

2022

## THE IMPACT OF THE CORONAVIRUS PANDEMIC ON ADOLESCENT MENTAL HEALTH: A LITERATURE REVIEW

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The Impact of the Coronavirus Pandemic on Adolescent Mental Health:

A Literature Review

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Honors Program Capstone Project

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6 May 2022

## **Abstract**

The coronavirus pandemic, hereafter simply Covid-19, has pervaded and impacted in some way, shape or form the lives of everyone, globally. The disease itself can cause severe physical effects, but the indirect implications of quarantine and isolation have been shown to cause mental issues of concern among adolescents. Adolescents are at a unique point in their lives at which socialization is crucial for proper brain development. As such, this literature review will proceed with the goal of summarizing why adolescents need socialization, how Covid-19 has impeded that socialization, and the effects of a lack of socialization among that age group.

## **Introduction**

The Covid-19 pandemic started in December 2019 in Wuhan, China and has spread internationally, causing tremendous morbidity and mortality in addition to the lifestyle and psychosocial consequences of contact precautions. Over the past two years, much has evolved in the means of health and safety measures to prevent and alleviate the spread of the virus. In early 2020, many states in the U.S. shut down schools and businesses. Multiple governments urged citizens to increase health measures including handwashing, mask-wearing, and physical distancing. In late 2020 and early 2021, vaccines began to be introduced, with much of the population of the U.S. receiving at least one dose. However, many young people did not receive face-to-face instruction for the better part of the school year; they also did not receive the social support that schools provide. There has been a significant amount of research into the impact of the pandemic on the mental health of the elderly populace and health-care professionals, with less research examining the impact of the virus and accompanying social restrictions on s

adolescents. The aim of this literature review is to describe the impact of Covid-19 and subsequent social restrictions on adolescent brain development as well as suggested interventions.

## **Adolescence**

Prior to understanding the impacts of the social restrictions related to Covid-19 on adolescent brain development, it is necessary to define and understand the developmental period of adolescence. Adolescence is commonly known as the period between puberty and adulthood, roughly the ages of 10-20. By definition, the period of adolescence offers many changes to a person including physical, intellectual, personality, and social developments. As stated above, adolescence begins at puberty and the end is ambiguously marked by social and emotional factors (Arnett, 2022). Emerging adulthood is a new life stage that has been proposed in the past few years and marks the time between adolescence and adulthood and lasts from around age 18 to age 25. In other words, adolescence is thought to begin earlier and end later. As such, an extension of this period and a lack of independence may also be considered to have an impact on mental health (Arnett, 2022).

There are three main physical changes that occur throughout adolescence, including the growth spurt, primary sex characteristics, and secondary sex characteristics. There are also intellectual changes in adolescence. Adolescent brains are more developed than those of children, and the corresponding thought patterns and processes are also more developed. Children can only think logically about what they perceive; they are only able to think in the concrete (McLeod, 2022). Conversely, adolescents can move beyond these limits and consider more abstract and hypothetical notions. However, like children, adolescents still often display

egocentric behaviors and attitudes. Like in many periods of life, adolescents experience social and emotional changes. The lifelong search for identity begins in adolescence. The struggle for independence also comes during this period (Allen and Waterman, n.d.). Personal fable is a key psychological concept associated with adolescence. It is a belief which is commonly held by adolescents which tells them they are unique and special, creating an individual who believes that they will remain unaffected by life's difficulties or problems regardless of their behavior (Jack, 1989). Another key aspect of adolescence is the notion of imaginary audience, which is the belief held by adolescents that they are constantly being perceived by an audience, or being judged by others (Galanaki, 2012). These concepts and more display the enormous impact that socialization has on the proper development of young minds.

### **The Need for Socialization**

Socialization, or the process by which adolescents acquire the skills necessary to function competently and successfully as adult members of their culture in their interactions with others, is a necessary part of growing up (Smetana et al., 2016). It is developmentally and evolutionarily appropriate for adolescents and teenagers to distance themselves from their parents and establish relationships outside of family in order to prepare for adulthood. As such, it is imperative that adolescents have access to peers, who serve as important social support, a means for adolescents to gain socioemotional competence, and a way to enhance their wellbeing (Sancassiani et al., 2015). Having friends is crucial to personal development; a study published in the *Journal of Youth and Adolescence* states that friends enable individuals to develop decision making skills (Wilks, 1986). Having friends enables adolescents to share experiences and feelings and to learn how to handle conflicts. Conversely, those who lack friends tend

towards unhealthy habits. The loneliness and social isolation that corresponds with the absence of friends leads to higher levels of stress, poor sleep, and related bodily harm; it can also increase levels of depression and anxiety (Novotney, 2019).

Interpersonal relationships are further promoted in school both informally and formally through group projects, thus emphasizing the need for face-to-face instruction in which students are permitted time to socialize and/or learn team building and conflict resolution skills. In fact, school exposes students to behavioral norms and standards and thus represents a crucial role in the socialization process of the adolescent (Paris, 2021). Interpersonal relationships as developed in school teach students how to communicate, form lasting friendships and healthy relationships, learn how to compromise, and, among other things, teach students how to interact with and respect others who are different from them (Rogers Behavioral Health, 2020).

Not being able to prioritize socialization as seen during the contact restrictions of the pandemic has limited the mental and emotional health of adolescents in the United States. This poor mental health can also weaken the body's immune system, making young people more likely to contract the virus or become ill. With the advent of the pandemic and social distancing, more and more adolescents turned to social media to engage in socialization (Nilson et al., 2022). The benefits of social media include access to information regarding Covid-19 itself, connection with family and friends, identity exploration, creative expression, and supportive communities, which is especially important for those in unsafe living conditions. However, there are also many detriments of social media, including misinformation, body image issues, which may be worsened by not seeing peers in person, negative comparisons, overwhelming information regarding the pandemic, and screen use towards bedtime, which interferes with the body's circadian rhythm (Nilson et al., 2022). One study found that engaging in social media might

function as coping mechanisms for teens who need to deal with the stress or boredom they experience from restrictions. However, these coping mechanisms may become maladaptive over time (Nilson et al., 2022). Though technology has many benefits (e.g., allowing users to remain in contact with the outside world) there are still many parts of typical development that cannot happen properly without in-person socialization (Mehta, 2020).

### **Impact of the Coronavirus Pandemic on Education**

Many schools were closed across the country in March 2020. Almost overnight, instructors were forced to switch from face-to-face learning to online classes for an indefinite period of time. As such, the Covid-19 pandemic has been very demanding on the educational system of the United States and throughout the world. In fact, the Covid-19 pandemic threatens the giant strides that have been made in education over the past fifty years (Daniel, 2020). Specifically, the social distancing and restrictive movement policies put in place due to the pandemic have significantly disrupted traditional educational practices (Pokhrel and Chhetri, 2021). Though schools of all levels were closed, this review will focus mainly on those students receiving a middle-school education during the pandemic.

The speed at which lessons moved online failed to provide teachers with sufficient time to prepare for this type of learning. Specifically, teachers did not have the time to make sure students brought home the proper tools to study; complete necessary tasks, such as finalizing test results and reports; and to learn how to teach online (Daniel, 2020). This same study posits that the pandemic and online learning widens the educational gap by providing a non-conducive environment for learning at home. Also, student attendance rates are dropping for both in-person and online classes, contributing to this educational gap. In fact, the study found that nearly 3

times as many students are projected to be chronically absent from school (Dorn et al., 2021). This same study projects that an additional 1.7 million to 3.3 million eighth-12th graders could drop out of school as a direct result of the pandemic (Dorn et al., 2021). One might assume, and correctly, that historically disadvantaged students are hit the hardest by this education gap. These issues, and more, suggest a lack of equity in setting students up for success (Pokhrel and Chhetri, 2021).

It is evident, given the above information, that the Covid-19 pandemic affected the actual proceedings of learning, but it is also important to consider the data. One analysis found that at the end of the school year, students in the K-12 grade system were five months behind in mathematics and four months behind in reading (Dorn et al., 2021). Similarly, another study found that students in majority-Black schools were five months behind in math and reading while their majority-White counterparts were just two months behind, serving to widen pre-pandemic achievement gaps (Dorn et al., 2021). The same analysis found that high school students are more likely to drop out while those who graduate high school, particularly those who hail from low-income families, are less likely to pursue higher education (Dorn et al., 2021). It is of utmost necessity to address the educational deficiencies caused by the pandemic.

Education sets students up for success. It provides students with opportunities they would otherwise not have. One study found that habits built during early years of academic life lead to greater career success later in life (Frazier, 2019). As such, a poor education, such as one received during a very stressful time such as the pandemic, could be to blame for a lack of success in adulthood. This, along with other factors, unfortunately may lead to a growing gap between the rich and poor, due to students of lower socioeconomic backgrounds dropping out of



school to work or to take care of their family members or simply due to stress. The Covid-19 pandemic heightens the need for educational parity by making the lack thereof glaringly obvious.

### **Psychological Impact**

As anyone who has been an adolescent can attest to, growing up can be fraught with a multitude of challenges. Coming of age during a pandemic, however, has yielded significantly higher rates of stress, anxiety, and depression among adolescents of varying backgrounds (Jones et al., 2021). In fact, Racine et al. postulate that during Covid-19, the prevalence of anxiety and depression in this age group has doubled; page 1 of the report states that clinically elevated depression and anxiety levels among this age group had risen to 25.2% and 20.5% (Racine et al., 2021). Despite these findings, little research has been done on the psychological toll of the Covid-19 pandemic on adolescent mental health despite the fact that poor mental health during such a formative age can lead to poor long-term mental health as well as poor physical health outcomes, including cardiovascular disease. Because mental health is enduring and adolescence is when many people develop strong ways of coping with stress, it is necessary to consider the psychological impact of the pandemic on adolescents as well as what can be done to support this population (Jones et al., 2021).

It is important to address how difficult it was to receive mental health care during the pandemic, especially for adolescents. Before the pandemic, the CDC found that 20% of children had a mental disorder, but only one in five of that 20% received mental health care (Abramson, 2022). Mental health visits to the emergency department increased between 24% to 31% for people aged five to 17 (Abramson, 2022). This same study found that widespread outpatient care is needed for adolescents; however, even prior to the pandemic, people in this age group often had to wait months for appointments (Abramson, 2022). Many of these at-need children received

care in schools, and when schools closed, they lost access to this vital system. Some adolescents could engage in tele-health visits with mental health professionals; however, this is limited by parental insurance as well as income (Abramson, 2022). This shows the need for better access to mental health care for this age group.

Adolescents do not have the psychological capabilities of resilience and coping mechanisms that adults do and may be more likely to turn to self-medication and deliberate self-harm. In fact, there has been a reported increase in the use of cannabis and alcohol as well as drug overdoses among this population during the pandemic. Specifically, one study found nearly one-third of a group of Canadian adolescents from varied backgrounds had engaged in deliberate self-harm (Robillard et al., 2021). A study published by researchers with the CDC found that mental-health related emergency room visits for youths aged 12-17 years increased 31% from 2019 to 2020. It is notable that it rose 50.6% for female-identifying teens (Yard et al., 2021). The stressors relating to the pandemic, including the motivations to practice social distancing, are hard for adolescents to process, leading to poor outcomes in mental health. In fact, the inefficient ability of youths to process difficult circumstances is due to negative coping skills, which are also risk factors for stress, depression, and trauma. These psychological issues have manifested in several ways, according to research (Jones et al., 2021). Jones and colleagues also found an association between depression and pandemic related addiction to social media, including smartphone and internet addiction (Jones et al., 2021). Addiction also can lead to stress and anxiety. Other psychological issues raised by the pandemic include feelings of burdensomeness, lack of belonging, psychological distress, stress, trauma, and drug use. These issues have been found to be even more profound among adolescents predisposed to mental health conditions, which may be exacerbated by feelings of isolation, uncertainty, lack of daily

routines, lack of access to health services provided through schools, and lack of advanced emotional development. It is necessary to review the impact of the Covid-19 pandemic on adolescent mental health and how to mitigate poor mental health outcomes, which can result in suicide, behavior problems, and emotional distress (Jones et al., 2021).

Social support is critical in determining the mental sustainability of adolescents during times of crisis. The lack of social support during the pandemic is known to cause psychological challenges, including anxiety and depression (Guo et al., 2021). Many adolescents find this necessary social support in schools, but when classes were moved online, they found their support system disrupted. As such, students tried to find new ways to connect and socialize, but these ways are not always optimal or productive for mental health. Many students have grown addicted to smartphones and the internet, both of which are known to lead to poor mental health outcomes (Jones et al., 2021). School routines are also known to be important coping mechanisms for adolescents with pre-existing mental health issues (Singh et al., 2020). Thus, it follows that online classes and a lack of a need to truly get ready for school could exacerbate these conditions. School closures also meant a lack of access to certain mental health resources, which meant that their symptoms were more likely to relapse. Another issue with school closures involves students who live in abusive homes. Singh and colleagues report that abuse would likely be exacerbated by this time of economic uncertainty and stress, following the model suggested by previous health emergencies wherein there were increased rates of child abuse, neglect and exploitation reported (Singh et al., 2020). Conversely, for those with positive home lives, home quarantining was found to have a positive impact on adolescent mental health (Jones et al., 2021).

Adolescent mental health is of the utmost importance as it is at this age that children develop the coping skills that will carry them into adulthood. One study found support for the notion that a central task of adolescence is developing competence in problem-solving and socioemotional domains (Leipold & Michèle-Malkowsky, 2018). As such, it is necessary for more research to be conducted into ways to help children develop positive stress management skills as well as to develop into adults who can handle difficult situations.

### **Social Disparities**

It is suggested that due to social disparities in both access to education and healthcare, the pandemic is creating the potential for a “lost generation” (Simon, 2021, para. 1). Even before the pandemic, many minority groups, including Black, Hispanic, and Indigenous peoples, already faced inequality in academics, in everything from resources, including books and counselors, to student-teacher ratios and extracurricular activities (Simon, 2021). Though in this modern world, technology is essentially considered a basic right and necessity as students can barely participate in education without it, many minority students simply lack access. One Harvard correspondent, Clea Simon, states that “Black and Hispanic households with school-aged children were 1.3 to 1.4 times as likely as white ones to face limited access to computers and the internet, and more than two in five low-income households had only limited access” (Simon, 2021, page 6). This shows that certain minority groups as well as people living in poverty experience greater levels of inequity in education, placing these students at an even greater disadvantage with the advent of online schooling. Because technology ensures there is the potential for a daily touchpoint between a teacher and student, these students who lack access due to circumstances outside of their control are further disadvantaged by not being able to meet with their instructors, and, as a

result, may flounder in their classes. Harvard Graduate School of Education Dean Bridget Long says, "...it [the pandemic] has disproportionately hurt low-income students, students with special needs, and school systems that are under-resourced" (Simon, 2021, para. 11). This raises the notion of structural issues in public education, including poor school funding and property taxes. Long goes on to explain that students need school; "a child's school is social, emotional support. It's safety. It's the food system. It is health care" (Simon, 2021, para. 15). As such, it is necessary to provide underprivileged students with equitable access to technology in order to supply them with the support they need to succeed.

Due to unequal access to healthcare, communities of color are being disproportionately affected by deaths due to Covid-19 (Simon, 2021). As one might imagine, a student experiencing a loss of a family member or friend will potentially experience lasting trauma and emotional issues. Simon posits that these students of color who have experienced loss will not have the emotional capacity to learn during this period of trauma, and as a direct result, will not academically succeed. This will ultimately lead to learning loss and disengagement as well as increased rates of students of color dropping out of school, unfortunately causing a less-educated generation to arise, bringing with it a whole host of more problems in equity (Simon, 2021). Another study states that underprivileged students face extreme nutritional deficiencies as well as overall protection and that prolonged periods of stress and trauma will have a long term negative effect on their overall development (Singh et al., 2020). As Bridget Long mentioned, schools provide safety and sometimes food to their students, and as such, are necessary to aid in the development of underprivileged students. This is especially important now, as more and more underprivileged children lack a source of income, causing them to be at a higher risk of facing

abuse and mental health issues (Singh et al., 2020). As such, it is imperative to pay attention to and arrange interventions with students who might otherwise fall through the cracks.

### **Known Effects**

Compared to adults, the social and emotional development of adolescents has been impacted more by the pandemic and its corresponding lockdown. In fact, studies indicate that the pandemic may have more long term adverse consequences on younger people than adults (Singh et al., 2020). These adverse consequences depend on certain vulnerability factors, including “developmental age, current educational status, having special needs, pre-existing mental health condition, being economically under-privileged, and child/parent being quarantined due to infection or fear of infection” (Singh et al., 2020, p. 2). Unfortunately, there is not much research at present to determine the long term effects of the pandemic and lockdown, but there are several studies with important findings. One study determined that due to increased feelings of uncertainty as well as fear and isolation, severe psychological conditions, such as increased irritability, inattention and clinginess have arisen among all age groups (Marques de Miranda et al., 2020). Many adolescents have also reported experiencing sleep disturbances, nightmares, poor appetite, agitation, and separation anxiety (Marques de Miranda et al., 2020). It is clear that these issues are severe and will have lasting effects on the people who experience them.

### **Trauma Response**

Studies have shown that quarantining at home can be beneficial for some adolescents, but it puts others at a heightened risk of experiencing multiple traumas, including physical, sexual, and psychological violence; physical and emotional neglect; exposure to interparental violence;

social isolation; household stressors and difficulties; and increased social and financial precarity (Cénat and Dalexis, 2020). Food insecurity has also been found to be on the rise since the commencement of the pandemic, meaning that many children and teens are not receiving the proper nutrition necessary for their development (Cénat and Dalexis, 2020). In fact, the Covid-19 pandemic has been shown to threaten the social and emotional development that takes place during adolescence (Green et al., 2021).

As mentioned before, schools are often the only source of trauma-informed care and support for many students; it stands to reason that when the schools closed, this vulnerable population lost a vital resource. The pandemic has been described as a traumatic event, meaning it is a time in a person's life that overwhelms their ability to adapt and leads to strong negative emotions (Phelps and Sperry, 2020). Also, adolescents who experience the loss of a loved one are more likely to experience these feelings; it is estimated that more than 1.5 million youths lost at least one parent or guardian in the first year of the pandemic, leaving their lives permanently changed (Hillis et al., 2021). Trauma affects adolescents of all demographics, but children of lower socioeconomic status are particularly vulnerable and lower income is associated with an increased risk of experiencing undesirable life events. The effects of trauma include disrupted neurodevelopment; social, emotional, and cognitive impairment; adoption of health-risk behaviors; disease, disability and social problems; and even early death (Phelps and Sperry, 2020). As such, it is critical that schools, with their unique ability to administer care, have the funds to serve students coping with traumatic stress as well as to train staff so they are equipped to more effectively respond to these needs (Phelps and Sperry, 2020).

The media has even described the pandemic as a war in which all of us are at combat; "combat leaves a lasting impression on men's minds, changing them as radically as any crucial

experience through which they live” (Phelps and Sperry, 2020, p. S74). During a crisis, children and adolescents look to their parents or guardians for how to respond. Studies have shown that, during times of war, children who have an adult in their life who can soothe their overwhelming emotions have higher levels of psychological well-being (Phelps and Sperry, 2020). Exposure to extreme crises, such as the pandemic, is known to impact both the physical and mental health of survivors. Fears of infection, social isolation, parental job loss, and loss of loved ones to disease all have long term impacts on the mental health of adolescents in particular. There are also short-to-medium-term impacts of these experiences, which include anxiety, depression, PTSD, dissociation, depersonalization, and generalized emotional dysregulation. Long-term symptoms include problems in the realms of physical, social, and intellectual development; violent and risky behaviors; increased alcohol and drug use; and increased risk of developing a propensity to domestic violence. Somatic issues, including chronic stomach aches and headaches, are also related to complex trauma. Ultimately, if exposed chronically and without treatment, complex trauma can cause impacts on the brain and nervous system, weaken the immune system, cause high blood pressure, diabetes, cardiovascular problems, cancer and premature death (Cénat and Dalexis, 2020). Due to all these concerns and more, it is necessary to raise awareness of these issues and ensure adolescents are provided with trauma-informed care.

### **Suggested Interventions**

Though many students are back in school, there are many suggestions that have been made to assist students during times of stress and crisis and during the continuation of the pandemic. There are specific suggestions provided for parents, school teachers and counselors, pediatricians, and mental health care workers. Supportive parents or guardians can provide a



strong protective factor to their children. In fact, guardians can do this simply by example; parental coping mechanisms are known to affect a child's post-crisis mental health (Doupnik et al., 2017). Specific interventions include engaging in open and age-appropriate communication regarding the Covid-19 pandemic, exposing children to fact based, neutral news channels, supporting and providing a consistent routine, focusing on good behavior over bad behavior, coping with their own stress and emotions to foster problem solving skills, limiting anxiety-inducing internet use, encouraging creative pursuits, and notably, taking care of their own mental health (Singh et al., 2020). Teachers and counselors can support students by educating about the Covid-19 pandemic and preventative health behavior, promoting mental health among students, teaching and fostering prosocial behavior, engaging in open communication with parents regarding students' mental health, referring students to mental health providers, and making material available to underprivileged students (Singh et al., 2020). Pediatricians can help by having telecommunication available, educating parents about the developmental stages and corresponding needs of children, recognizing the somatic manifestations of stress and emotional health problems in kids of all ages, performing mental health checkups, and engaging more frequently with mental healthcare providers to foster stronger networks (Singh et al., 2020). Finally, mental healthcare workers can help this population by providing teleconsultation, having structured mental health care delivery, providing online orientation for teachers, training pediatricians for mental health screening, especially for vulnerable populations, devising online quizzes to screen adolescents, and developing focused behavioral interventions (Singh et al., 2020). It is of great importance that these actions altogether may seem overwhelming; simply engaging in one or two may help reach a student who is falling through the cracks.

## Conclusion

During the Covid-19 pandemic, adolescents found themselves to be at a unique disadvantage. For proper brain development, adolescents require socialization. Schools offer a means for adolescents to not only socialize, but also learn respect, responsibility, communication skills, and much more. Schools are also sometimes the only source of mental health care for some students. As such, when schools were shut down, many students struggled to cope, turning to social media, drugs, and self-harm. However, there is still time to rectify these issues. Providing greater access to trauma-informed care, greater parental support, and simply developing a more compassionate mindset towards people impacted by pandemic is crucial. This age group is especially vulnerable due to the fact that the coping mechanisms learned in adolescence carry one into adulthood. As such, it is imperative that steps be taken to allow young people the ability to safely and healthily engage in socialization.

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