

# Editorial Perspective: The mental health impact of school closures during the COVID-19 pandemic

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## Introduction

In an effort to mitigate the spread of the novel coronavirus, schools were among the first facilities to close, affecting approximately 1.2 billion students, nearly three-quarters of the learners worldwide. Official policies to address the crisis, including programs for remote learning and school-based mitigation measures have been variable and the degree of school closures, highly heterogeneous. Many countries managed to incur only modest impacts on education and limited reliance on closures. Nevertheless, one year into the pandemic, over 200 million students still faced disruptions to their education, ranging from full school closures to reduced or part-time academic schedules (<https://en.unesco.org/news/unesco-figures-show-two-thirds-academic-year-lost-average-worldwide-due-covid-19-school>). In the United States, nearly all of the 55 million students in kindergarten through 12th grade were in some way affected by closures (Golberstein, Wen, & Miller, 2020).

As we start another academic year, there is an urgent need to understand, measure, and mitigate the potential impacts of the pandemic on children, including those linked to school closures and disruptions in education. We highlight some areas of key concern that require special attention. Because of the current lack of definite data, we make inferences based on empirical data available in addition to qualitative data, such as that from our own clinical experience.

School closures have highly diverse short and long-term consequences. Closing schools has likely affected children and young people's physical and social activities, with a possible increase in screen time, irregular sleep patterns, diminished exercise, and, for some, particularly children with fewer family resources, less balanced diets. Some evidence suggests that parental stress surged, particularly at the beginning of the pandemic, with some parents reporting increased anxiety, depression, agitation, and sleep disturbances. These symptoms may be consequent to altered

routines, added responsibilities from working from home while teaching their children, worries related to unemployment and financial difficulties, and fears of getting sick or dying or of this happening to loved ones. Some reports also indicate increased use of alcohol and other addictive substances. Although these latter impacts are mostly not directly related to school closures, they add strain to the home environment, a critical factor in children's well-being. Furthermore, the increased time spent at home may increase the influence of these family environment effects beyond what would typically occur in the absence of school closures.

The increased stress and economic adversity caused by the pandemic and associated public health responses may potentially increase the risk of child maltreatment or violence toward children, which in many cases may go underreported. We know from other pandemics that school closures disproportionately affect migrants, refugees, minorities, and children with disabilities and special needs and that in countries with weak educational infrastructure the longer children are out of school, particularly children from at-risk communities, the less likely they are to return (Smith, 2021). Special education needs, neurodevelopmental disorders, and financial hardship are known risk factors for poor youth mental health. Interestingly, recent data from the Co-Space study (Creswell et al., 2021) in the United Kingdom demonstrated that, while there was improvement in mental health symptoms once quarantine restrictions were eased for the general population, parents of children with special educational needs or neurodevelopmental disorders and in low-income families continued to report persistently high symptoms in their children. Therefore, recognizing such risk and providing adequate supports for school reintegration seems warranted.

Although not directly comparable, we also note that previous prolonged school absences have correlated with teenage pregnancy, sexual exploitation, child marriage, and violence. While we do not currently know whether school closure during this pandemic will lead to increases in any of these outcomes, increased support and monitoring may be prudent, particularly for vulnerable populations.

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In our clinical practice, parents have reported feeling overwhelmed. In more affluent families, especially when there is the option to work remotely, one parent often has assumed childcare and tutoring responsibilities while the other works at his or her job, a scenario that is not available in single parent and less affluent families, and many parents may lose their jobs in order to stay home to care for their children or put them in sometimes inadequate childcare while they take public transportation to service jobs, both of which put them at higher risk of illness. In the United States, unemployment rates peaked at levels not seen since data collection started in 1948. Mothers, who are typically responsible for the bulk of childcare and eldercare in most parts of the world, have left the workforce at four times the rate of men during the pandemic. The situation is particularly challenging for single mothers: of the 15 million single mothers in the United States, only 20% reported being able to telecommute (Almeida, Shrestha, Stojanac, & Miller, 2020).

Adolescents in our practices complain of separation from friends, which at times has led them to rebel against parental restrictions and choose to risk unprotected social encounters. Younger children may also miss crucial social experiences required for healthy development.

### **The many roles of school: more than academics**

Education underwent a rapid shift into electronic platforms when schools closed. Almost overnight, many physical classrooms became virtual (in countries, and indeed in families, lucky enough to have such facilities) and for many in lower income areas, education temporarily paused until virtual education platforms could be launched. Even then, poor access to computers became an important disadvantage for many students in low-income families. Parents assumed a new role as effective teaching assistants since studying had to take place within the home environment, which may have been conducive to learning for some, but not for many others. The several other roles that schools serve were likely difficult to replicate at home. While some children and schools may struggle with challenging aspects of mainstream education in normal times, such as bullying and peer victimization, participation in school routines has important roles beyond academic achievement, such as socialization and development of executive function skills. As such, school closures may mean a disconnection from resources that many young people need for healthy development.

For many students, school offers their only hot meal for the day. For others, it is where they obtain immunizations, safety screenings, peer support groups, and mental health assessments and interventions. Lack of contact with school, combined with remote or reduced exposure to other related services, may place vulnerable children at greater risk. For

children with special needs, like those with autism spectrum disorders, lost resources include speech therapy or social skills group therapy. In addition, growing parental stress may lead to increased rates of intimate partner violence and child abuse and, for a significant portion of students, stay-at-home orders meant that children spent a greater proportion of their day with inadequate or even maltreating caregivers. Notably, the United Nations described a “horrifying surge” in domestic violence since the beginning of the pandemic. Referrals for maltreatment also increased during the last year in some countries. Many victims have been unable to seek help due to the restrictions implemented to contain the virus. Although schools are not the only way in which such abuse is identified, they are an important one for many children.

The school environment can provide important opportunities for physical exercise and their associated health benefits. Adolescence, a period marked by rites of passage when social connections are crucial, may be particularly affected. Some teenagers have reported increased tension and boredom and growing dissatisfaction from the lack of in-person contact with classmates and teachers, lack of personal space at home, and stress from family financial loss. We recognize of course that this is not true for all children and young people. For some, peer interactions can be stressful, and they may have experienced a temporary decrease in bullying and an alleviation of other negative experiences from in-person learning.

### **The mental health effects of quarantine and isolation**

The impact of social isolation on depression, anxiety, substance use disorders, child abuse, and domestic violence has been described in prior catastrophes and natural disasters, though at a different magnitude and duration when compared with the current crisis. Studies suggest that quarantine and isolation are traumatic experiences that can place youth at risk for PTSD. Data on the adverse psychological impact on children from school closures during influenza outbreaks showed that children were disproportionately affected and post-traumatic stress symptoms in parents and children quarantined with those not quarantined revealed that post-traumatic stress scores were four times higher in children who had been quarantined than in those who were not (Sprang & Silman, 2013). Due to the significant variations according to geography, to the duration of school closures, isolation, and availability of resources, the long-term mental health consequences of quarantine in the current context remain uncertain.

To deal with issues related to quarantine and isolation and to relieve their children’s distress while juggling their own added responsibilities (e.g., working from home), many parents have largely resorted

to media entertainment as a tool, rather than conversation, reading, and physical exercise. Increased use of technology brings a risk of online sexual exploitation and contact with online predators, harmful use of social media, and increased exposure to pornography and cyberbullying.

### A heterogeneous phenomenon

As we have noted, the data on mental health effects of school closures during the pandemic in the few studies that exist include inconsistencies. Data on how children's mental health has changed over the course of the pandemic are scarce. One of the few longitudinal surveys (Co-SPACE), following more than 8,700 families over the course of a year, found that emotional difficulties slightly decreased at the beginning of the lockdown for children between 11 and 17 years old, increased at the times of peak restrictions, including quarantine and school closures, and again decreased when restrictions were eased. Different groups were affected differently, with preadolescents suffering more than older adolescents, and with those coming from low-income families or having special needs being more affected (Creswell et al., 2021).

Similarly, some other studies found that a significant fraction of children reported feeling happier or that the pandemic made their life better (Ford, John, & Gunnell, 2021). Parents of children with a pre-existing mental health condition also reported a reduction in their child's emotional difficulties and no change in behavioral or restless/attentional difficulties. Some high functioning children on the autistic spectrum, or children who have been bullied at school, seem to have experienced relief from remote learning. This is possibly because the social challenges of school can cause great strain for these children and, although they would benefit from the social learning potential of in-person school, they are often unable to take advantage of it, especially when school systems cannot accommodate their special needs in this area.

Another national survey performed with children and adolescents between the ages of 6 and 18 found that average youth self-reported well-being was highest during the first national lockdown when most children were not in school (Ford et al., 2021). These discrepant findings may be explained by the fact that the first study relied on parental report, whereas the second used self-report. Also, mental health symptoms appeared to change as the lockdown progressed, at times worsening and at times improving.

These findings emphasize the varying effects of the influence of school closures during the time course of the pandemic and likely reflect the fact that lockdown affects different age groups and individuals in different ways, and also that symptoms may fluctuate according to the duration of restrictions. Some

populations at risk have been identified, such as the economically disadvantaged, children with special needs and neurodevelopmental disorders, and families experiencing parental stress, noting that some children seemed less likely to recover after the restrictions were lifted. Similarly, another British survey of over two thousand students with a mental health history, reported that 83% said the pandemic had made their conditions worse, and 26% said they were unable to access mental health support (Lee, 2020).

Notably, these analyses are limited by the lack of pre-pandemic data.

A study of almost 190 million ED visits in the United States found that visits for mental health conditions, suicide attempts, all drug and opioid overdoses, intimate partner violence, and child abuse and neglect were higher in March through October 2020 compared with the same period in 2019. Emergency visits for drug overdoses rose from 13,371 to 15,604 and visits for opioid overdoses rose from 4,168 to 5,502 (Holland, Jones, & Vivolo-Kantor, 2021). These numbers may be underrepresented as many have avoided visiting healthcare facilities due to lockdown orders or fears of contamination. Substance use has become a matter of concern among teenagers, for whom the use of alcohol and cannabis has increased, as well as the practice of solitary use, which is associated with poorer outcomes and coping. Recent outpatient mental health-related doctors' visits for youth between 12 and 17 years old increased about 31% compared to 2019. In the United States, pediatric emergency visits for psychosocial factors increased 69% and the proportion of all ED visits for children's mental health-related concerns substantially increased compared to the same period in 2019. The authors also noted that the youth who presented to the ED during the pandemic tended to have more severe illness and were more likely to be admitted and have longer hospitalizations (Krass, Dalton, Doupnik, & Esposito, 2021). Similarly, many patients with Attention-Deficit Hyperactivity Disorder (ADHD) have reported adjustment problems, increased boredom and irritability, decreased pleasure and interests, rapid mood fluctuations, clinginess, distractibility, and behavioral problems leading to family conflicts (Swansburg, Hai, MacMaster, & Lemay, 2021).

The fact that some children reported improved well-being during lockdowns while others endorsed worsening mental health underlines the need to understand factors for individual variable experiences during the pandemic. Definitive data on the potential for resilience and adaptation versus worsening psychiatric symptomatology are still lacking, and patterns may continue to change with the course of the pandemic.

There is also the variable of access to technology, either to allow for continued remote education or to access mental health treatment, which is associated with socioeconomic disparities. In the United States,

a family receiving nutrition assistance benefits about 12% of its population is 15% less likely to have access to high-speed Internet and 9% more likely to have no access to the Internet at all. Almost one-third of adults with annual household incomes below \$30,000 do not own a smartphone, and more than 40% do not have home broadband services or a traditional computer. African-American children are 8% less likely to have access to high-speed Internet, and 4% more likely to have no Internet access at all. Older adults, racial minorities, rural residents, and those with fewer years of education are all specially affected by technological challenges (Almeida, 2021; Nadkarni et al., 2020). In many rural areas, where suicide rates and social isolation are already higher and youth mental health needs more urgent, limited broadband accessibility may preclude the use of telehealth services or remote education, as well as access to their friends and other support networks.

## Conclusions

Prolonged and repeated closures of education institutions are taking a rising psychosocial toll on students, increasing learning losses and the risk of dropping out, disproportionately impacting the most vulnerable. Full school closures must therefore be a last resort and reopening them safely a priority. (Audrey Azoulay, Director-General of UNESCO)

According to UNICEF, as of this writing, over 156 million students in 19 countries are still affected by school closures due to COVID-19 (<https://www.unicef.org/press-releases/statement-reopening-schools-cannot-wait>). As the pandemic is still evolving, the long-term mental health impact from school closures remains uncertain, has multifactorial contributors, and appears to be changing over the time course of the pandemic. While some early population studies have shown that a significant number of children reported improvements in mental health, more recent surveys show the opposite. We believe the case is strong that school closures represent an important biopsychosocial hardship for many children and adolescents, as well as for their parents, and mental health risks should be factored into lockdown decision-making models (Sonuga-Barke, 2021). Remote education may exacerbate already existing socioeconomic disparities and may be at least in part implicated in worsening mental health issues among children and adolescents. Women and lower socioeconomic populations may be disproportionately affected by closures.

The pandemic should encourage health policy experts to seek innovative and more flexible solutions to pandemic policies to prioritize the safe opening of schools. For example, the school system in France has implemented multiple school closings and reopenings

in response to health indicators. While sometimes confusing and requiring frequent adaptations, this experiment allowed children to reconnect with peers, teachers, and the school routine even temporarily in order to avoid the most harmful effects of isolation. Furthermore, careful attention should be paid to the risk and benefits associated with school closure as new and better data become available. Evidence is now accumulating that school closures alone would prevent a very small percentage of deaths (as opposed to other mitigating interventions) and that schools are not strong drivers of SARS-COV-2 transmission. When infected, the vast majority of children and adolescents appear to experience mild symptoms, if any. These considerations strongly shift the balance and risks and benefits in favor of schools being open except in the most extreme circumstances and as a last resort.

Our initial analysis of the available data serves to underline three critical points—(a) that the decision to close schools comes with potential risks to children's physical and mental health and their social and academic development, and these must be balanced against the risks of not doing so (such as risk of infection, extended community transmission and its associated harms, mortality, and morbidity—mostly of older segments of the population or children with complex underlying health conditions); (b) many of these risks are predictable and should be actively and vigorously mitigated when and if school closures are deemed necessary; and (c) school reopening as the pandemic subsides will necessitate a comprehensive program of support to children and families to address their mental health needs and missed opportunities for learning, socializing, and personal growth.

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