

Research on the Autism and its Impact on Teenager

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Abstract:

Autism Spectrum Disorder is a neurobehavioral disorder characterized by impairments in social communication and repetitive behaviors. Autism affects around 3.2% 8 year old children with a 2:1 ratio of male to female. Common types of disorders on the Autism Spectrum such as ASD, Asperger's Syndrome, and Rett Syndrome are discussed. As more teenagers start to be exposed to the internet, more teenagers on the Autistic Spectrum are getting affected by how Autism is being approached online. In recent years, growing evidence has identified a correlation between ASD and comorbid mental health symptoms. This paper would explore the relationship of the use of technology and autistic teenager's mental health. In order to prevent the further potential harm the internet has on neurodivergent teenagers, the best way is to shut down further expansion of Autism Stigmatization and raise Autism Awareness.

Keywords: Autism, ASD, ASD Teenager, Autism Awareness

1. Introduction

Understanding and supporting neurodivergent individuals is of great importance for multiple reasons. This paper will specifically focus on the topic of autism. Autism(or autism spectrum disorders, ASD) is a set of heterogeneous neurodevelopmental conditions, characterised by early-onset difficulties in social communication and unusually restricted, repetitive behaviour and interests.[1] While many people believe that ASD is rare, it's indeed fairly common around the world. According to the Centers for Disease Control and Prevention(CDC), around 1 in 31(3.2%) eight years old children were identified with ASD. Autism also affects more male than female individ-

uals across age groups, around three males receive an autism diagnosis for every female.[2] However, in individuals with intellectual disability, the ratio of male to female is closer to 2:1.[3] A key reason why autism awareness is critical is the existence of autism stigma. Autism Stigmatization usually refers to the negative stereotypes, prejudices, and discriminatory attitudes or behaviors directed towards individuals on the autism spectrum. It's a common discrimination towards people on the Autism spectrum, for instance, unemployment among autistic adults is around 40%. [4] This paper will introduce common subtypes of autism, elaborate on how autism affects adolescents on the spectrum, and discuss strategies to address this

issue.

2. Types of Autism

2.1 ASD/Classic Autism

Atrial Septal Defect(ASD) is one of the most common types of neurodivergent disorders on the Autism Spectrum.[5] There's also different types of Autism such as Patent foramen ovale, ostium secundum, etc. The most common symptoms of ASD are impairments in social and communication skills, rigid or repetitive behaviors, and sensitivity with sensory stimuli.[1] Those symptoms usually appear in early years of childhood. There's currently no cure to the disorder but only treatment in order to reduce symptoms. ASD is usually considered as a type of genetic disorder which is commonly associated with other syndromes such as Down, Treacher-Collins, etc. Due to research, ASD teenagers usually experience a higher risk of self-injurious or self-harm due to various reasons.

2.2 Rett Syndrome

Rett Syndrome is a rare neurological disorder that primarily affects females.[6] It targets individuals' movement and growth. They'll typically develop during the first few months of newborn. After six months, the child will lose the ability to perform previously learned skills such as purposeful hand use and communication. As the child gets older, they might experience severe developmental delays. Many children with Rett Syndrome would have difficulty speaking, walking, swallowing, and other muscle movement difficulties. Hand stereotypies is another typical symptom, individuals with Rett Syndrome would often do repetitive hand movements such as hand-wringing, clapping, or tapping. Rett syndrome almost always only affects females due to the cause of this disorder. Rett syndrome is usually caused by the mutations in the MECP2 gene on the X chromosome, in which females usually have two X chromosomes.[6] Male with mutation on the only X chromosome often don't survive infancy unless they have other special chromosomal patterns and/or mutation. Like many other types of autism, there's no cure that currently exists for Rett syndrome. Interventions to improve outcomes include physical therapy, speech therapy, anti-seizure medication, and nutritional support.

2.3 Asperger's Syndrome

Asperger Syndrome(AS) was first described in 1944 by Hans Asperger.[7] Ever since it was introduced, there's many debates over its relationship with ASD. Research on Asperger's Syndrome remains limited; however, the number of AS diagnoses has increased rapidly. Asperger's Syndrome is characterized by severe issues with interpersonal, verbal, and nonverbal communication as well as restricted and repetitive patterns of behavior and activities. There's a variety of traits and symptoms for Asperger's Syndrome including stereotyped behavioral patterns, communication issues, and difficulty interacting with others. Children with Asperger's Syndrome usually have difficulty understanding and comprehending other people's language, including both verbal and nonverbal expression. Those children would express a sense of self-centered and social anxiety from an early age, resulting in few friendships during childhood. The specific cause of this disorder isn't clear, but it's due to some type of genetic condition and environmental factors, too. Scientists tested the genetic data of 24 individuals with AS and 72 individuals with Autism and eventually found out that Asperger's syndrome has three extra specific modules that weren't presented in Autism individuals.[8] This result suggests that genetics is essential to differentiate AS from typical ASD. There's many treatments for AS, nevertheless, there's no cure yet to this disorder. Some examples would be Mind-Body Therapies(MBTs), Fecal Microbiota Transplantation(FMT), and Sensory-Based therapies. MBTs are a type of therapy that helps patients focus on the relationship between the mind, body, and health [9]. FMT is a type of biological therapy specifically targeted towards the patient who suffered with symptoms of diarrhea and abdominal pain. A study indicates that following three rounds of FMT, patients experienced improvements in diarrhea and abdominal pain. Sensory-Based therapies involve activities that stimulate the sensory system by providing vestibular, proprioceptive, auditory, and tactile input.

3. ASD Teen Mental Health

3.1 ADHD

ADHD is another neurodevelopmental disorder that frequently co-occurs with Autism Spectrum Disorder (ASD).

[1] Individuals with ADHD often experience difficulties such as inattention, impulsivity, and challenges in maintaining focus. Similarly, people with ASD may struggle with communication, poor social skills, and difficulties recognizing or responding to nonverbal cues. For many children and teenagers, these challenges can lead to frustration or avoidance of social interaction altogether. Researchers often link both conditions through the “executive functioning deficit model,” which suggests that impairments in self-regulation, planning, and organization underlie many of the overlapping symptoms observed in ASD and ADHD.[10]

3.2 OCD

OCD is characterized by a pattern of obsessive thoughts and compulsive behavior that interfere with daily activities and cause significant distress. One of the most common symptoms in ASD is repetitive motor behaviors, such as repeating certain noises, words, or phrases. In fact, many people associate the repetitive behaviors of ASD to OCD symptoms. However, compulsive behaviors in OCS are usually due to intrusive thoughts of perfect symmetry and organization, but in ASD are often used for the purpose of self-soothing and stress release.[10] Children with ASD usually engage in compulsive behaviors intentionally, whereas those with OCD do so due to anxiety about their surroundings.

3.3 Gender Dysphoria

Gender Dysphoria refers to a condition in which an individual’s birth-assigned sex differs from their personal experience of gender identity. The Michigan Gender Identity Test did an experiment which administered 30 autistic children to determine whether autistic children could demonstrate a sense of gender identity. [11] The result showcases a significant relationship has been established between gender identity and cognitive development. Since children on the autistic spectrum are usually delayed in their mental age, they acquire gender identity relatively later than the typically developing children.[12] This delay might lead to difficulties in sex-role behavior, lack of social understanding, etc. in children with intellectual disabilities. Therefore, the research suggests that greater attention should be devoted to educating children on the autism spectrum about basic gender concepts.

3.4 Depression, Anxiety, etc

Major depressive disorder is the persistent depressed or irritable mood plus loss of interest and other symptoms lasting more than 2 weeks. By age 27, 19.8% of the ASD population had been diagnosed with MDD while 6.0% of the general population were diagnosed with MDD. [13] This corresponds to an adjusted relative risk of 3.64. This risk is likely due to both genetic and environmental factors. Diagnosis of depression and anxiety in Autism is hard because those disorders share similar symptoms to ASD.[10] Additionally, autistic individuals may struggle to complete standard assessments used to evaluate depression and anxiety disorders.

4. Discussion

Digital technology exerts multiple impacts on the lives of autistic children and adolescents, with cyberbullying and the spread of misconceptions being among the most significant. Cyber victimization is defined as being the target of purposefully hostile, embarrassing, or intimidating behaviors through the internet or other digital technologies. Individuals might experience cyber victimization by receiving abusive emails and being the target of identity theft, harassment, flaming, trolling, physical threats, social exclusion, verbal assaults, and humiliation.[14] Studies have identified a correlation between cyber victimization and subsequent diagnosis of MDD in adolescents with ASD. Parental involvement could mitigate the risk of cyberbullying, however, the best solution is to spread awareness in order to give everyone the correct understanding of the Autism Spectrum Disorder. There’s some other methods specifically targeted on teenagers. For example, therapists could place greater emphasis on “Personal Skill Development”. Teenagers with autism often experience frustration and anxiety due to the gap between their abilities and the demands of their environment. Therefore, it is necessary to specifically enhance their core skills in emotional regulation, social adaptation, and self-awareness, shifting from “passive coping” to “active self-regulation.” Another effective treatment would be to create a psychologically safe environment: make them believe that the environment they’re living under is inclusive and safe. It is also essential to reduce feelings of isolation and rejection among the autistic adolescent population. During adoles-

cence, teenagers with autism have an even stronger need for social acceptance, but societal misunderstandings and prejudices often exacerbate their feelings of loneliness.[4] Therefore, it is necessary to foster a sense of belonging in real-life social settings through “contextual adaptation” and “public awareness campaigns.”

5. Conclusion

Given the importance of autism awareness, what strategies can be implemented to support autistic individuals? There are several solutions to address this issue. The first possible solution could be to host sensory-friendly events in public space. For instance, Chuck E. Cheese across America opened two hours early on April 27 with dimmed lighting and reduced noise levels for children with sensory sensitivities.[15] This was in celebration of the World Autism Month which is in April. Events like this would make autistic children, or children with sensory sensitivities in general, feel included while also teaching the community to understand the most efficient way to help them. Another approach to enhance autism awareness is to increase the representation of autistic characters in children’s media. [16] This would greatly prevent Autism Stigmatization because people will learn about ASD and how to help them at a younger age. Introducing Autism to a younger audience could also prevent potential exclusion, such as bullying, that happens to Autistic youth. Accommodation is changes made to the way instruction, tests, or learning environment are presented in order to provide students with equal access to learning. Some examples are extra time on tests, use of assistive technology, etc. Accommodation is fairly widely used in the U.S. but not so much in China and other Asian Countries. Accommodations are important for all individuals on the autism spectrum, as they provide equal opportunities to learn academic content taught in school. The only way to normalize accommodation in school is to further spread ASD awareness. There’s many ways that one can spread ASD awareness, and one specific way is to support organizations associated with Autistic community. For example, advocating for groups like ASAN (autistic self advocacy network) would be a practical way for people who would like to support the autistic community.[17]

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