the activity. The person is led to the timer from behind and instructed to push the stop button to silence the alarm when the timer alarm rings. The student is then instructed to replace the activity's supplies, go back to the schedule book, and flip the page normally. If physical prompting alone fails to elicit participant response across all teaching techniques in activity schedules, reinforcement may be given to encourage independent completion of schedule tasks. Booster sessions to practice solely setting, activating, and deactivating the timer may be held outside of activity schedule sessions if the teacher is unable to fade physical indications for doing so after a few sessions. Ageappropriate openended tasks may be added to the plan after the learner can utilize the timer consistently. To encourage social initiations with either adults or peers, the program may also incorporate visual or audible cues. This is achieved by using social scripting/script fading, which is the subject of the next section. To encourage social interactions, social scripts and script fading are used.

Children with autism may learn a variety of social language via the use of social scripts and script fading. Social scripts are visual or aural signals that cause someone to speak in a way that is suitable for the situation. The scripts often include statements or questions that are taught via spoken or written instructions, timed physical or vocal cues, and prompt fading. By deleting the text or the recorded message, the scripts are then methodically faded from back to front via a series of programmed processes. A whole screenplay may read, for instance, Do you want to play with me? Script fading continues until the physical script materials are completely removed, stimulus control is systematically transferred to some other stimuli, or the scripts are faded to a small version of the script material. For example, the first step in fading might entail cutting off the word me for a text script or recording an audio script to say Do you want to play with. To encourage diversified responding and the employment of combination and innovative replies, individuals might be taught a variety of scripts for a certain social scenario.

Researchers have examined the impact of social scripts and script fading on training people to approach others during play and other general social activities with comments or inquiries. Whereas Wichnick, Vener, Pyrtek, and Poulson concentrated on teaching answers to peer initiations, Argott, Townsend, Sturmey, and Poulson employed scripts and script fading to educate youngsters to make sympathetic replies. Scripts are often used to instruct manding behavior. A vocal answer that is controlled by the pertinent establishing operation and reinforced by a particular, pertinent consequence is referred to as a mand. Researchers have specifically looked at how to teach children to demand food, social attention, and aid using scripts and fading[6]. Akers, Pyle, Higbee, Pyle, and Gerencser recently summarized the findings of 16 research that examined the impact of social scripts and fading techniques with autistic individuals aged 2 to 15 years old. The authors came to the conclusion that social scripts and fading is an experimentally supported therapy using the criteria outlined by the What Works Clearinghouse. In addition, the authors tested whether social scripts and fading met the requirements to be regarded as an evidencebased approach and came to the conclusion that they did.

Higbee and Brodhead gave directions for utilizing the intervention in therapeutic programming for people with autism as well as a broad description of social script and fading studies. After Akers and colleagues' synthesis, a number of papers testing the impact of social scripts and script fading with autistic children were published. The study is reviewed in the parts that follow, along with suggestions for future research and implications for using social scripts and script fading in therapeutic settings. Krantz and McClahannan focused on utilizing textbased scripts with four

preteenaged autistic children to increase peer connections during planned art activities in one of the early studies examining the use of social scripts and script fading. Printed scripts were utilized to urge participants to make remarks or queries to their classmates regarding previous or forthcoming events or things in the school environment. Participants were given an initial voice cue to finish the art project and to speak a lot. Words were taken out of scripts to the point where just the quote marks remained, fading them from beginning to finish. All participants improved their spontaneous replies while learning the scripted ones. Increased peer interactions also persisted at 2month postintervention assessments and generalized to a fresh instructor, environment, and materials.

Researchers have continued to assess the impact of scripts and script fading on enhancing autistic children's capacity to begin social language in the form of comments and inquiries in the wake of the study by Krantz and McClahannan. Stevenson, Krantz, and McClannahan taught four autistic youngsters, aged 10 to 15, how to initiate remarks and inquiries with an adult communication partner by incorporating auditory scripts into photographic activity schedules. The scripts included subjects like preferred food and activities. Participants repeated the social script they heard after being physically encouraged to insert the scripts into the language master computer. The recorded words was gradually removed from the end to the beginning of scripts before the physical stimuli were faded in. All four individuals improved their scripted and spontaneous conversations after mastering them. At a private school for children with autism, Ganz, Kaylor, Bourgeois, and Hadden worked with three autistic youngsters, aged 7 to 12, using textbased scripts to improve initiating comments to peers during favorite leisure activities. All of the participants stopped responding when the scripts were taken away, despite the fact that the participants had learned the scripts.

To teach compassionate remarks and inquiries to teachers with three teenagers in a private school for autistic pupils, Argott, Townsend, Sturmey, and Poulson used textbased scripts and fading. Participants were trained to pose an empathic inquiry or make an empathetic comment while instructors demonstrated various gestures and facial expressions while displaying relevant texts. Scripts were completely faded out for each participant. After a 6week followup, participants continued reacting while increasing both scripted and unscripted utterances, generalizing to untrained social signals and an untrained teacher. At a private day program and school for children with autism, Wichnick et al. examined the impact of auditory scripts and fading on peer initiations with three young children in a controlled play setting. All participants mastered the scripted replies, advanced to the stage of gradual fading, and expanded their use of both innovative and unstructured language. These findings extended to untrained toy sets, but only when the script content from the training toy sets had completely faded[7].

To improve playbased commenting with an adult, Groskreutz et al. used textbased scripts and fading with three participants who had autism in a public preschool classroom. After the total fading of the script material, greater usage of new commenting, and generalized reacting to untrained play activities and materials, all participants participated in the targeted commenting. In a different study, researchers trained four boys who attended a private school for autistic children to strike up discussions while engaging in play activities. To boost conversation starting and create response to untrained stimuli for all participants, the researchers specifically employed auditory scripts, fading, and repeated exemplar training. Researchers have utilized social scripts to educate autistic children how to react to requests for social engagement in addition to utilizing fading and social scripts to teach social initiations. Wichnick et al.

investigated teaching three young children with autism to reply to remarks or inquiries from their classmates during a structured play session utilizing audio scripts and fading. In a private school for autistic students, the research used predetermined response phrases such That's cool! After acquisition, the scripts were gradually faded, and each participant used more spontaneous and original replies. Generalization and upkeep were not evaluated.

In a universitybased autism clinic, LedbetterCho et al. concentrated on using textbased scripts in a play environment with three young children to increase peertopeer initiations and replies. All participants improved their scripted, unscripted, and innovative initia tions and answers with peers after mastering the scripts. The impact on the various social communication forms cannot be determined as the data were combined across initiations and answers. Findings were generalized to untrained toys, the environment, and peers and were kept throughout time. Demanding for things like food, attention, assistance, and information is a different style of social connection. Betz et al. trained three young toddlers with autism to utilize many distinct mand frames to request snacks from an adult using auditory scripts. An intriguing aspect of the study was how the researchers attempted to transmit stimulus control by placing a little colorful sticker on the auditory writing device before moving it to the placemat. The mand frames were learned by all participants, and they produced more scripted, unscripted, and original mand frames. Also, the outcomes persisted during the followup and were generalized to a more usual snack environment.

Two more trials effectively taught multiple mand frames to young children in an autistic preschool housed at a university using textbased scripts as part of an organized snack activity.Children with autism have been effectively taught to demand adults' attention using social scripts and fading. Krantz and McClannahan taught three kids how to ask for attention from teachers by integrating textual scripts into an activity routine. All three participants raised their usage of both scripted and unscripted commands for attention. These findings were generalizable to tasks involving untrained activity schedules and untrained communication partners. In a subsequent research, MacDuff et al. taught individuals in an autism clinic environment how to bid for shared attention using auditory scripts, fading, and objects placed in unexpected places. All individuals showed an increase in demands for shared attention, generalized responses to untrained contexts, and continued responses at the followup.

In a followup research, Pollard et al. effectively increased the demands for joint attention in three preschoolaged autistic children by using comparable techniques and textbased scripts. Findings persisted during the followup and were generalizable to stimuli, a new location, and a discussion partner who wasn't taught. Researchers have also used scripts and fading to educate autistic teenagers how to approach an adult for help with a job activity. The participants were specifically taught by the researchers to contact an adult when they ran into difficulties while working on a vocational activity in class. To educate the participants to identify the issue and ask for help in the form of a question, the researchers used textbased scripts. The targeted language was learned by every participant, and the outcomes generalized to untrained work materials and persisted at the followup[8]. At least two studies have specifically investigated the effectiveness of the processes when implemented by other people, such as parents and peers, although the majority of the research on scripts and fashioning has utilized researchers or instructors as the implementers. Reagon and Higbee used auditory scripts at home with three young autistic children to promote playbased remarks.

This study's teaching of parents how to implement the prompting and fading methods was a crucial component. After the fade of the script, all participants used more play statements, and they all continued to do so at the 2week followup as well as while using untrained play materials. For two participants, the audio device remained unplayed. Ganz et al. assessed the effectiveness of using typical peers as implementers. During a craft session in her public school classroom, the researchers utilized textbased scripts to enhance peertopeer questions, compliments, and requests for assistance with a middleschool student with autism. Prior to the training session, the training partner received coaching on how to carry out the processes. With the trained peer, participant response rose above baseline. With the training peer, responding stayed slightly above baseline, but it did not transfer to a peer who was not involved in the script training and fading.

The bulk of studies that make use of scripts offer the scripts in conjunction with, but apart from, the relevant activity components. To help with stimulus control and script fading, however, researchers in two trials looked at the benefits of strategically integrating the scripts into the packaging of the relevant stimuli. For two autistic children, aged 8 and 9, Sarokoff et al. used textbased social scripts and fading while they were eating snacks and playing video games in the classroom. The appropriate physical stimuli were incorporated with the physical scripts. Both participants increased the usage of planned and unscripted comments while having their scripts entirely faded. Findings were sustained at 1 and 3month probes and generalized to peers and unskilled stimuli. Similar to this, Brown et al. included written scripts into the pertinent stimuli at a fake store to promote peer interactions with three kids with autism, aged 7 to 14, during a shopping exercise. All subjects experienced a complete fading of the scripts. All participants' scripted and spontaneous reactions rose, and the effects spread to neighborhood retailers[9], [10].

CONCLUSION

To effectively interact with other members of one's species, find food and mates, and escape predators, social behaviorincluding parental and reproductive behavioris essential. Hence, it is not unexpected that several peptides have an impact on social behavior. In terms of survival, short and longterm health, and mental and physical wellbeing, behaviors are crucial. Although some actions are performed automatically, others are deliberate decisions. Behaviors, which include emotional and physical acts and responses, are the outcome of a complex interplay between heredity and environment. A person with the expertise to research both collective and individual behaviour is known as a behavioral scientist. This demonstrates to scientists how such factors affect social interaction, personal growth, and the ability to forecast potential future behavior and its effects on society as a whole.

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CHAPTER 21

SOCIAL PLAY: PROMOTE COMPLEX AND CONNECTION

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ABSTRACT:

Children engage in social play when they interact with adults or other youngsters. Play eventually becomes more social and complicated as kids become older. Children start to play sociodramatically at the age of four, collaborating to assume roles and making their own rules. in this chapter author is discusses the photographic activity schedules to promote complex social play.

KEYWORDS:

Autism, Children, Clinical, Photographic, Social.

INTRODUCTION

Researchers may want to focus on a few particular areas as they continue to look at how scripts and script fading might help autistic people with their social communication abilities. The bulk of research on scripts and script fading has been working with young children and teenagers. It may be necessary to take certain concerns into account when using scripts and script fading with people with autism; as a result, replication of the study as well as its expansion to include older participants is necessary. Researchers should keep looking into ways to make sure that language will be functional for people in natural settings, such as family members in homes, sales clerks and servers in community contexts, teachers and peers in schools, and coworkers and bosses in vocational settings. This is because the purpose of social scripts and their fading is to increase the independent use of social communication [1], [2]. The effectiveness of this technology when used by paraeducators, peers, parents, siblings, and career coaches has to be further investigated in order to demonstrate that benefits generalize to natural change agents. Moreover, it is critical that researchers continue to look into effective strategies to enable transfer of stimulus control to stimuli present in the natural relevant environment since the boosts in social communication for certain people do not persist after the script materials are fully withdrawn.

Clinical Application Implications

While creating therapeutic programming using social scripts and fading, therapists may use a variety of materials. The best case scenario is that practitioners have access to empirical studies, many of which include technologically precise descriptions of the methods that may be utilized to create a clinical protocol. The book Teaching Conversation to Children with Autism: Scripts and Script Fading, published by two academics and authorities on the subject, might be used by clinicians. The book discusses several kinds of scripts, factors to take into account while setting up to teach using scripts, script fading, teaching techniques, and data collection. Also, the writers provide sections for tactics tailored to different learner types, such as nonreaders, novice readers,

and proficient readers. Resources for practitioners are provided in the book's appendix section, which also contains data sheets and templates for progress reports [3], [4]. The Higbee and Brodhead piece and the Akers et al. synthesis article are both recommended to readers since they both provide practitioner recommendations based on the examined research. Here are some specific things that therapists should keep in mind while preparing to use scripts and script fading with autistic people.

There are a few things to think about before you begin that will improve the chances that the script intervention will be effective. Therapists must do a critical assessment of the learner, the available technology, the social language to be developed, and the eventual natural setting in which it will be used. By carefully considering these factors prior to the intervention, educators will be able to carry out procedures in a methodical manner and evaluate the decisionmaking processes in the event that the desired outcomes are not achieved. Choosing whether to use an aural or textbased script is one of the first considerations to be made. It is advisable to base your decision on the key components of each technology as well as your present skill set. While it may seem intuitive, auditory scripts need that the learner's hearing be adequate to hear the prerecorded message.

As the learner must listen to and repeat the prerecorded material, auditory scripts call for a welldeveloped echoic repertory. Also, the student has to have fine motor abilities to operate the gadget, which usually entails depressing a tiny button. Clinicians could use tools that lessen the demand for fine motor control, including big, flat switches that are simple to operate. The device's features might be improved to improve discrimination, including making the activation button's color brighter with a marker or sticker. Those who find physical prompting disagreeable may need an alternative script type or pretraining to endure the prompts because learners may initially need some amount of physical prompting to activate the device. Auditory scripts may be appropriate for learners who have not yet acquired visual discrimination skills or who have a visual handicap since they do not need visual discrimination abilities, provided that the user can locate the device and activate it. Auditory scripts may be an effective remedy for certain students who exhibit problematic behavior when given written materials, such as symbols or text [5].

The user does not need to be able to read in order to use textbased scripts. The written words act as discriminative triggers to elicit a certain voice response instead. It is probable that preteaching will be necessary for those who cannot read or read fluently in order for them to deliver the appropriate vocal response when confronted with the individual words and phrases that make up the scripts. It is possible to do preteaching in a discrete trial style with prompt fading. The person must be able to read and scan the text in order for text scripts to govern voice replies. Textbased scripts may be the best technology for those who don't react well to physical prompts or who have a history of becoming reliant on physical prompts since they may often be used without physical prompting. The form of social communication that is intended for growth and acquisition is the next factor to be taken into account.

Understanding the kind of reaction will aid practitioners in making choices later on, such as selecting the precise language to be addressed, the appropriate teaching methodology and implementers, and the mastery standards. Scripts and fading have been used effectively to teach and develop a broad range of social language skills, including starting conversations and asking questions, answering conversations and asking for items like attention, food, and assistance. In order to promote social communication that is relevant to the person and will increase

independence, practitioners should pinpoint social language weaknesses. For instance, scripts may be used to educate and enhance asking a range of social inquiries if a person has a good vocal verbal repertoire and social communication abilities but exclusively engages in conversation about certain themes that interest them. Notwithstanding the therapeutic objective, it could be advantageous to begin very young autistic individuals or people who utilize innovative scripts with scripts connected to demanding highly desired products. By doing this, the learner is given frequent and beneficial reinforcement for using the prescribed replies. Scripts may be used to target other social communication forms, such as commenting, asking, or more complicated manding, after the person has scripts for manding for favorite objects.

The learner's age and present vocal repertoire should be taken into account while choosing the precise material of the scripts. The language chosen should be appropriate for the person's stage of development, and it will be utilized in context. One method for evaluating appropriate language use is to watch the replies given by the person's peers who are participating in the desired social activity. To improve the likelihood that the learner will pick up the scripts quickly and get regular reinforcement, it may be advantageous to write the first scripts at a level that is slightly below the person's present level. More sophisticated scripts may be introduced after the basic script versions have been acquired.

The teaching context comes into play when the script type, social language category, and particular script language have been chosen. This encompasses not just the actual environment but also other crucial components like the tools, the social context, and the implementers. In this case, it could be better for practitioners to adopt a backwards approach, first taking into account the terminal context in which that language is designed for functional usage, and then, if required, going forward from there. The choice to teach the scripts in the real world as opposed to a more controlled environment may arise from doing this. Consider a middle school kid who uses entire sentences when communicating, has trouble navigating social settings that call for questioning and problemsolving, and does not participate in problem conduct. In instance, he skips lunch rather than asking if there is more of his preferred lunch dish in the kitchen or for other options when it is not readily available in the lunchroom. Instead of teaching the scripts in an educational setting and working toward generalization, it could be viable to use them in this situation.

On the other hand, some people may need their first instruction in a situation that is more regulated and has less distractions. If possible, it is best to educate in a setting that is similar to the natural environment in order to encourage generalization. It's important to keep in mind that it could take a few steps to transition from a highly organized, distractionfree workplace to a more natural context by gradually introducing more pertinent characteristics of the terminal environment [6]. Therapists need to carefully examine and prepare the exercises, resources, and teachers they will employ to impart the necessary social scripts. It is crucial to make sure that the pertinent elements of that context are established as discriminative stimuli and that any necessary relevant motivating operations are in place because the purpose of social scripts and fading is to increase independent social communication in a particular context. Once again, planning backward from the end result may provide a more simplified method of laying out the processes.

It may be ideal to educate within the context of that activity, with the peers, and the resources common to that activity if the objective is to improve social commenting to sameage peers during free play. In the event that this is not feasible, understanding the end aim enables

practitioners to design further approximations to reach the final objective. It might be argued that some instructors lack access to the necessary setting or organic change agents. On the other hand, if the ultimate aim is understood, the practitioner may attempt to approximate the circumstances in which the scripted language is meant to be utilized and provide a strategy for people with access to the necessary environment to follow. For instance, an instructor in a school setting may put up a mimic restaurant in the classroom to teach and practice the skill if the objective is for a person to interact socially with a waiter at a preferred restaurant. After mastery, the teacher could assign a different adult from the school to serve. In order to apply the method at the target restaurant, the educator might then teach the parents. When the practitioner has taken into account all the preliminary factors, it is time to discuss the details of how to instruct and fade the scripts.

The most popular method for teaching scripts involves a time delay, contact reinforcement, verbal or physical prodding from most to least, and reinforcement for the right answers. At least two studies used colored stickers to help transfer control from the auditory script buttons to a placement in the context of a snack, and a third study embedded scripts onto the pertinent materials to encourage transfer of stimulus control from the script materials to the items present in the con text. Consequently, as a means of conveying stimulus control, practitioners may think about include the labels of pertinent things or pairing the scripts with the pertinent materials. By deleting words or language from the conclusion of the script, it is essentially possible to fade both audio and textbased scripts. When fading textbased scripts, the end of the scripts are often physically chopped off, either wordbyword or depending on a portion of the script.

To achieve auditory script fading, the script must be rerecorded without the last line of words. In either scenario, for instance, the dialogue Would you play with me please? fade to Would you play with me, Will you play with, Will you play, and so on. For the purpose of starting the fading phases, practitioners should establish mastery criteria based on pertinent learner information. This will make it possible to track the development of autonomous response production. Fading too soon might lead to more mistakes, fewer touch with positive reinforcement, more urging, and going backwards, which would lengthen the training period. By periodically checking out more complex fading processes and avoiding the superfluous ones if the pupil answers properly, practitioners may also probe ahead. For the purpose of tracking progress toward the end objective and advancing with prompt and script fading, data gathering is essential. Before to beginning script training, it is crucial to gather baseline data to show that social scripts are successful in boosting the desired social language. In other words, teachers may decide to gather data on the desired response's frequency over a number of days in order to show the student's present performance level. Data on the prompts used, independent replies made using the scripted language, and the fading stages may all be recorded during script training.

Clinicians should also think about recording answers that are suitable in the given situation but weren't explicitly taught. For instance, a student may start combining two or more scripts, changing part of the vocabulary, or coming up with new replies. Data collection should continue after script training and fading to show that effects persist outside of the training environment for the proper amount of time. Data should be collected in the presence of the relevant factors if training did not take place in a natural setting. Data should be gathered during playground activities, for instance, to show that the intended effects were acquired in the appropriate natural setting if the scripts were learned in the classroom but applicable to the playground. Using Social Scripts and Scheduling of Photographic Activities to Encourage Complicated Social Play. We

have already discussed how social scripting/script fading and photographic activity calendars may be utilized to encourage independence and impromptu language usage in autistic people. This last section will explain how combining these two strategies might encourage complicated social play. The simplest way to combine activity schedules, social scripting, and script fading is to simply add scripts to each person's calendar in order to initiate or prompt social interactions. But, in recent years, experts have started to look at more sophisticated methods of encouraging contact between kids with autism and their peers.

The use of a joint activity plan to encourage cooperative game play between three pairs of preschoolers with autism was studied by Betz, Higbee, and Reagon. All participants were used to maintaining their own exercise regimens. The authors devised a timetable that instructed participants to engage in a number of turntaking, closedended preschool games. Each activity schedule page included a photo of one of the two kids at the top, indicating who was in charge of getting the supplies and giving them back, as well as who would choose the game if it was a choice page. The schedule consisted of two pages of preselected activities and two pages where the responsible child could choose a game from a choice board. Typewritten scripts were also included on the activity schedule page so that participants could initiate play with straightforward statements such as Play with me. Participants were taught to follow the schedule using traditional progressive guiding techniques.

The combined activity schedules dramatically boosted both the number of games played during a session and levels of joint involvement between players, which is defined as both participants playing the game jointly or successfully completing a task on the schedule. As activities were switched around and new games were added, participant engagement remained high. One participant pair's responding restored to baseline levels after the activity schedule was taken away, proving that the activity schedule was in control of the participants' behavior [7]. By examining the use of activity schedules and social scripts to teach three pairs of young children with autism to play hideandseek, Brodhead, Higbee, Pollard, Akers, and Gerencser expanded on the work of Betz et al. Instead of using the one schedule book employed by Betz and colleagues, the authors utilized two distinct schedule books since the game of hideandseek needs players to take on various roles, specifically the hider and the seeker. As one youngster was reading a hider page in one of the books, the other was reading a seeker page.

The hider pages came in two varieties. A photograph of a place in the participants' classroom that represented where the kid should hide appeared on a fixed location page, along with the typewritten words Oh, no! , which each youngster wore while playing and was instructed to take off and put to a Velcro watch band. The kid might then bring the script with them to their hiding place and follow it when the seeker discovered them. The only difference between choice pages and fixed location pages was that the leftfacing page included images of two possible hiding places, and the hider may choose a hiding place by transferring one of the images to the right page and then continuing as usual. The participant might utilize the typewritten phrase Go hide. and the numbers 1 through 20 with a circle around each number on the seeker pages as a hint to count to 20. A portable script that said I found you. was also included on the seeker page and could be used to find the other participant while it was being searched .

The participant might pull a detachable piece of paper with two images of probable hiding places out of the book and use it to remind him or her where to seek for the other participant. Each participant got two rounds playing the role of hider and two turns playing the role of seeker

during a particular session. The script for each participants' Thanks for playing was on the book's last page. Before the study started, researchers confirmed that each participant could travel to each concealing site when the photo was shown. Participants had been pretaught about the numerous hiding locations utilized in the study. The typewritten words used in the scripts were also taught beforehand to the participants. None of the subjects exhibited any concealing or seeking behaviors at baseline. All three pairs of participants quickly learned to play the game with high levels of accuracy and independence after the linked activity schedules were introduced and the students were taught to follow them using standard activity schedule training procedures, physical prompting, and graduated guidance.

They maintained their accuracy of performance even when roles were switched around and when new locations were added. When the schedule was totally eliminated, all participants quit playing, and their reaction patterns went back to how they had been during baseline sessions, despite the fact that the authors were able to fade many of the scripts utilized in the research. There were no deliberate efforts to gradually erase the timetable. In a third study in this line of research, Akers et al. attempted to expand on the work of Brodhead et al. by teaching young children with ASD to play hideandseek with three normally developing peers using activity schedules. Along with including more kids, Akers et al. also looked at whether or not the exercise schedule could be gradually reduced when the kids got the hang of it.

Three preschoolaged children with ASD and a group of generally developing preschoolers were taught how to play hideandseek using activity schedules that contained typed social scripts, according to the research by Akers et al. The research used two regimens, similar to Brodhead et al. The hider schedule was made up of a single sheet with seven images of possible hiding places and typedout scripts underneath each image. The participants were instructed to choose any photo, rip it off the sheet, travel to the place indicated on the picture, and remain there until the seeker located them. They would adhere to the established script for that session once they were located by the seeker. In an effort to encourage a variety of responses from the kids, three alternative scripts were taught and alternated between sessions. The seeker schedule had typewritten scripts that said My turn and Go hide to tell the other participants to pick a picture from the hider binder and head to their respective hiding places. The seeker schedule also had a picture of one of the kids to indicate whose turn it was to play the seeker role. The pupils might touch a set of numbers with circles around them below the scripts to remind themselves to count to 20. The seeker spoke the line Ready or not, here I come! to signal to the other kids that seeking would start. This was the page's last feature.

A cardboard strip with images of every possible hiding area on the right side and images of each youngster who would be hiding on the left side, together with four frownyface symbols, was attached to the leftfacing page of the binder. The seeker was instructed to visit the first spot and see whether there was a youngster hiding there. In the event that a kid was present, the seeker positioned the child's image on the right side of the strip covering that spot and read the script that was put underneath the image. In order to encourage varied responses from the seeker, three scripts were alternated across sessions. The seeker was instructed to shift one of the frownyface symbols to the right side of the strip above the hiding place if no kid was discovered there in order to indicate that the place had been explored but no child was discovered. After all three youngsters were located, the seeker moved on to the next place and repeated the procedure. Then, everyone went back to their schedule books, the hiders swapped around the location photos in their hider binder, and the seeker flipped the page to find out who would be next in

line. This cycle was repeated until each of the four kids got a turn acting as the seeker [8]. For all kids, including their friends who were usually developing, standard physical prompting and graded guiding techniques were utilized to teach them how to play hideandseek together according to the timetable. After little more than 14 sessions, all of the kids had mastered the hideandseek game's rules.

A noschedule probing session saw the responding of two individuals revert to levels close to baseline and the responding of the third person somewhat decline. Based on this outcome, the schedule's gradual fading was started. Based on how the students responded over the course of many sessions, the authors systematically eliminated some of the hider and seeker binders. With the exception of one sheet that listed the sequence in which the kids would play the seeker roles, the experimenters were able to eliminate all visual aids, including scripts, for two of the three participants. When the third participant did not consistently search for all three children after the seeker strip was withdrawn, he required the usage of the circles with numbers in them to count up to 20 as well as a modified seeker strip that only included photographs of the three children who were hiding. With these lowered supports in place, all three kids were able to play hideandseek in a new setting and during a followup session that lasted two weeks.

Relevance for Researchers

According to research, social games like hideandseek may be taught using activity schedules with integrated social scripts, and these visual cues can, at least in certain circumstances, be completely faded or diminished. Yet, there is still much to learn about how visual support systems like activity schedules might be utilized to encourage complicated social conduct, therefore researchers should keep looking into this topic. As researchers create increasingly complicated activity plans, they should also look into methods that these schedules may be faded when necessary, given how little is known about the fading of activity schedules. Also, all of the participants in the complex activity schedule studies examined here were already proficient followers of individual activity plans before they were instructed to follow the more complicated schedules, according to the study literature. If following a personal timetable is a required skill set for following more complicated schedules, researchers would want to investigate this. To determine whether techniques are more successful and efficient for teaching a certain set of abilities, researchers may also compare the usage of activity scheduling and social scripting to other evidencebased training approaches, including video modeling [9], [10].

Practitioner Implications

This recent line of research on the use of activity schedules and social scripting/script fading to promote complex social behavior in young children suggests that these techniques may be helpful resources for behavior analytic practitioners who are teaching their clients to engage in complex social play. Practitioners should make sure that their students master fundamental activity schedules and scripts before attempting to use complex schedules like those described here, at least until research indicates otherwise. This is because all of the participants in the studies described in this section were proficient independent activity schedule followers before being taught to follow more complex schedules. It's interesting to note that the physical prompting and graded guiding teaching techniques utilized in these complicated activity schedule studies were the same ones that are often used to teach basic activity schedule following. The basic teaching techniques used to encourage more simple sequences of conduct

thus seem to be adequate to teach complicated behavior as well, even if visual support systems meant to promote more complex behavior may need to be more sophisticated.

CONCLUSION

Behavioral researchers have created a number of efficient ways for assisting people with ASD in learning to more successfully interact in the social environment, as explained in both this and the others in this book. The two strategies discussed in this articlephotographic activity scheduling and social scripting/script fadingare adaptable and powerful methods that professionals may use to teach people with autism how to do difficult, multistep activities on their own and interact with others successfully. These approaches make use of the skills that many people with ASD have to promote further study and community involvement. While a lot of study has previously been done on these particular strategies, both alone and in combination, additional work has to be done to identify new skills and settings where these intervention tools may be utilized successfully. Peer Mediation Treatments for Children and Adolescents with Autism Spectrum Disorders to Enhance Social and Communication Skills A major feature of ASD is social skills deficiencies, which have an influence on social communication development and outcomes across the course of a person's life. The Diagnostic and Statistical Manual lists social communication deficits as one of the main ASD diagnostic criteria, including deficits in understanding and using gestures, lack of facial expressions, and deficits in establishing, maintaining, and understanding relationships as well as deficits in making friends. The pragmatic differences in conversational language for people with highfunctioning ASD were described by Paul, Miles Orlovski, Chuba Marcinko, and Volkmar. These differences included issues with the amount of information provided in conversation to satisfy listener needs, the degree to which topics are managed and reciprocated, the ability to respond to partner cues and engage in reciprocal exchanges, and more.

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CHAPTER 22

UNDERSTANDING PEERMEDIATED INTERVENTIONS

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ABSTRACT:

Peermediated learning (PMI) is a technique used in classrooms where students do tasks in pairs. As the second student (tutor) offers rapid remedial comments, explanations of concepts, or more teaching, the first student (tutee) gives overt reactions.The benefit of peer learning is it enables students to concentrate on comprehension rather than problem solutions. This fosters a collaborative and cooperative atmosphere among students, making them more productive. In this chapter author is discusses the strategies used in PMI.

KEYWORDS:

Autism, Children, Disorder, Peer, Mediated, Strategy.

INTRODUCTION

The National Professional Development Center on ASD and the National Standards Project regard PMIs as evidencebased practices (EBP) since they have been shown to be successful in treating social and communication impairments in ASD children. Peermediated education and intervention, according to Wong et al., is used to educate usually developing peers how to connect with ASD learners and support their development of new behaviors, communication, and social skills by expanding social chances in natural settings. In both teacherdirected and learnerinitiated activities, peers are systematically taught how to include students with ASD in social interactions. The purpose of PMIs is to foster social competence as a basis for establishing relationships. Guralnick defined social competence as the capacity to choose and carry out interpersonal objectives effectively and properly. The capacity to participate in reciprocal contacts and establish connections with peers was characterized by Stichter and Conroy as peerrelated social competence. Given the social dimension of communication, TagerFlusberg, Paul, and Lord indicate that communication programs often include a social element. So, it would seem rational and acceptable to use PMI to help children and teenagers with ASD improve their social skills and communication [1].

Generic PeerMediated Intervention Models

DiSalvo and Oswald described three fundamental intervention strategies for PMI to improve the social behaviors of children with ASD manipulating the environment or contingencies to encourage interaction, teaching peers initiation and social interaction strategies to encourage interactions, and teaching the target child initiation strategies. A fourth option is a combination of strategies. The authors reported on a variety of structures to support interaction, including integrated play groups, peer buddy, peer tutoring, and peer network approaches, pivotal response training and peer initiation training, target child initiation training, and grouporiented

contingencies. These early PMI models have been consistently cited in several research as being successful in boosting people with ASD's social communication abilities. Recently, a behaviorism and social learning theorybased PMI use model was suggested by Sperry, Neitzel, and EngelhardtWells. The steps of this model include choosing four to five peers who have good social and communication skills, are wellliked by peers, and have a positive history of social interaction with the child with ASD.

They also include training and supporting peers in understanding the similarities and differences of children with ASD, including the specific children with whom they will be engaged, training peers in specific strategies with direct instruction and practice to learn strategies, and implementing the strategies. These procedures are included in the Sperry and colleagues' model and include EBP from three decades of PMI research. A recent summary of EBP for children and teenagers with ASD was published by Wong et al. They found approaches that provided enough evidence to be deemed best practices after reviewing literature written between 1990 and 2011. Social skills treatments and PMIs were also used. It's interesting to note that out of those additional practicesmodeling, naturalistic intervention, prompting, reinforcement, scripting, selfmanagement, social narratives, organized play groups, and task analysisare often included into PMI techniques.

DISCUSSION

EBP and Strategies Used in PMI

The majority of studies on PMIs have included training peers, sometimes participants with ASD independently or concurrently, and teachers and interventionists to prompt specific skills or com petencies in order to increase social and commu nication skills. The most effective approaches have used behavioral techniques such as positive reinforcement, modeling, shaping, fading, redi rection, prompting, and extinction to teach peers and participants with ASD. Specific skill categories taught using PMIs have included social skills instruction to increase knowledge of the rules of social engage ment and interactions teaching specific social communication strategies such as instructing peers and participants with ASD to use requests and share toys and games, comments about play activities of self and others, niceties, and play organizers teaching communication partners and participants joint attention within naturally occurring activities and routines and pivotal responses targeted in PRT including giving clear instructions, using of childselected stimulus materials, teaching selfinitiations, interspersing maintenance items, using of natural reinforcers, and reinforcing attempts. Several researchers have emphasized the importance of how and what peers are trained to do and the potential effects on outcomes.

Peer models may need more structured training to help them intentionally think about, plan, and create opportunities for social interactions to promote social initiations when they interact with children with ASD[2]. PMI studies generally include structured arrange ments within social activities and naturally occurring social times that provide multiple opportunities for social interaction between par ticipants with ASD and typically developing peers. These settings or social structures often include social skills and play groups center time with classmates using ageappropriate toys and games , lunch groups , and recess groups , all including peer training and demonstrating positive out comes in increasing social interaction and com municative behaviors for participants. In some studies, the activities were specifically designed and controlled to provide teaching opportunities and feedback such as pullout social groups or therapy sessions. In other studies, specific struc tures or routines were superimposed within the naturally occurring

activity to prompt interac tions with peers or arrange opportunities for peers to prompt and reinforce communication. Several studies have illustrated the generalized effects of having multiple structured activities such as organized games with rules and turn taking procedures and peer networks for children with ASD in preschool settings , elementary school settings , and with only a few in secondary settings.

Exemplary PMI Studies

provides a description of 35 studies representing the PMI literature. The table describes participants and settings, specific strat egies and contexts regarding PMI procedures, and outcomes. These studies were selected to exemplify a range of practices and strategies across the PMI literature, with an emphasis on welldefined procedures for practitioners, and based on publications over the last 10 years.

Social Skills Reviews

A number of reviews have focused on social skills interventions that included studies using peer training and PMI procedures. Seven of those reviews were selected as most relevant and are described in the following narrative. Summaries include the time period of included studies, num ber of studies and participants, intervention strat egies, and findings. Rao, Beidel, and Murray reviewed the literature investigating social skills training for children with HFA published in 2007 or earlier. Ten studies with 124 participants met the inclu sion criteria of 18 years or younger with ASD, involving a social skills intervention that directly taught the children, and use of a singlecase experimental design with direct mea sure of the change in skills. Only three of the studies included peers for interaction or to facili tate skills. Matson, Matson, and Rivet conducted a review of the social skills treatment literature during this same time period. The review included 79 studies and 360 participants, 20 of the studies reviewed included PMIs.

The findings from both reviews described effective strategies similar to other literature reviews such as modeling and reinforcement and visual cuing and scripts. In addition, unique procedures included self management to build social behaviors and teach selfevaluation of skill use, Social Stories read by parents, parent education accompanying social skills groups use of community activities to foster generalization of skills, and use of a curriculum teaching social cognition, emotional under standing, and social interaction during group practice sessions with peers twice a week. Overall the reviewers stated the need for more empirical evidence and clearer descriptions of intervention components. From a practical standpoint, a primary recommendation was designing social skills interventions to facil itate skill generalization outside of the treatment setting and with novel people through pro grammed practice in naturalistic settings with unfamiliar peers and longterm implementation[3].

Autism spectrum disorder is a lifelong, neurodevelopmental disability that is character ized by deficits in social communication and interaction, as well as by restricted and repetitive patterns of behaviors and interests . Social communi cation refers to both the verbal and nonverbal behaviors used to initiate and respond to social interactions. Deficits in early nonverbal social communication skills, such as gestures, social imitation, joint attention, and symbolic play, are some of the earliest emerging symptoms of ASD . In addi tion, they are related to the development of more complex social, language, and cognitive skills , making them an important target of early intervention. In addition to their impact on child outcomes, social communication deficits are related to par ent wellbeing in a number of ways. Increasing social communication

and language skills has been found to reduce challenging behaviors for children with ASD, which are one of the strongest predictors of parent stress. Social defi cits also contribute to the increased stress profile seen among parents of children with ASD com pared to other developmental disabilities. Parents have also expressed that the combination of challenging behaviors and lack of social responsiveness in ASD can lead to difficulty in developing strong bonds with their children. Furthermore, the severity of the social deficits in ASD is closely related to family func tioning more broadly , indi cating a unique and complex profile of family and child needs to be addressed. As a result, best practice guidelines in early intervention for chil dren with ASD emphasize the need for parent involvement in comprehensive interventions that address social communication skill .

There are many different ways to involve parents in the education of their child. Parent mediated intervention, or PMI, is a specific form of parent involvement that provides systematic training in intervention strategies to help a parent accomplish specific goals or outcomes for their child . PMI is used in the treatment of a variety of child hood disorders and is typically focused on help ing parents manage their child's behavior, improve the parentchild relationship, and increase specific developmental skills in the child. PMI can be used in combination with direct intervention, but it can also be considered a primary intervention strategy in its own right, particularly in the treatment of very young chil dren. In this , we will focus on parent mediated interventions that target the development of social communication skills for young children with ASD. We begin by exploring the rationale for the use of parentmediated inter vention in the treatment of social communication deficits for young children with ASD. Next, we summarize the research on current parent mediated social communication interventions and provide guidelines for researchers and practi tioners in evaluating these interventions. Finally, we describe future directions for the field[4].

Rationale for Parent Mediated Interventions

The importance of teaching parents to serve as intervention agents for their children with ASD was first highlighted by Lovaas, Koegel, Simmons, and Long . They noted that chil dren with ASD who received intensive early behavioral intervention, and returned to a home in which the parents were trained to carry out the intervention themselves, maintained their treat ment gains, whereas children who returned to institutionalized settings that did not carry over the treatment methods lost the skills that they had acquired. Teaching parents to utilize intervention techniques is also associated with increased skill generalization. For example, one early study compared the effects of training parents to implement behavior therapy with their child to therapistimplemented intervention. Although children in both groups made similar gains dur ing treatment, children in the parent training group were more likely to respond appropriately to parent questions and directions during unstruc tured observations in the home.

Since these observations, a number of con trolled studies have demonstrated that parents can learn to implement a range of evidencebased intervention strategies with a high degree of fidelity and that the use of these strategies results in increased use of language targets, vocabulary, and developmental language level, as well as improved joint attention , imitation , play skills , symptom severity , and socialemotional functioning for their child with ASD[5]. PMI also has the potential to greatly increase treatment intensity compared to direct service delivery models. While early intensive interven tion results in the most optimal outcomes , the majority of children with ASD receive services through the school system and not through outside early

intervention sources . Additionally, over 90% of children in Bilaver et al. survey received no intensive inter vention services prior to or during preschool. Given the high number of recommended hours of intervention for young children with ASD, training parents allows for increased therapeutic contact through out a child's day and greatly increases the num ber of early intervention hours a child receives. This model can also greatly increase the reach of professionals in providing support for families and children with ASD, as it requires fewer hours of direct contact with families. For example, parents of children with pervasive and devel opmental disabilities who were given 1 h of instruction in responsive teaching reported using the intervention techniques for an average of 15 week allowing professionals to serve a greater number of families.

PMI can also reduce a number of other barri ers that parents of children with ASD face in obtaining services. For example, parents of chil dren with ASD may have difficulty transporting their child to appointments, experience high outofpocket costs for care, and often miss work or experience a loss of income with clinicbased services. PMI can be implemented within the home or remotely at the parent's con venience and requires fewer hours of profes sional contact, reducing these barriers. PMI also has the capacity to increase access to services and to reach underserved communities where inten sive intervention service providers may not be available to meet the needs of the community . In addition to increasing access to care, PMIs have the potential to reduce overall cost of care when used as early interven tions .

Finally, although the emphasis of PMI has been on improving child outcomes and improv ing access to care, there has been an increasing focus on its impact on broader family functioning . Parents of children with ASD generally experience increased stress, decreased selfefficacy, poor family relationships, and a higher rate of mental health issues compared to parents of children with other developmental disabilities,suggesting the increased need for intervention packages that address familylevel functioning. Training par ents in intervention techniques has been to improve both parent mental health and the qual ity of parentchild interactions, resulting in more positive family interactions . Parents participating in PMI have experienced increased positive perceptions of their child, increased confidence and self efficacy, and decreased stress . Further, parents who participate in parent training programs report more optimism about their own ability to influence their child's development, which may help parents maintain their efforts with their child over time[6].

Although the rationale for parentmediated social communication interventions is strong, its evi dence base is somewhat less clear. A number of singlecase design studies and randomized con trolled trials have demonstrated positive effects of PMI on child social communication and parent outcomes, leading a number of technical review panels to conclude that PMI is an evidencebased intervention practice for children with ASD, including the National Research Council , National Standards Project , Autism Intervention Research Network on Behavioral Health , and National Professional Development Center for ASD . At the same time, there have been several recent RCTs that have found either modest or null effects of PMI on child outcomes , and two recent systematic reviews were unable to draw strong conclusions about the overall effectiveness of PMI for improving children's social communica tion skills given limits in methodology and high variability across studies.

Differences in conclusions between sys tematic reviews are primarily related to review methodology. For example, several reviews which report consistent positive findings focus

primarily on singlesubject designs evaluating PMIs for social communication skills, whereas reviews reporting mixed findings focused exclusively on randomized controlled trials of more broad PMIs . Given the variability in findings, it is important to con sider important factions that may impact the effectiveness of PMI for improving child social communication skills and family functioning. Below we consider four such factors the inter vention approach taught to parents, the social communication skills targeted, the format and intensity of the parent training model, and parent variables that may influence outcomes.

Intervention Approach

PMIs follow a wide range of theoretical approaches, drawing from behavioral, naturalis tic, and developmental traditions. Developmental approaches to intervention are based on research indicating that children develop social communi cation within the context of socially meaningful, affectladen, and childdirected interactions. Half of PMIs for social communication included in fit into this category, including but not limited to Hanen's More than Words , Play and Language for Autistic Youngsters, Preschool Autism Communication Trial, and responsive teaching. Generally, these develop mental interventions focus on improving the parentchild relationship and increasing parental responsivity to communicative attempts from the child, which provides more subtle opportunities for skill development. Common techniques in developmental interventions include using extended wait time, contingent imitation, and environmental arrangement to evoke more com plex skills, rather than the structured prompts seen in behavioral approaches. Additionally, all developmental interventions in 17.2 include the use of video review to help parents identify communication cues from their child that they may have missed during live interactions[7].

A newer class of intervention, Naturalistic

Developmental Behavioral Intervention , has blended behavioral, naturalistic, and devel opmental strategies given the number of elements shared across approaches. NDBIs comprise the second half of the PMIs seen in 17.1. Pivotal Response Training , ParentImplemented Enhanced Milieu training , and Parent implemented Early Start Denver Model were some of the earlier models. More recent NDBIs include the Early Social Interaction Parent Implemented Intervention, Project ImPACT, and JASPER. In contrast to traditional behavioral approaches where teaching occurs in a structured learning environment, teaching episodes in NDBIs are chosen based on the child's interests and occur in naturalistic settings, such as routines and play. While the learning environment is loosely struc tured and child driven, teaching opportunities follow the behavioral tradition of explicit prompt ing and contingent reinforcement. Additionally, reinforcements in NDBIs are a natural.

Intervention Targets and Measurement

Even within interventions targeting social com munication, the way that social communication is defined varies widely. Social communication covers a broad range of abilities, including expressive and receptive language, joint attention, social imitation, engagement, and symbolic play[8]. While some interventions focus only on specific subtypes of social communication, such as joint attention or social imitation, other interventions take a more comprehensive approach, addressing multiple components of social communication throughout the program. For example, JASPER, Project ImPAC, and the Early Start Denver Model all target engagement, com munication, imitation, and play. However, it is unclear what skills are most important to target.

For example, Reed reviewed the cognitive, communicative, and adaptive outcomes across a wide variety of PMI he found that both comprehensive programs, such as ESDM and SCERTS, and specific programs, such as those focusing only on imitation, joint attention, or play, all related to strong and moderate child change across domains. The way that outcomes are measured also has a significant impact on the conclusions that can be drawn regarding treatment effectiveness . While expressive and receptive language are the most consistent social commu nication variables used across intervention studies, this is not the case for other social com munication skills, such as joint attention, engage ment, play, and imitation.

While some studies of PMI utilize standardized observational assessments to assess social communication, such as the Early Social Communication Scales, most rely on semistructured parent child interactions and coding schemes developed specifically for that studyIt is important to note that studies that utilize standardized observational assessments are less likely to identify significant child change in social communication compared to those using a parentchild interaction, even within a single study. For example, Kaiser and Roberts found improvements in the use of language targets and utterance length during parentchild interactions, but did not find significant change on standardized assessments of language. This discrepancy in how outcomes are measured has led to more recent initiatives to develop consistent measures of social communication change to be used in intervention studies. One such initiative is the development of the Brief Observation of Social Communication Change , which is modeled off of the Autism Diagnostic Observation schedule . It will be important for researchers to carefully consider measurement tools when designing intervention studies in order provide consistency in the literature[9], [10].

CONCLUSION

Several conclusions can be made based on the evidence in the literature summarized in this . PMIs are effective for improving social and communication outcomes for children and youth with ASD. A variety of EBPs can be incor porated within PMIs to increase their effective ness. Interventions can be implemented in multiple settings with teachers, parents, and peers with and without disabilities. Research into the treatment fidelity, including peer fidelity, and conditions under which PMI maximizes learning for participants with ASD in the future studies can greatly enhance our understanding of the mechanisms underlying the positive outcomes. PMI has been successfully implemented across a variety of settings and age groups. A large number of peer modeling and other peer inclusive strategies have been implemented in preschool settings. The Learning Experiences and Alternative Program for Preschoolers and Parents model , in particular, provides an evidencebased model for systemic enhancements in inclusive preschools using multiple peer and childspecific training strategies to dramatically improve the longterm outcomes for children with ASD. Behaviorally based PMIs have strongest outcomes . Research clearly suggests that early intervention for social behaviors may be as critical to future outcomes as early language intervention. Early behavioral support for social skills of children with ASD in inclusive settings can promote quicker adaptation and social adjustment with typically developing peers, enhancing the quality of their relationships that can mitigate future challenges in adulthood and future independent living. A large body of literature exists supporting PMIs in elementary school settings . Social skills groups with peers, lunch and recess interventions, and peer buddy programs are reported effective with this age group. In addition, early studies demonstrated benefits for peer tutoring and cooperative learn ing arrangements to improve academic and social skills. Only a few recent studies have investigated effects of PMI for

children with ASD in aca demic groups, and while academic gains have been noted, social outcomes have not been mea sured or have limited change.

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CHAPTER 23

SIGNIFCIACEN OF TEACHING INTERACTION PROCEDURE

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ABSTRACT:

The phases of the teaching interaction process include naming the desired skill, explaining its significance, outlining its processes, modeling it, and giving feedback at various points throughout the contact. The teaching learning process is vital to students because it assists them in acquiring new information, which transforms them into responsible persons and prepares them to confront the world. In this chapter author is discusses the implementing appropriate intervention.

KEYWORDS:

Autism, Children, Parent, Social, Teaching.

INTRODUCTION

The vast majority of PMIs are conducted oneonone with the parent and child present at each session. Some intervention programs, such as Early Social Interaction ParentImplemented Intervention, Enhancing Parents As Communication Teachers, and Pivotal Reaction Training, have defined designs for both individual and group settings. The majority of Hanen's More Than Words is intended to be groupbased. The degree of the treatments' interventions varies as well. Although the majority of the therapies follow a more conventional therapy model with weekly or biweekly sessions, some offer a wider range of intensities. Pivotal Response Training, for instance, provides a wide array of learning possibilities, such as a 25 hour intense, oneweek intervention, a quick, threesession intervention, or entirely selfdirected intervention materials. Both research and practice should take into account whether an intervention is carried out in a group or oneonone. Individual therapy, for instance, may provide a more customized and intense treatment experience that is more successful for particular families, but group therapies provide the chance to learn from others, develop social supports, and are more affordable, which may be helpful for others. Also, the fundamental elements of parent training for individual and group parents vary.

Inperson and video modeling, role plays, instant and delayed performance feedback, selfreflection, and conversation are typical elements of parent education. Although individual therapy mainly depends on inperson modeling and performance feedback, which is seen to be the most crucial element in successful parent training, groupbased trainings place a greater emphasis on didactics, video modeling, role playing, and discussion. Moreover, there are no research that address the difference between PMI delivery modes and variations in intervention intensity, despite the fact that these changes have a significant impact on social communication improvements [1]. Few studies specifically examine the possible variations in results between solo and group forms. Wetherby et al. discovered that individual coaching led to better gains in

social, communication, and adaptive abilities than group coaching, but there were no group differences in the degree of autism, motor skills, or nonverbal cognition. There were no group differences in treatment adherence or play behaviors, however Kasari, Lawton, and colleagues saw stronger benefits for individual parent training models than for group parent training models in joint attention and initiating. Children's social communication abilities improved in all forms, while individual coaching shown larger improvements compared to comparable groupbased treatments.

Parental Factors Affecting Results

In ASD intervention studies, child factors including cognitive ability, language proficiency, and age are often looked at as modifiers of therapy results. Yet when it comes to PMI, factors affecting treatment results must also be taken into account further. According to Meadan et al., PMI research is best understood as a studywithinastudy, with the first study assessing parents' understanding of the intervention methods and the second study concentrating on how these techniques improve child outcomes. The effectiveness of parental intervention, usually referred to as intervention or treatment fidelity, is seldom discussed. Only half of the studies mentioned in 17.2 provide any information on the faithfulness of parent therapy. Yet fewer specifically investigate the links between changes in parental behavior and child outcomes.

Given the reciprocal link between parent mental health and child development, there is a growing emphasis on how other parent variables, such as stress, wellbeing, or selfefficacy, impact child outcomes in early intervention for ASD. Wainer et al. conducted a review of several potentially beneficial measures for evaluating meaningful parent outcomes in PMI, building on a larger body of early intervention studies. It is challenging to explore this possible relationship since there are few research on social communication PMIs that include parent outcomes, and those that do have mixed results. TurnerBrown et al., for instance, discovered decreased parent stress and enhanced social functioning. According to Solomon et al., fewer parents were labeled as depressive. Some people have discovered no differences in parental stress, wellbeing, or selfefficacy after completion of a PMI. Although evidence from the larger literature suggesting that it affects the capacity to successfully learn and execute PMI, there aren't as many research that look at how these disparities in mental health affect intervention results [2].

Observations for Selecting and Using the Proper Intervention

Evaluation of the PMI evidence base is difficult due to differences in the intervention strategy taught to parents, the social communication skills targeted, the style and intensity of the parent training model, and parent factors that may affect treatment results. While parents may acquire intervention tactics to help children with their abilities, it is unclear how to effectively put these strategies into practice and what kinds of results are crucial to track. This should not deter motivated parents or professionals from pursuing PMI as a part of a whole familywide intervention strategy, however. Many workgroups have created recommendations for both academics and professionals as part of a continual effort by researchers to resolve these difficulties and to provide a more reliable evidence basis for PMI. For the purpose of developing and analyzing ASD therapies, we point researchers to methodological guidelines. Improving parentprofessional collaboration, putting more emphasis on adult learning strategies, accommodating parents' needs through flexible implementation practices, valuing cultural and linguistic diversity, and creating professional, social, and emotional support networks for parents

are some recommendations for strategies to ensure the success of parentmediated interventions for young children with ASD.

PMIs provide chances to individualize therapy to best suit the requirements of the family and the kid while also helping to increase communication between parents and specialists. By including family values and norms into therapy, collaboration with parents throughout treatment planning helps to achieve good family and child outcomes. There is emerging evidence of the relevance of these components in the effectiveness of therapies addressing the fundamental deficiencies of ASD, and the incorporation of these contextual elements has been shown to boost the success of comprehensive interventions for the management of problematic behaviors. When choosing an intervention, it will be important for parents and practitioners to consider how different treatment components fit with family values and beliefs. This is because parents often consider the acceptability of an intervention and its component parts when deciding which treatments to pursue.

Upcoming Directions

Notwithstanding the potential advantages of PMIs and suggestions for best practices, they are seldom used in community settings. While statistics of community use of PMIs in particular are difficult to come by, estimates of parent training use in general have varied from 8% to 36%. Yet, parent education has been rated by families as the most crucial and beneficial part of their child's intervention services, showing that PMI is an unmet need in the neighborhood. There are a number of typical obstacles that may prevent the effective transmission and use of ASD treatments; since PMIs call for a greater level of family participation, it is to be anticipated that these obstacles are of particular relevance. Concrete barriers like cost, transportation, and time commitments, as well as cultural barriers, might affect how acceptable a therapy is at the family level.

At the provider level, obstacles include attitudes toward the role of parents in their child's intervention service, a lack of proac tive facilitation strategies, such as easily accessible trainer and parent manuals and data monitoring and collection strategies, and inadequate adult learning strategy preparation to support parent coaching. Barriers at the system level can include the provider training models that are incompatible with the organizational training structures of many community programs and the incompatibility of the parentmedicated intervention program's structure with the structure of the existing service delivery models. In order to increase the effective distribution and application of potential PMIs in community settings, research is required [3].

Development of Telehealth Models

Modifying conventional PMI programs so they may be offered online is one new approach. These programs may be a feasible alternative service delivery paradigm for increasing access to evidencebased therapies for children with ASD, including PMI, and have the ability to overcome many familylevel access hurdles. While it is still in its infancy, there is a growing body of data suggesting the viability, acceptability, and preliminary effectiveness of parentmedicated telehealthbased therapies for young children with ASD and their families, both selfdirected and therapistassisted. For instance, ImPACT Online, an interactive online tool that teaches parents to encourage their child's social communication within the framework of play and everyday routines, was recently the subject of a pilot RCT that compared selfdirected and therapistassisted

versions. Project ImPACT, an evidencebased social communication PMI for young children with ASD, was modified to include the material. While therapist assistance boosted program participation and resulted in somewhat greater program satisfaction, program engagement and treatment acceptance were high across both groups.

Both groups had beneficial impacts on parent conceptual and procedural learning, stress and selfefficacy, and child social communication abilities, however certain parent and child outcomes also benefited from therapist support. Also, there was a strong correlation between changes in parent intervention knowledge and procedural integrity and program engagement, supporting the significance of the online application in parent learning. Largerscale efficacy studies will be required in the future to further understand how these programs affect parent and child outcomes as well as to pinpoint treatment mediators and moderators. Telehealth holds forth the possibility of improving families of children with ASD's access to PMI, but it is not without its own challenges. Concerns concerning confidentiality and service reimbursement by providers, limited reach and high attrition rates of selfdirected programs outside of research settings, and restricted Internet connection and access to the necessary technology are a few of these. Research on the implementation and distribution of telehealth and eHealth therapies from other domains might point to future approaches to overcoming these challenges.

Increasing Participation in Communities with Limited Resources

Even when PMIs are accessible in communal settings, many lowincome families have difficulties in doing so. For instance, parents with lesser financial resources are more likely than parents with better financial resources to report PMIs as an unmet healthcare need. However, despite the fact that parentmediated interventions may help underresourced families of children with ASD, several studies also revealed that parent attrition was significant, even in cases where supports were offered to ease the time and travel demands of the intervention on parents. This indicates a considerable need for methods to enhance the translation of evidencebased PMIs into underresourced community settings and shows that there are several, yet unidentified, hurdles preventing underresourced families from engaging in PMI.

A number of behavioral parent training intervention upgrades have been found through research on parent involvement in treatments for children with conduct issues that may help parents better execute and sustain longterm parenting changes. These interventions have been shown to promote participation and retention in parenting interventions in lowresource and minority families. They include early talks of parent expectations and treatment obstacles, motivational interviewing, and enhancing family support and coping. There have only been a few efforts to include these engagement strategies into evidencebased PMIs for families of children with ASD. One notable exception is the Positive Family Intervention by Durand, Hieneman, Clarke, Wang, and Rinaldi, which was developed to address psychological barriers to participation in behavioral parent training for children with autism and other developmental disorders who exhibit extremely challenging behavior.

The intervention blended teaching parents in positive behavior support techniques with cognitivebehavioral tactics in which parents learnt to confront their own critical selftalk. More improvements in the children's problematic behavior were identified in the enhanced intervention group in a randomized clinical study comparing it to PBS alone, and parents in that group also reported feeling more equipped to deal with their child's problems. There were no variations in cancellations or attrition rates by group, however. According to this research, implementing

engagement improvement tactics into current, evidencebased PMIs may improve results. The creation and assessment of improved PMIs as a strategy for boosting parent participation, especially among underresourced families, should be the main focus of future study. Considering the high incidence of parental stress that parents of children with ASD experience, therapies that focus on stress and coping, such mindfulnessbased interventions, may be an especially useful tactic to increase engagement in PMIs and improve parent wellbeing [4].

Making ensuring that current evidencebased models are suitable for usage with varied families is another way to promote the use of PMIs in the community. The advantages of employing community partnerships to adapt evidencebased parenting therapies in various contexts have been shown in several research studies conducted outside the area of autism spectrum disorders (ASD). In contrast to their nonadapted counterparts, culturally adapted parentmediated programs tend to be as effective but have higher perceived compatibility and parent retention rates. This is according to a recent metaanalysis of these research. According to this study, community partnerships may help modify evidencebased PMIs to better fit and be used in underresourced community settings. Until date, PMIs for families of children with ASD have only lately used this strategy. To explore possible modifications to Project ImPACT, an evidencebased PMI, Pickard, Kilgore, and Ingersoll conducted focus groups with Medicaideligible parents of children and ASD clinicians functioning within a Medicaid system.

Themes that cut across both stakeholder groups pointed to the need for more flexible program delivery, strong parenttherapist alliance, involvement of the wider family, and support for families practicing the intervention within their regular routines. There has been a significant rise in crosscultural adaptations of PMI for usage in other nations in addition to adoption in community settings. PACT, an evidencebased PMI, was modified by Divan and colleagues for use in South Asia using task shifting and the Medical Research Council framework for creation and adaptation of complex treatments. This strategy made use of qualitative research, expertled manual simplification, workshops for intervention modification, and a case series presented by South Asian experts and nonspecialists. Similar to the original experiment in the United Kingdom, a second randomized controlled trial in South Asia revealed that no specialists were able to administer the modified intervention with a high degree of fidelity and that it had a beneficial impact on parent synchrony and child initiations. In addition, the research showed no impact on parentreported measures of child language and a negative effect on the duration of shared attention, which contrasts with the UK experiment and may be indicative of cultural variations in treatment response [5].

Further work will be required to guarantee that current evidencebased PMIs can be effectively implemented in a variety of situations. This work will use community partnerships and cultural adaptation frameworks. This technique may also be utilized while creating innovative PMIs to make sure that the models that go through rigorous testing have the best chance of succeeding in current service delivery systems and to identify and solve any implementation hurdles early in the development phase. Barriers at the family, provider, organization, and system levels must be taken into account throughout this process. Teaching Social Skills to People Using the Teaching Interaction Method Autism Spectrum Disorder has been identified Autism spectrum disorder is characterized by limitations in communication, social interaction, and limited or repetitive behavior. The only interventions that are scientifically validated to address these areas of need are those that are based on the science of applied behavior analysis. A multistep, systematic teaching technique known as the teaching interaction procedure is one evidencebased

intervention for the development of social repertoires. This will provide a thorough explanation of the TIP, historical background, and a synopsis of current research as it relates to ASD and social skills.

The approach was initially referred to as a teaching interaction by Phillips and colleagues in The Teaching Family Handbook. The Teaching Family Model, which was created as an ABAbased intervention strategy to improve the lives of predelinquent and delinquent kids, included the TIP, which was first established as a part of it. The initial Teaching Parents at the first Teaching Family Home, Lonnie and Elaine Phillips, provided the program's courtadjudicated residents with skill teaching. It was discovered via videotape analysis that the pair explained and exhibited required abilities, gave explanations for why the skills were crucial to the young residents' future success, and had the kids practice the skills while receiving detailed feedback. The TIP was created as a result, and studies on its efficiency followed. An early experimental examination of applying the TIP to teach social skills to predelinquent and delinquent females was presented by Minkin et al. The females who participated for the research showed deficiencies in their ability to socially communicate with others.

The researchers focused on asking pertinent questions and giving encouraging comments throughout conversations. According to the findings, all four girls increased their usage of the targeted conversational skills while using the TIP. The third author introduced the TIP to the Young Autism Study at UCLA after the initial description, the term's inception, and the preliminary research and applied it with people with ASD, including those in residential institutions. The TIP has now been included into training manuals like The ASSET Manual and Effective Skills for Childcare Workers. While the TIP stages often follow the same sequence in these publications and in practice, the order should only be used as a general guide, and the interventionist should stay adaptable and make changes as necessary. The typical sequence mentioned in the literature and curricular guides is described in the sections that follow, along with a graphic depiction of it [6]. The interventionist names or identifies the ability that will be the focus of the instructional encounter in the first stage. The learner often practices the skill in front of the interventionist to signal the conclusion of this stage. This phase is used to make sure the learner is paying attention and can identify the skill that needs to be acquired. As a result, the interventionist must make sure the label is precise and short. The language chosen and the length of the label must be suitable for the learner's age and level of proficiency.

Meaningful Rationales

The second phase is talking about compelling justifications for why the talent is crucial. These justifications are important to the student and are based on their experiences, which makes them relevant. For instance, developing this ability so peers remain near and chat about superheroes might possibly be important for the learner if the student like to discuss superheroes with peers but fails to keep the acceptable distance throughout the engagement. Moreover, justifications need to include probable natural repercussions for the conduct being taught. A better justification would be You should stay an arm's length away from your friends because it might make more friends want to stay by you and talk to you about superheroes, rather than You should stay an arm's length away from your friends because it might make you get in trouble with your teacher. As a result, unrealistic outcomes or external or fake con sequences should not be included in rationales. They are meant to make the learner aware of important, positive effects that are expected to happen when they master and use the targeted skill. The interventionist may be more

involved in offering justifications during the first TIP session before progressively stepping back such that the learner is doing so during subsequent TIPs.

Description

The interventionist then divides the skill into its parts or stages. The student should be able to understand how these stages are defined. The skill might be described in more detail as a series of smaller processes akin to a task analysis or as a subset of a broader social skill. No matter how the skill is divided up, it should be done so that the interventionist is ready before the instructional contact. Even for highly qualified and experienced interventionists, dissecting a complicated social skill in real time may be quite challenging. Given the complexity of social skills, the stages should also include all relevant information. This often contains instructions on both what to do and how to accomplish it. After the learner has stated all of the skill's components or stages, this phase is finished.

Demonstration

The interventionist models the skill for the learner after the description or sometimes while it is being done simultaneously. The TIP's fourth phase is this. Models of how to do the skill correctly and incorrectly are included in the demonstration. This provides the student with the opportunity to indicate whether or not the presentation was accurate and why. As the learner advances, modeling gives the interventionist the chance to display the learner exemplar and nonexemplar performance, ranging from more clear instances to less evident ones. Also, the interventionist may model the learner's present reaction to the social circumstance using the demonstration of the improper performance so that the learner can start to recognize it as incorrect. The kind of demonstration that will be most helpful to the student should be chosen, whether it be inperson, written or visual, or by recording. Regardless of the demonstration's format, the learner should get a comprehensive depiction of the desired ability from the demonstration and explanation [7].

Practice

The learner roles performs the skill with the interventionist or a peer in the fifth and maybe most crucial phase. Practice is a crucial component of learning because it takes the Teaching beyond only explaining and showing the skill for the learner. In general, behavior must occur before consequences may change it, and practice gives the learner this chance. The learner should have plenty of time to put what the interventionist has demonstrated into practice. Practice should be created in a manner that enhances the learner's chance of success. Expanding practice situations over time will make them more complicated, challenging, and independent. In an attempt to encourage generalization, practice becomes to resemble the terminal environment.

Feedback

After practice/roleplays, the interventionist participates in the TIP's feedback phase. Practicing without feedback will only have a little effect. Feedback is the collection of outcomes that will mold a learner's behavior if practice provides the opportunity for them to participate in it. Feedback has to be detailed and precise. When the learner properly completes the targeted stage of the skill, feedback may take the shape of a potentially reinforcing event. Feedback may be given in the form of corrective or instructional feedback depending on whether the learner

displays any or all of the steps incorrectly. Roleplays and feedback continue up until the learner satisfies a set mastery standard chosen by the interventionist.

Teaching Behavioral Skills and Interaction Procedures

Components of the TIP are included into many instructional processes that are based on the ABA principles. The TIP's behavioral skills training is the technique that it is most closely associated with. Due to the fact that the two procedures have a lot of characteristics, author remarks have discussed the similarities and distinctions between the two techniques. These comments have pointed out two key characteristics of the TIP that set it apart from BST [8]. The first thing the TIP does is provide ratio nales. The usage of rationales was considered to be a crucial element in the development and evaluation of the TIP. It was proposed that meaningful justifications would cause extra reinforcement to fade more quickly. As previously mentioned, rationales often describe naturally occurring circumstances. For instance, when you lose gracefully, your peers may ask you to play more often, and when you lose badly, they may ask you to play less often. Moreover, it is hypothesized that the use of rationales may help students build their grasp of cause and effect, as shown by the student's ability to predict outcomes based on the presentation of precipitating circumstances and desired decisionmaking.

Contrarily, BST concentrates entirely on the use of instructions, modeling, practice, and feedback to produce the intended change in behavior and does not involve meaningful justifications as a major component [9]. The TIP offers examples of both the right and wrong ways to practice the targeted skill, which is its second unique trait. The learner is often taken into account while demonstrating the wrong answer. In other words, the interven tionist mimics the learner's existing response patterns in relation to the desired ability. This is done in an effort to educate the student how to differentiate between their present performance and the performance they want to achieve. On the other hand, demonstrations during BST merely show the proper approach to practice the desired skill.

CONCLUSION

Teacherstudent Classroom management is impacted by interaction, which also has an impact on learning and development. A strong teacherstudent bond fosters a student's cognitive, social, and emotional development as well as their mental health, according to the developmental viewpoint. The activity in the classroom requires interaction. It facilitates teaching and learning and may improve students' communication skills. It describes how the pupils engage with one another, the instructor, and even the rest of the class. People navigate social interactions using structural guidelines provided by their immediate surroundings. Based on their personality, people may change how they show themselves to emphasize what they believe is most suitable for the given circumstance.

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CHAPTER 24

SIGNIFICANCE OF TREATMENT IMPROVEMENT PROTOCOLS

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ABSTRACT:

A collection of bestpractice recommendations for the management of drug misuse may be found in the Treatment Improvement Protocol (TIP) Series. These monographs are informed by the expertise of professionals in clinical practice, research, and administration.It adheres to best practices in the treatment of drug abuse. In this chapter author is discusses the behavioral skills training to promote social behavior of individuals with autism.

KEYWORDS:

Autism, Children, Diagnosed, Social, Treatment.

INTRODUCTION

Leaf et al. presented the first empirical study of the TIP with people with ASD 35 years after the procedure's original publication and beginning usage in the treatment of people with autism. Previous to this, the TIP was included in 1992 research by Harchik et al., but the subjects were people with mental retardation, not autism. Since Leaf et al., several more studiesmany of which focused on social skillshave assessed the usefulness of the TIP for instructing people with ASD. The rest of this article focuses on summarizing the evidence on how well the TIP works in teaching social skills to people with ASD. As was already established, Leaf et al. provided the first empirical examination of the TIP using people who had been given an ASD diagnosis. The TIP's efficiency in teaching different social skills to kids aged 5 to 7 was assessed by the researchers. Following a peer, greeting a peer, including a peer in an activity, selecting a peer partner, changing the subject in the middle of a conversation, going along with the flow of a conversation or game, offering a compliment, sharing, and making statements that were relevant to the topic at hand were some of the targeted social skills.

The TIP was used in a onetoone learning environment, and its results were assessed using naturalistic probes. These probes included creating the circumstance such that the participant may practice the desired skill. For instance, if offering compliments was the goal skill, the confederate peer may exhibit a piece of artwork to the participant. During the intervention, the confederate peers were not present. The findings of Leaf et al. showed that the TIP was successful in teaching the desired social skills to all three participants, although no generalization measurements and variable maintenance measures were taken[1].

In group teaching, Leaf et al. looked at the efficacy of the TIP for five ASDdiagnosed children between the ages of 4 and 6. Goal competencies were expressing or demonstrating gratitude, complimenting, and altering the game. The research was conducted in two 1.5hour sessions spread out over a period of 57 months. During lessons, two usually growing peers acted as

models. According to the outcomes of a multiple probe design, the group TIP was successful in imparting the desired abilities to each participant. Also, social validity tests and the skills retained 8 weeks after the intervention's end suggested that the intervention was successful. Moreover, generalization assessments showed varying degrees of response, although these measurements excluded the individuals' regular social or learning settings. Dotson et al. expanded the use of the TIP with five teenagers, aged 13 to 18, who were diagnosed with ASD in a group instructional setting. The TIP was used by the researchers to instruct the participants in fundamental conversational skills, giving encouraging feedback to the speaker, and responding to openended inquiries. These abilities were divided into smaller parts, such as maintaining eye contact, speaking with confidence, and listening at the proper distance.

Four out of the five individuals met the mastery requirements, although the five participants' rates of skill maintenance varied. In a oneonone training style, Leaf et al. compared the relative effec tiveness of the TIP to Social StoriesTM to teach six ASD people, aged 5 to 13, social skills. For each scenario, three social skills were chosen at random. Sportsmanship, being courteous in defeat or victory, complimenting others, encouraging friends, expressing gratitude, exchanging compliments, staying on subject, and switching up the discourse were among the abilities. The results showed that the TIP was superior than Social StoriesTM. Moreover, TIPtaught abilities had a higher likelihood of being generalized and remaining intact following the intervention. Two children with ASD, aged 5 and 7, were taught how to play three popular games using the TIP by OppenheimLeaf et al. Each game component was split down into manageable parts and instructed using the TIP. Each TIP was attended by both kids. The goal of the game was also included in the TIP's reasoning section. Both participants acquired a strong generalization of knowledge for all three games[2].

By exploring how the TIP is used to educate usually developing kids social skills to foster connections with their siblings who have ASD, OppenheimLeaf et al. added to the body of knowledge about the implementation of the technique. Participants comprised three siblings who ranged in age from 4 to 7 and were instructed in small groups. The abilities that were being worked on were picking an activity, requesting to share, inviting a sibling to join, and giving play directions. Three methods of skill acquisition evaluation were used. The first occurred during roleplaying exercises with an adult undertaken inside each TIP. The second occurred during generalization probes with the participants' siblings, when the researchers encouraged the ASD siblings to act in ways that would provide the participants a chance to demonstrate the desired abilities. Results from teaching and generalization probes showed that the TIP was successful in teaching the targeted skills to all three children, but only one dyad showed an increase in social interactions without additional support during freeplay probes, in which the participants and their siblings with ASD were instructed to go play.

In their study, Kassardjian et al. looked at the generalization of social skills taught via the TIP to a realworld setting with four ASDdiagnosed children, ranging in age from 4 to 13. A fifth individual served as the study's control. Expanding DISCUSSIONs, winning gracefully, social initiations, welcoming a peer, and entering ongoing conversations were among the targeted skills that were taught in a onetoone educational manner. Unlike earlier studies, the researchers using the TIP used inthemoment evaluations to adjust the deployment of TIP parts depending on participants' performance and development instead of only using preset mastery criteria. Also, the intervention gradually diminished as generalization phases progressed. These phases included tangible reinforcement with and without priming, social praise without priming, and no

priming or programmed reinforcement. The outcomes of a multiple baseline across participants design showed that the flexible TIP was successful in teaching the intended social skills to all four participants. Also, without the need of extra reinforcement, the abilities extended into naturally occurring contexts with new peers.

Six children with ASD diagnoses, aged 7 to 11, were taught team sportsmanship skills using the TIP and video games by Ferguson, Gillis, and Sevlever. Giving praises, taking turns, and offering encouraging postgame comments were some of these abilities. The 10week TIP intervention was carried out in a smallgroup instructional setting. The study's findings revealed an improvement in sportsmanship abilities and a reduction in unfavorable comments. The abilities extended to other circumstances, according to generalization probes that were place in other scenarios or with different video games. Leaf et al. were expanded and reproduced by Kassardjian et al. The expansion included employing group teaching rather than oneonone instruction, assessing peer response rather than adult response, and analyzing participant response during each session. Three kids with ASD, all of whom were 5 years old, took part in the research. The TIP condition, the Social StoriesTM condition, and a control condition each received one social skill.

The TIP condition chose to change the game when a buddy becomes bored, while the Social StoriesTM condition chose to describe a previous occurrence, and the control condition chose to invite a peer to participate. The findings, which concurred with those of Leaf et al., showed that the TIP was the most successful intervention. The proportion of steps correctly shown for the targeted skill did not improve, according to data on responding during training, even though both procedures produced appropriate answers to comprehension questions. Moreover, all of the abilities persisted for at least 100 days after the TIP intervention. The usefulness of a modified TIP to teach social skills to four people with ASD, aged 9 to 15, was examined by Ng, Schulze, Rudrud, and Leaf. Each participant would have been regarded as having reduced functioning at the time of the research. Targeted abilities included offering assistance, negotiating, complimenting, handing the phone, acknowledging offers of assistance, asking without grabbing, and reacting to remarks. The TIP was used in a small group teaching setting. The final modification was made to prevent the possibility of imitation of unfavorable examples.

The modifications to the TIP included the use of demonstrations of the rationales, picture prompts for identifying situations in which to engage in the skills, picture prompts to identify the steps of the skills, and only providing demonstrations of the correct way to engage in the targeted skill, rather than correct and incorrect. The findings showed that, for all four participants, the modified TIP was effective in teaching the targeted skills; however, for one participant, a variable and rising baseline trend for the third skill restricts the interpretation of the findings with regard to a functional relation for that participant. By assessing the efficiency of the TIP used in a group instructional style to develop social skills for four individuals, aged 8 to 10, who were diagnosed with ASD, Peters, Tullis, and Gallagher added to the work of Leaf et al. The preservation of the social skills that were the focus of the intervention was also evaluated by Peters et al. All sessions were place in the participants' classrooms, and staff members ran the TIP in each one. According to the findings of a multipleprobe design, the TIP was successful in teaching the intended social skills to each of the four participants. Moreover, maintenance checks revealed that for all four participants, the abilities were kept at or close to the mastery criteria level, and social validity tests revealed that the participants' parents were quite pleased with the intervention[3].

The literature that has studied the use of the TIP to teach social skills to people with ASD has a number of themes. The TIP has first and foremost been scientifically shown to be a successful teaching method across a variety of contexts, participants, and abilities. Moreover, it has proven successful in both oneonone and group training settings. With the exception of Leaf et al. 2012, the majority of studies have employed a multiple baseline or multiple probe design to investigate the efficacy of the TIP, with skill development typically measured via probes during training or in a more realistic context. The TIP literature's social validity measurements are finally limited. As a result, even while the TIP has a strong, growing body of literature supporting it, there are still several areas of inquiry that need more examination. While the TIP is a systematic process with a number of components, no study has examined the TIP's components in detail; as a result, it is unknown which components are essential to guarantee skill development. If certain components were considered redundant, a component analysis would let researchers to examine the TIP's key factors and perhaps increase efficiency.

Additionally, the inclusion of rationales and teacher modeling of correct and incorrect skill performance are the two features that set the TIP apart from the BST; consequently, a component analysis would enable researchers to ascertain whether these two distinct features lead to particular short or longterm changes in learning or behavior that make the distinction necessary. The only research that has looked at using the TIP to teach social skills to those with more severe cognitive impairments to yet is the one by Ng et al. The degree to which these alterations were required for the TIP to be successful is uncertain as the researchers altered some of the TIP's components before instructing. Future studies should continue to look at how the TIP may be used to educate people with ASD of all ability levels social skills. This study might look at whether procedural changes or adaptations are required for certain learners, which skills should be focused with different groups, and what prerequisite skills are required for the TIP to be a successful teaching tool with different populations[4].

The application of the TIP in a group or onetoone teaching setting has been the subject of several research. It is commonly known that training social skills in groups has several advantages. Nevertheless, no studies have yet shown the advantages of doing the TIP in a group setting as opposed to oneonone. Efficiency, observational learning repertoires, maintenance, and generalization are a few possible metrics that might add to the body of evidence on the advantages of carrying out this method in a group setting. Research might assist identify the required abilities a learner needs in order to benefit from a group TIP in addition to looking at the possible advantages of performing the TIP in a group setting. For instance, determining whether students with less developed observational learning repertoires will benefit from group TIPs as much as their counterparts with more developed observational learning repertoires. An inventive example of using the TIP to enhance the social skills of kids with an ASD without direct intervention was offered by OppenheimLeaf et al. To help siblings connect better with their siblings who have ASD, researchers taught them certain social skills.

The social skills of the kids with ASD improved as a consequence of teaching the siblings these abilities. There are various ways that this study might be expanded. For instance, investigating the abilities to acquire that would provide the greatest collateral social advantages for their siblings who have ASD. Another potential expansion may look at if teaching parents comparable skills would have a similar impact. To gauge the children's happiness with the intervention and any changes in their general connection with their brother with special needs, it may also be helpful to take social validity metrics into account. To that aim, social validity metrics are absent

from the TIP literature, as they are from the majority of behavior analytic research in general. The TIP is a useful instrument for teaching social skills, but it's still not apparent to what degree the techniques taught or the method itself is favored or accepted in society. When assessing whether a technique or intervention strategy is acceptable, effectiveness is not the only important factor to consider. Also, the procedure must be suitable and socially acceptable while taking into account all stakeholders. Measures of social validity should be included into future TIP research as well as additional behavior analytic work in general. These metrics may include the procedure's suitability, the choice of skills, participant preferences, and the acceptability of degrees of generalization and maintenance[5].

Guidelines for Practice

Social skills are complicated phenomena and are often harder to teach than other skills typically aimed at people with ASD. The interventionist has access to an expanding variety of methods or tactics to aid in teaching these sophisticated abilities. These procedures range from video modeling to Social StoriesTM, social scripts, TIP, BST, and crucial response training. This means that before deciding on the best approach to apply, the practitioner should assess the empirical literature baseor lack thereofas well as the learner's present social repertoire and required abilities. The TIP has been shown via empirical research to be a successful strategy for acquiring significant social skills. The practitioner may be certain that, in choosing the TIP to teach social skills, s/he is choosing a method with a solid body of research. Also, the practitioner has a reference for choosing the most effective technique because to the frequent use of comparison designs in the evaluation of the TIP. For instance, if one is debating between the employment of Social Stories™ or the TIP, the present comparative data indi cates that the TIP is the more desired of the two techniques. While there may be scenarios in which Social Stories™ are more beneficial, the present research base has yet to establish these factors.

Unfortunately, the TIP may not be well suited for all learners. While the study is insufficient in determining which component abilities are essential for the TIP to be a successful teaching tool, certain component skills should most likely be devel oped prior to employing the TIP. Secondly, given the exchanges that occur between the interventionist and the learner, some fundamental and/or intermedi ate communication skills and interac tion abilities may be essential. Second, even quick TIPs might demand the learner to focus for relatively extended dura tions, thus sustained attendance may also be a neces sary ability prior to utilizing the TIP. Finally, Taubman et al. addressed the requirement for a fundamental under grasp of cause and effect interactions as a precondition for the TIP. This understanding is demonstrated by the learner stating why an outcome occurred and may be neces sary for comprehending rationales as well as the relationships between roleplay, employment of learned skills in everyday situations, and resul tant changes in outcomes; therefore, this reper toire is also likely to be an important prerequisite before utilizing the TIP to teach social skills[6].

DISCUSSION

Behavioral Skills Training

A trainer will use behavioral skills training as a teaching strategy in a roleplay or simulation. This approach includes instructions, modeling, practice, and feedback. The trainer replicates the discriminative stimulus that should cause the target response during the roleplay. The SD shown in the roleplay while utilizing BST to teach social conduct is the chance to engage socially with

another individual. Roleplaying is crucial because it allows the learner to practice responding appropriately when the SD is present and get feedback for both right and poor performance. Because social contexts and other people's social behavior can be accurately simulated in a roleplay and the learner can practice social skills in the roleplay context, BST is an ideal intervention for promoting social behavior. This allows for the reinforcement of appropriate behavior and the provision of corrective feedback for inappropriate behavior. This article's goal is to go through BST implementation and go over some of its applications for encouraging social behavior in people with autism spectrum disorder.

BST's Component Parts

The BST components are intended to encourage the appropriate reaction in the roleplay environment, provide a chance for the appropriate response to be executed in the presence of the simulated SD, and reinforce appropriate responses or offer more guidance to address incorrect ones. Once the proper replies are performed smoothly in the presence of all relevant SDs and no additional prompting is necessary, BST employs the threeterm contingency concept in repeated learning trials. For BST to be most effective, it is necessary to have methods in place that will make it more likely for the abilities learned during training to transfer to the environment in which they are anticipated to occur. The following is a description of each BST component.

Instructions

Instructions provide a thorough explanation of the proper conduct, or a series of actions in the right order, as well as the situation in which the behavior should be carried out. For instance, the instructor may advise a youngster to say no out loud, run away, and alert an adult in order to educate them how to react to an abduction lure securely. The instructor would also discuss the many kinds of abduction lures that the youngster should practice their safety skills against. One should take into account a few things while creating instructions. Initially, instructions should be given in a language that the learner can understand; as a result, the learner's receptive language abilities must be taken into account. Second, the person giving the instructions must be in a position of authority over the learner, such a parent or teacher. Finally, instructions are to be given just after the student has begun to pay attention. Fourth, as soon as the instructions are given, the student should be requested to repeat them. In order for the student to understand the conduct after the instructor discusses it, instructions should be given together with a model of the appropriate behavior.

Modeling

Modeling entails exhibiting the proper conduct in a scenario that represents the learner's ideal situation. In other words, the trainer displays the SD before acting appropriately when it is there. In order for modeling to be successful, the learner must already have a repertoire of imitation skills and be able to mimic the model's actions. Symbolic or live modeling by the instructor might be used to simulate the desired behavior. Live modeling is beneficial because it gives the trainer the greatest freedom to modify a modeled behavior or situation to suit the requirements of the learner. Video modeling is a good example of a symbolic model since it can be used in a variety of scenarios and is consistent between iterations. A video model, for instance, may be made available online and viewed by anybody for whom such a model is pertinent to present training requirements. A lot of academics used video modeling to teach social skills using BST[7].

A number of variables that might affect how effective modeling is should be taken into account. In order for the model's actions to seem to be rewarded, they must first be followed by positive outcomes. Second, the model should be highly regarded by the learner or possess traits that are comparable to those of the learner. Lastly, the modified behavior must be compatible with the learner's capacity for learning. To put it another way, the modeled conduct shouldn't be too drawn out or difficult for the learner to copy. Fourth, before the model exhibits the behavior, the learner should be introduced to it. Lastly, modeling should be done in the proper context. The model should also be varied in order to make the behavior more likely to occur in the range of scenarios that are important to the learner. This should be done as many times as required for the learner to accurately duplicate the behavior. In addition to providing the model, the instructor should also highlight its key features. If the learner has the linguistic ability to do so, it is also beneficial to ask them to explain the model's actions.

Rehearsal The learner should have the chance to put the skill into practice right away after receiving instructions and being modeled. The instructor may analyze if the activity is being done properly, reinforce correct responses, and offer corrective feedback for poor responses during rehearsal. This enables the learner to practice the behavior in a simulation. The learner should constantly practice the behavior in the appropriate setting, followed by rapid reinforcement for right responses or corrective feedback for wrong responses. Practice should continue until the right behavior has been shown a few times. The proper conduct may be reinforced while the SD is present during roleplaying, which increases the likelihood that the behavior will generalize to the SD that happens in the natural world.

Feedback

In BST, providing feedback entails giving reinforcement in exchange for a right response and further instruction in exchange for a wrong response. Regardless of whether the full activity was executed perfectly, descriptive praise and other reinforcers should be given right away after the practice for any part of the behavior that was executed correctly. Incorrect replies should also quickly get corrective feedback. Noting that corrective feedback is not criticism or telling the student what they did incorrectly is crucial. Corrective feedback consists of giving instructions on how to behave properly during the next practice.

For instance, the trainer can comment to the learner, Sherry, you did a terrific job answering 'no' when the stranger asked you to go, if the learner refused the abduction lure during training on abduction avoidance skills. You yelled no a lot. Well done! We'll rehearse once again, but this time, when the stranger invites you to get in his vehicle, be sure you immediately rush inside and alert your mother. Well, let's give it another go. Remember to shout no as soon as the stranger asks you to go before running away and telling your mother. If the student performs correctly, specific praise is given. The trainer offers more guidance and potentially a different model if a certain part of the behavior is inappropriate. After practicing the activity a few times, the learner receives the proper feedback, and the process is repeated until the learner consistently does the behavior correctly[8].

Encourages Generalization While BST

The trainer must utilize tactics to encourage generalization since BST often entails training in a classroom or another environment apart from the context in which the target behavior is intended to occur. There are many tactics that may be used to encourage generalization. First, BST has to

provide several examples. To practice the behavior in the presence of a variety of stimuli that sample the range of relevant stimuli in the natural world, the trainer should provide several chances to do so. The possibility that the person would encounter stimuli in the natural environment to which he or she has previously effectively reacted in training improves when there are several exemplars included in the instruction. To maximize the possibility that a social skill would elicit affirming reactions from communication partners, the trainer may also teach several varieties of the skill. Finally, the trainer may include typical stimuli. By including natural environment stimuli into training, the learner is more likely to successfully participate in the activity when those common cues are available in the natural world. For instance, having a peer engage as a communication partner during training might be a typical motivator while teaching social skills.

The chance of reacting correctly whether that peer or another peer is present in the real world improves if you successfully reply to the peer during training. Fourth, the target behaviors need to be selected in a way that makes it probable that they will get reinforcement in their natural surroundings. The social skills a learner develops throughout BST should be selected in such a way that they are likely to elicit favorable responses from relevant others in their surroundings. A youngster with autism, for instance, should be taught social skills that are likely to elicit reciprocal social interactions from classmates who are not autistic. Sixth, generalizations may be reinforced by the instructor or other people in the area. When a student demonstrates the desired social conduct with peers, for instance, peers may be taught to react positively by giving the student praise or other reinforcers. Lastly, generalization may be aided by inplace training.

In Person Evaluation And Instruction

It is crucial to evaluate the same skill in the context where it would be anticipated to occur after BST has been used to teach it and the ability has been consistently shown in the training setting. A student may study abduction prevention techniques in the classroom, but the abilities will be put to the test when the student is by themselves in the community and is approached by a stranger with a lure. This kind of evaluation, known as a in situ assessment, occurs when a learner's abilities are evaluated in a realworld setting without the learner's knowledge or consent. Also, an in situ evaluation excludes the instructor or other adult who could exercise stimuli control over the behavior. In situ evaluations are particularly crucial to make sure that the skill will be used appropriately and that it won't be influenced by the teacher or anybody else who was there during training. They demonstrate the occurrence of the behavior under the stimulus control of the naturally occurring environment since there are no predetermined repercussions for the behavior during in situ evaluations.

In situ training may be used to encourage generalization if the intended skill is not executed well in a natural situation. When a learner exhibits incorrect conduct during an inperson assessment, in situ training occurs when a trainer joins the scene without the learner's knowledge, gives feedback, and asks them to practice the skill a few times. For instance, after receiving safety skills instruction, a student's abduction avoidance abilities may be evaluated insitu. While the pupil is alone during the evaluation, an adult who is unknown to them offers a lure. The trainer would enter the corridor as soon as the kid failed to demonstrate the safety skills and perform instruction therehence, in situ trainingif the youngster did not quickly flee and inform his teacher about the lure. In situ training is crucial for enhancing generalization and preservation of the skill

taught during BST. In situ evaluation is crucial for evaluating the usage of the skills in the natural environment without the stimulus control exercised by the trainer's presence[9].

Applications of BST

BST has been used to the teaching of a wide range of skills to a wide range of people in a wide range of situations. The use of BST to encourage social behavior in people with ASD will be discussed in more detail in the section after this one. A wide definition of social conduct includes actions needed to engage well with people in a range of situations. We emphasize social, occupational, and safety skills in this part. We also discuss studies on BST for educating personnel to administer behavioranalytic techniques to clients with ASD.

Social Abilities

A key behavioral turning point is the development of social skills, which enable people to connect with others and build relationships that may lead to the continued development of communication and language abilities as well as direct social reinforcement. A lack in social skills is one of the main characteristics of ASD. People with ASD often have trouble starting and keeping up conversations, and they could interact inappropriately. Eye contact, greetings, questionasking, conversational skills, play skills, and interactions with others about mutually reinforcing items or activities are some of the results of social skills training study. Researchers have also targeted abilities to assess other people's interest in the subject of discussion and a variety of answers to deploy in response to the listener's extinction of the initial response. Moreover, BST's effectiveness in enhancing social skills has been tested with adults and adolescents with ASD in addition to children.

Three young individuals with ASD were taught vocal and nonvocal communication skills using a BST package, according to Nuernberger et al. BST, inplace training, and reinforcer delivery were all incorporated in the training program and were used in a multiple baseline across participants design. The researcher asked individuals to pick a subject, initiate, and carry on a discussion with a peer about the topic of their choice during baseline. The number of suitable conversational skills that the participants used throughout their chat was recorded. Each baseline session included one conversation lasting around five minutes and included at least three exchanges. BST involved giving participants written and verbal instructions, modeling the conversational skills by two experimenters, having participants practice the skills with one of the experimenters, and providing feedback for appropriate and inappropriate replies. After participants had mastered all of the conversational skills outlined in the task analysis, inresidence training was put into place at their residential facility.

Feedback was given for communication skills performed successfully and badly during inperson training. Also, favored items were made available for 3 minutes straight as accurate response rates rose. Baseline sessions were held to evaluate the preservation of the conversational skills one to two weeks after the deployment of the BST. Two of the three individuals had their followup data gathered six to eight weeks after the intervention, using the same methods as at the beginning. The findings showed that BST improved suitable vocal and nonvocal communication abilities. Moreover, skill maintenance was noted for up to 8 weeks after BST had finished. By performing a component analysis of the BST package to teach conversational skills to three young individuals with ASD or intellectual handicap, Kornacki et al. expanded Nuernberger et al. Instructions, modeling, rehearsal, rehearsal plus feedback, in situ training plus feedback in a

staged environment, and in situ training plus feed back and reinforcement were the six parts of the BST package, which were organized according to the sequence of implementation.

Each BST component was deployed progressively in a series of steps after baseline sessions. In other words, component 1 was introduced initially, then component 2 was added if the termination condition of accurate participation in 80% of conversational skills was not reached. Component 3 was introduced if the termination criterion was not satisfied. Once the termination requirement was reached or all six components had been completed, components were implemented in order. The findings indicated that multiple BST components were necessary for each participant, indicating that no one component was the primary factor in the development of conversational abilities[10]. According to these findings, BST may be made more effective for some people by removing components that aren't essential. But, at the moment, the only way to determine which components are superfluous for a particular person is to gauge how they make them feel.

The time needed to determine which BST component would be most effective for any given person would not be more efficient than carrying out the entire BST procedure, given that implementing all four of the BST components doesn't take up a lot of time and that they all make sense from a pedagogical standpoint. Hence, even though some people may acquire social skills when fewer components are used, it is our advise to incorporate all components while teaching them. Nine highfunctioning adolescents with ASD were taught social skills through BST in a smallgroup setting, according to Palmen et al. In this research, asking questions to a conversation partner was the goal activity. Instructions and audiotaped examples of discussion questions were used to kick off the training. The participants judged whether the discussion questions in the audiotape were accurate or wrong while they listened to the chat, and they also got feedback on their assessments. After that, each participant took part in five individual role plays where they practiced asking questions and got feedback from the trainer.

The other participants also watched the practice and used a flowchart to rate each participant's questionasking based on three criteria: the question had to do with the topic of the conversation, it had to come up within five seconds of a pause, and it had to begin with a who, what, or when interrogative. Also, training took place in the setting of a game in which players advanced a piece on the game board if they appropriately reacted in a roleplay or while assessing the roleplay performance. Findings revealed that all participants asked more relevant questions during their regular tutorial meetings with their individual coaches. One example of BST used in a group context is Palmen et al., which added a variety of beneficial characteristics to go along with the BST methods. The flowchart was first used as a signal to urge the proper use of each of the three skill components and to improve the generalization of the conversational skill. Second, by using the audio model and requiring active participation, the participants were better able to distinguish between the right and wrong questions in the audio.

Thirdly, even when they weren't participating in rehearsal personally, all participants were still actively involved in the group training by assessing the individual's performance. Lastly, the game structure offered a means of rewarding everyone who performed correctly throughout training.Preschoolers and young children with ASD may benefit from BST when it is used in a group training style, according to Radley and colleagues. The Superheroes Social Skills program, a manualized intervention that contained BST components, was evaluated by the researchers in each trial. The program description varied slightly across studies, but it generally included a

video that described the skills and their rationale, live modeling by typical peers and an animated superhero, practice sessions with peers who are typically developing, feedback from a facilitator that included praise and error correction, a social game where participants could use the skill and receive social reinforcement, and the program itself. The participants were told to utilize the card to check their own progress outside of class.

Four 8–10yearold ASD children's social involvement at recess was examined by Radley et al., who found improvements for all of the children. Three ASDaffected children aged 10 to 14 were used to test the intervention by Radley et al. Four social skills demonstrated improvement in both the training environment and the generalization environment with various individuals and stimuli. Increases in social skills were also shown by Radley et al. both during training and on generalization tests after training. Using two 4yearold ASD children, Radley et al. tested the curriculum on four abilities necessary for playing appropriately with a peer. Both individuals demonstrated progress in all four abilities. The intervention was tested with five ASDaffected 7–10yearolds by Radley et al. With the use of the Superheroes program, they taught four social skills, and after training, they established lag schedules of reinforcement to promote variability in response. For a response that differs from the prior x replies, a lag schedule of reinforcement provides a reinforcer. The participants improved in the intended social skills, and their reactions varied.

BST is most often used by researchers or other professionals, despite the fact that it has been shown to be successful when used alone and in groups. The efficacy of familyimplemented BST for teaching social skills to a child with ASD was assessed by Stewart et al. The mother and sister of a 10yearold child with Asperger's syndrome were trained by the researchers to use BST to teach social skills that would improve the youngster's interactions with his classmates. The study's treatment integrity data demonstrated that the mother and sister followed the BST guidelines precisely and that the boy's social skills had improved as a result of the intervention. Researchers Laugeson, Frankel, Mogil, and Dillon as well as Radley, Jensen, Clarke, and O'Neill assessed the efficacy of educating parents to work with their autistic children on social skills. Both programs are manualized therapies with BST components; Laugeson et al. assessed the PEERS program and Radley et al. evaluated the Superheroes Social Skills program. This study demonstrated that parents may use BST in conjunction with manualized treatments to help their kids become more socially adept.

Several studies have assessed interventions for teaching social skills to children with ASD that incorporated BST components. For instance, Leaf et al. examined the effectiveness of teaching children with autism social skills using the teaching interaction approach. Even though it isn't known as BST, this process has all of its elements. Instructions, modeling, practice, and feedback are all used in the teaching interaction technique, but more focus is placed on explaining the behavior and having the participant define the goal behavior early in training. Leaf et al. proved the efficacy of the teaching interaction technique on 18 specific social skills by contrasting it to a Social StoriesTM intervention. The teaching interaction approach is helpful for teaching social skills to children with ASD, according to research by Leaf et al. and Leaf, Dotson, Oppenheim, Sheldon, and Sherman. Similar to this, Leaf et al. showed the value of teaching social skills to children with ASD using a cool vs not cool process with BST components. Similar to methods employed by Palmen et al., the cool vs not cool process was utilized in this research to educate kids how to distinguish between examples and nonexamples of proper social skills. The

researchers combined this method with roleplays and modeling, which required practicing the skills and receiving feedback.

The usefulness of BST and methods using BST components for teaching social skills to people with ASD in individual and group training formats has been confirmed through research. Further study is required to assess the relative benefits of the component methods, despite the fact that the research proving the efficacy of BST is solid. For instance, a lot of research looked at video modeling and instructions as part of the BST intervention.

As they are more effective than the total BST intervention and could be applied without an intervention agent, it would be beneficial to examine the effects of these antecedent components alone. Even while we think interventionists should follow the complete BST approach as previously advised, it's crucial to understand the circumstances in which the instructions and modeling components might be helpful since they can be made broadly available via a variety of media.

The requirement for auxiliary practices, such as selfmanagement or the inclusion of games that have been incorporated in certain studies, should also be evaluated in additional study to see if they improve the efficacy of BST for teaching social skills. Lastly, more study should continue to assess parent and peerimplemented BST as approaches to increase accessibility to BST.

Task Skills

Those who have been diagnosed with ASD often lack the abilities needed to find and keep a job. Just 2% of people with Asperger's syndrome or highfunctioning autism were employed, according to Engstrom, Ekstrom, and Emilsson. Moreover, Bellstedt, Gillberg, and Gillberg carried out a longitudinal research to evaluate the social and occupational situations of people with ASD. The findings showed that 90 percent of the 120 participants were jobless. The poor employment rate among people with ASD may be attributed to their social and communication deficits.

These deficiencies may reduce the efficiency of conventional job training programs, result in subpar work performance, or prevent job seekers from finding employment. Studies demonstrate that BST may be useful for teaching work skills to people with ASD, despite the paucity of available evidence.

CONCLUSION

There are several techniques and strategies available to treat social skills deficiencies in people with ASD. Even though there are still some aspects of the TIP that need to be researched, it should be one of the popular methods used to teach social skills, especially over nonempirically based methods, given its proven efficacy, growing body of literature, flexibility in instruction, and targeted skill focus.

More advancements in the intervention tactics used to teach social skills to people with ASD may be made by continuous study and analysis of this successful process.

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