



**Specific Behavioral Challenges COVID-19 Caused for Individuals with Autism Spectrum Disorder and Why it is Important for Adolescents to Receive Post-Quarantine Intervention: A Literary Review**

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### Abstract

The COVID-19 pandemic, which began in late 2019, rapidly transformed societies worldwide, leading to widespread lockdowns, social distancing measures, and the closure of schools, therapeutic centers, and other beneficial programs. The emergence of the COVID-19 pandemic has undoubtedly brought about profound disruptions across various facets of individuals' daily lives worldwide. As societies grappled with the complex implications of the virus, certain marginalized and vulnerable populations experienced unique challenges that were often overlooked in the broader discourse. More specifically, children with Autism Spectrum Disorder (ASD) faced unique difficulties in adapting to the sudden disruptions in their lives. The sudden loss of familiar routines, limited access to support services, and reduced social interactions compounded their communication, social skills, and emotional regulation. Throughout the pandemic, social isolation has been a critical concern for children with ASD, as they rely heavily on structured interactions to build social skills and navigate social contexts. This research paper aims to identify and analyze the specific behavioral challenges encountered by children with ASD during the pandemic. The interplay between the characteristics of ASD and the altered social and environmental dynamics imposed by the pandemic generated a complex array of difficulties that demand thorough exploration and understanding. Comprehending these challenges for individuals with ASD is crucial for developing tailored interventions and supporting behaviors for adolescents within the population due to the lack of research performed and their vulnerability during these transformative years. Furthermore, the review emphasizes the imperative of post-quarantine intervention strategies and techniques created specifically for adolescents with ASD.

**Keywords:** Developmental disorder, Autism Spectrum Disorder, ASD, COVID-19, behavioral challenges, social isolation, pandemic

## Overview of ASD

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition characterized by persistent challenges in social interaction, communication, and the presence of restricted, repetitive patterns of behavior, interests, or activities (American Psychiatric Association et al., 2021). ASD is a heterogeneous disorder, meaning that it manifests differently across individuals and is often referred to as a "spectrum" due to its wide range of symptom severity and presentation (National Institute of Mental Health et al., 2023). The ASD spectrum, as coined by researchers, highlights the diversity of individuals' experiences, strengths, and challenges, emphasizing the importance of tailored support and interventions to enhance the quality of life for those affected (National Institute of Mental Health et al., 2023). Recent estimates suggest that approximately 1 in 36 children in the United States are diagnosed with ASD, however, prevalence rates may vary across different populations and geographic regions (Center for Disease Control and Prevention et al., 2023). ASD typically emerges in early childhood, and early intervention can significantly improve outcomes by addressing communication and social skills deficits (Center for Disease Control and Prevention et al., 2023). While the exact causes of ASD still remains unclear, a combination of genetic and environmental factors is believed to contribute to its development (Center for Disease Control and Prevention et al., 2023).

One of the hallmark features of ASD is impaired communication. Individuals with ASD may exhibit delayed language development, difficulty understanding nonverbal cues, and challenges in engaging in reciprocal conversations (Center for Disease Control and Prevention et al., 2023). Some individuals may not develop spoken language at all and rely on alternative forms of communication, such as gestures, pictures, sign language, or assistive technology (Center for Disease Control and Prevention et al., 2023). The pragmatic aspect of communication, including the appropriate use of language in social contexts, can be particularly challenging for individuals with ASD, often leading to misunderstandings and social isolation (Center for Disease Control and Prevention et al., 2023). ASD often involves difficulties in forming and maintaining meaningful social relationships. Individuals with ASD may struggle with understanding social norms, facial expressions, and body language, making it challenging to interpret others' emotions and intentions (Center for Disease Control and Prevention et al., 2023). A common difficulty is recognizing and responding to the emotions of others, which can lead to misinterpretations and difficulties in empathetic reactions (Center for Disease Control and Prevention et al., 2023). The desire for social interaction can vary widely among individuals with ASD, with some seeking companionship and others preferring solitude (Center for Disease Control and Prevention et al., 2023).

Repetitive behaviors and restricted interests are core features of ASD (Center for Disease Control and Prevention et al., 2023). These behaviors can manifest as repetitive movements (e.g., hand-flapping, rocking), adherence to strict routines, and a fixation on specific topics or objects such as numbers and vehicles (Center for Disease Control and Prevention et al., 2023). While these behaviors can provide comfort and predictability for individuals with ASD, they may also interfere with their ability to engage in flexible and spontaneous activities (Center for Disease Control and Prevention et al., 2023). The intensity and focus on these behaviors can sometimes hinder participation in broader social and academic contexts (Center for Disease Control and Prevention et al., 2023).

Many individuals with ASD experience sensory sensitivities, where they react strongly to sensory stimuli such as lights, sounds, textures, and smells (Center for Disease Control and

Prevention et al., 2023). These sensitivities can be overwhelming and may lead to sensory overload, causing anxiety and distress (Center for Disease Control and Prevention et al., 2023). Conversely, some individuals with ASD may seek out certain sensory experiences as a way to self-regulate and manage their emotions (Center for Disease Control and Prevention et al., 2023). Some regulatory sensory experiences may include touching a preferred texture, listening to a preferred sound, and/or cutting out noise entirely with the use of noise canceling headphones (Center for Disease Control and Prevention et al., 2023).

### **Overview of COVID-19 Pandemic and Society**

The COVID-19 pandemic, caused and named by the coronavirus SARS-CoV-2, is one of the most significant global health crises of the 21st century. The pandemic emerged in Wuhan, China, in December 2019 and quickly spread worldwide, leading to widespread illness, death, economic disruptions, and unprecedented public health responses (Centers for Disease Control and Prevention et al., 2021). For the purpose of this paper, I will be referring to society's current health status as post-quarantine instead of post-quarantine. This phrasing is due to recent debates on whether the pandemic has technically ended or not. The Centers for Disease Control and Prevention (CDC) affirms that the virus primarily spreads through respiratory droplets and by touching surfaces contaminated with the virus and then touching the face, particularly the mouth, nose, or eyes (Centers for Disease Control and Prevention et al., 2021). Asymptomatic and presymptomatic individuals can also transmit the virus, making containment challenging. COVID-19 symptoms vary widely, ranging from mild or even asymptomatic cases to severe respiratory distress and death (Centers for Disease Control and Prevention et al., 2021). According to the article, *Coronavirus: Unveiling the Global Pandemic and its Impact on Humanity*, common symptoms include fever, cough, shortness of breath, fatigue, loss of taste or smell, and muscle aches, although some severe cases often lead to pneumonia and acute respiratory distress syndrome (ARDS), requiring hospitalization and sometimes intensive care (Remente et al., 2023).

The pandemic had far-reaching effects on public health, economies, and societies around the world (Remente et al., 2023). Lockdowns, travel restrictions, and social distancing measures were implemented to slow the virus's spread, causing economic disruptions and affecting industries such as travel, hospitality, and retail (Centers for Disease Control and Prevention et al., 2021). Health systems in many regions struggled to cope with the influx of patients, and the pandemic exposed gaps in healthcare infrastructure (Filip et al., 2022).

The COVID-19 pandemic has significantly impacted human socialization, leading to changes in people's lives ranging from increased inactivity and disrupted sleep patterns to modified eating habits, all due to the social isolation it imposed (Caroppo et al., 2021). While physical distancing was crucial for public health, its ramifications on social dynamics were notable (Mourelatos et al., 2021). Families, friends, and colleagues turned to video calls, instant messaging, and social media to bridge the gap, revealing the resilience of human adaptability (Mourelatos et al., 2021). Yet, the absence of in-person engagement led to challenges, including feelings of isolation, digital fatigue, and a void left by the absence of traditional communal activities (Mourelatos et al., 2021). The pandemic highlighted the intricate role of socialization in mental well-being, showing the significance of striking a balance between digital and physical interactions in the modern age (Caroppo et al., 2021).

### **Correlation and Behavior Change**

This analysis aims to explore and compare the impact of the COVID-19 pandemic on behaviors exhibited by individuals with ASD, including on noncompliance, aggression,

self-injurious behaviors, and anger management. By examining pre-pandemic and post-quarantine studies, psychologists can discern the changes in behavior patterns and their potential underlying factors.

**Noncompliance:**

**Pre-Pandemic.** Individuals with ASD typically display varying degrees of noncompliance, which is defined by actively ignoring or failing to follow a given directive (Steinberg Behavior Solutions et al., 2018). Noncompliance often stems from difficulties with transitions and changes in routines (Wilder and Clark, 2023). This challenge is frequently linked to the preference of predictable and established patterns of individuals on the autism spectrum. Behavioral support services were highly accessible to help individuals with ASD decrease sensitivity to unfavorable triggers like the alteration of schedules (Center for Disease Control and Prevention et al., 2022).

**Post-Quarantine.** The disruption of established routines due to lockdowns and remote learning have exacerbated noncompliant behaviors (Colizzi et al., 2020). With the absence of familiar schedules, individuals with ASD have struggled to adapt, leading to increased noncompliance. The lack of in-person support from teachers and other professionals during the pandemic further contributed to difficulties in understanding and adhering to new expectations as quarantine restrictions were lifted (Center for Disease Control and Prevention et al., 2022).

**Aggression:**

**Pre-Pandemic.** Aggressive behaviors in individuals with ASD were often attributed to sensory sensitivities from stimuli such as loud noises, communication challenges, or frustration usually stemming from unmet needs (Cohen and Tisouris, 2020). These behaviors were commonly used as a form of communication when other channels were limited. Behavioral intervention services were widely available for individuals with ASD to learn how to communicate their needs and emotions (Center for Disease Control and Prevention et al., 2022).

**Post-Quarantine.** The reduced availability of therapy services that aided individuals with ASD in communicating their needs and emotions, increased reliance on virtual communication, and heightened stress levels within households contributed to escalated aggression (Colizzi et al., 2020). Social isolation and uncertainty also play a role in intensifying aggressive behaviors such as biting, hitting, pulling hair, and kicking (Colizzi et al., 2020). The inability to effectively communicate needs and emotions in the midst of disrupted routines and reduced outlets for sensory regulation lead to a drastic increase in aggressive responses.

**Self-Injurious Behaviors:**

**Pre-Pandemic.** Self-injurious behaviors among individuals with ASD were primarily linked to communication deficits, sensory issues, or emotional regulation difficulties (Autism Research Institute et al., 2020). Behaviors such as head banging, tearing off skin, and ripping out hair often served as a way for individuals to cope with overwhelming sensory experiences or emotional turmoil (Center for Disease Control and Prevention et al., 2023). However, applied behavior analysis (ABA) services were available to individuals with ASD to effectively aid them in the regulation of their emotions.

**Post-Quarantine.** Isolation, disrupted routines, and limited access to therapeutic interventions during lockdowns led to a higher prevalence of self-injurious behaviors (Colizzi et al., 2020). Reduced opportunities for sensory regulation and heightened anxiety contributed to the increase in such behaviors (Autism Research Institute et al., 2020). The lack of access to ABA services that help these individuals develop alternative coping mechanisms has further exacerbated these tendencies. The availability of these services have yet to return to the

pre-pandemic level as the world is still rebuilding and adjusting to a society that has experienced a global lockdown.

### **Anger Management:**

**Pre-Pandemic.** The difficulty in expressing feelings and interpreting social cues lead to frustration and anger (Cohen and Tisouris, 2020). These difficulties with emotional regulation and communication often resulted in challenges in managing their anger and expressing their feelings appropriately. However, there are therapeutic services provided to individuals with ASD to aid them in regulating and expressing their emotions (Center for Disease Control and Prevention et al., 2022).

**Post-Quarantine.** The uncertainty, fear, and disruption caused by the pandemic further compromised the ability of individuals with ASD to manage their anger effectively (Colizzi et al., 2020). Limited social interactions and reduced access to coping strategies contributed to heightened anger outbursts including self-injurious and aggressive behavior (Colizzi et al., 2020). Quarantine restrictions left individuals with ASD a scarce selection of virtual behavioral intervention services to help them manage their emotions appropriately. Due to ASD being a spectrum, Telehealth ABA services may not be effective for all ASD patients (Gabellone et al., 2022).

### **Future Research**

Research on the effects of the COVID-19 pandemic on adolescents with ASD, from ages 8-12 years old, is crucial for several reasons. Adolescents with ASD often face unique challenges in their daily lives, and the pandemic has exacerbated many of these difficulties, as discussed above. Understanding the specific impacts of the pandemic on this population and developing post-COVID-19 interventions is essential to provide appropriate support and ensure their well-being. This research can inform the development of targeted interventions, guide policy changes, and ensure that adequate support is provided to help them navigate the ongoing and future challenges in a post-quarantine world.

### **Vulnerabilities of Adolescents with ASD**

Adolescents with ASD may experience difficulties in communication, social interaction, and sensory processing. The sudden disruption of routines, closure of schools, and isolation due to lockdowns can exacerbate their challenges. Research can help identify how these disruptions have affected their mental health, behavior, and growth in supporting future interventions.

### **Education Disruption**

The closure of schools and the shift to remote learning during the pandemic has posed significant challenges for individuals with ASD. Many of them rely on structured routines and in-person support, which may not be available in a remote learning environment. Research can shed light on how these changes have impacted their education, socialization, and skill progress.

### **Mental Health Impact**

Adolescents with ASD are at an increased risk of mental health issues, such as anxiety and depression. The pandemic-related stressors, changes in routines, and reduced access to support services has increased these concerns. Research can explore the extent to which mental health issues have worsened and inform the development of targeted interventions.

### **Social Isolation**

Adolescents with ASD often struggle with social interactions, and the isolation measures implemented during the pandemic has exacerbated their social challenges (Center for Disease

Control and Prevention et al., 2023). Research can examine how reduced social interactions have affected their social skills, emotional well-being, and quality of life.

### ***Unpredictable Future Transitions***

Adolescence is a critical period for transitioning to adulthood, and individuals with ASD often require structured support during these transitions. The pandemic has disrupted plans for post-secondary education, vocational training, and employment, making it crucial to understand how these disruptions have affected their long-term prospects and independence.

### ***Effective Interventions***

Research can help identify effective interventions and strategies to mitigate the negative impacts of the pandemic on adolescents with ASD. By understanding their specific needs and challenges, researchers can develop targeted interventions that address their mental health, educational, social, and vocational needs in a post-COVID-19 world. For an additional note, these future interventions should also incorporate caregiver feedback as COVID-19 has also impacted family members of individuals with ASD drastically.

### ***Availability of Healthcare***

Adequate healthcare access is critical for individuals with ASD. The pandemic's strain on healthcare systems and the shift to telehealth services has posed barriers to accessing necessary medical and therapeutic interventions. Research can highlight these challenges and guide the development of inclusive healthcare solutions. It can also ensure all individuals with ASD have access to the services they need in a future crisis.

### **Conclusion**

The COVID-19 pandemic has brought forth a multitude of challenges for individuals with ASD, exacerbating their already complex behavioral landscape. This research paper delved into the specific behavioral challenges that arose due to the pandemic, shedding light on the disruptions to routines, heightened sensory sensitivities, and communication difficulties that individuals with ASD face in general, but specifically as consequences to the COVID-19 pandemic. It is evident that isolation from the pandemic has shown the critical need for tailored interventions and support systems, particularly for adolescents on the spectrum.

As society moves beyond the pandemic, the significance of post-quarantine interventions cannot be overstated. Adolescents with ASD have navigated a uniquely challenging period marked by disruptions to their routines and therapies, social isolation, and heightened anxiety. By addressing the specific behavioral challenges that emerged during the pandemic, providers can help adolescents with ASD regain a sense of stability, foster their social and communication skills, and provide them with tools to navigate an evolving world.

It is imperative for policymakers, educators, healthcare professionals, and families to collaborate in developing and implementing targeted interventions that consider the unique needs of individuals with ASD. As society redefines its norms and routines post-lockdown, a concerted effort is needed to ensure that those with ASD are not left behind. Furthermore, as society works towards a more inclusive and understanding environment, psychologists must seize the opportunity to provide adolescents on the autism spectrum with the necessary tools and support, empowering them to overcome challenges and embrace their potential in a world that is constantly evolving.

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