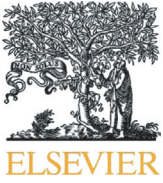




Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Technology Department

The COVID-19 Pandemic: Technology use to Support the Wellbeing of Children

Karen Goldschmidt, Ph.D. MSN, RN, CNE

Drexel University, Philadelphia, PA, United States of America



In March of 2020 with the onslaught of the COVID-19 the lives of working adults changed exponentially, and so did the lives of children. The virus disrupted life as we know it, the effects of which we are only beginning to realize. It would not be unusual for adults and children to feel an impact on their sense of wellbeing throughout this time. Lack of support, trauma, unhelpful thinking styles, chronic illness/disability, and substance use compromises wellbeing in adults (Roddick, 2016). Caregivers wellbeing can have a direct effect on children's wellbeing (Newland, 2015). Behavioral health experts recommend building five dimensions of wellbeing in children: social, physical, emotional, intellectual, and spiritual (Kids Harbor, 2020).

Throughout the COVID-19 pandemic, there has been a growing reliance on the use of technology to learn, live, and stay connected. This column will explore how technology became essential during a time of isolation and social distancing and was used to leverage and maintain wellbeing for children.

Social wellbeing

Play is an essential part of children's physical and social development. Closures of parks and playgrounds were not uncommon throughout the COVID-19 pandemic. The world becomes more restricted each day. The monkey bars and swings in my neighborhood usually are buzzing with children laughing and playing; now, they have yellow caution tape wrapped around them and signs posted "playground closed." It just seems unconscionable to see an ordinary, innocent playground condemned as if it were a safety hazard.

During the COVID-19 pandemic, the (Center for Disease Control and Prevention [CDC], 2020a) recommended that caregivers avoid setting up playdates for children to practice social distancing from other children. Instead, caregivers were encouraged to set up supervised phone calls and video chats for their child and their friends. The American Academy of Pediatrics [AAP] (2020a) suggested that children play outside while maintaining social distancing so that they had time to move and explore nature. Children who play outdoors experience better motor development and focus, lower obesity rates, reduced attention deficit hyperactivity disorder, less anger, aggression, stress, and depression AAP (2020a).

On the positive side, families seem to be spending more time together, walking, biking, and completing school work. Where time is available, caregivers are encouraged to socialize with children through

playing games, arts and crafts, and listening to music. Caregivers can also share time with children by co-viewing television programs or using educational apps. "Co-engagement with media and 'co-viewing' is optimal for learning and spurring conversations (and thereby helping to develop vocabulary and more in-depth understanding) around new content" (Takeuchi & Stevens, 2011, p. 10). Positive interaction that occurs between caregivers and children is healthy. The fast-paced lifestyle that two working caregiver families are accustomed to seems to have slowed down if only for a short while.

Physical wellbeing

To date, children are not in the high-risk group of COVID-19 for severe illness or hospitalization (CDC, 2020b). Children are, however, susceptible to illness from the virus with lesser degrees of severity, and are known carriers. Several countries are working on a vaccine; however, it will be months before one is available for use.

The AAP (2020b) published guidelines for primary care providers to access during the COVID-19 outbreak. Posted on the AAP website are up to date guidelines and available research. Unlike most adult primary care offices, the AAP (2020b) recommends that newborns, infants, and young children continue to be seen in person by a primary care provider for their routine vaccinations and well visits. Pediatricians are encouraged to monitor community spread of COVID-19 and, if necessary, administer older children's routine vaccinations at a later date. Pediatricians can determine whether or not to separate well and sick visits by rooms and times of appointments.

The AAP (2020c) launched a telementoring COVID-19 emergency readiness and response program in March. COVID-19 Project ECHO (Extension for Community Health Care Outcomes) model™ "is a telementoring platform that uses video conference technology to connect a multidisciplinary team of specialists with primary care providers in local communities" (AAP, 2020c, para. 2). By participating in the program, pediatric primary care providers can stay abreast of policies, procedures, and recommendations for treating children throughout the COVID-19 pandemic and participate in education, case study presentations, and discussions.

Telehealth

Pediatric health care providers are unable to provide telehealth for all children due to differences in licensing laws by state and gaps in insurance policy coverage (AAP, 2020c). Throughout the COVID-19

E-mail address: Kag69@drexel.edu.

pandemic, physician groups have lobbied Federal and State Governments to relax the rules on telehealth to provide care to more children across state lines and in rural areas of the country. The AAP (2020c) is working at the Federal level with the Medicaid/Children's Health Insurance Programs (CHIP) and with other third-party insurers to reduce barriers and increase access to telehealth care. Still, amid the COVID-19 crisis, there is a long way to go to overcome obstacles to telehealth provisions for all children. The AAP (2020d) is keeping a current list of states which are allowing telehealth, the rules, and regulations and publicizes this list for pediatric care providers. The COVID-19 pandemic may cause a paradigm shift that relaxes restrictions imposed by the Health Insurance Portability and Accountability Act (HIPAA), state laws, and insurance reimbursement for telehealth.

Emotional wellbeing

Caregivers are essential for helping children maintain emotional wellbeing. Throughout the pandemic, caregivers were encouraged to reassure children that adults that they trust (e.g., doctors, nurses, police, teachers) are doing everything they can to learn about the disease to help keep them safe (AAP, 2020e). Also, caregivers can give children a sense of control by letting them know what they can do to help limit the spread of the virus (e.g., washing their hands and coughing and sneezing into their sleeve or a tissue).

The CDC (2020b) recommends that caregivers watch children for signs of stress. Children can exhibit stress and anxiety with excessive worry, sleeplessness, inability to concentrate, and unhealthy eating habits. Caregivers can help alleviate stress by remaining calm, creating a daily routine, and talking to children about COVID-19. Reducing children's exposure to COVID-19 television and social media coverage can also help to provide a relaxed and reassuring environment (AAP, 2020e; CDC, 2020b).

Food insecurities

Families may be more stressed than ever. Today most adult jobs that have survived the pandemic are those that can use computerized technology, are in healthcare, education, or those in food distribution (Carruthers, 2020). To date, over 17 million Americans filed for unemployment benefits, and the unemployment rate is 13% in the US (Long & VanDam, 2020).

School lunch programs are funded by the federal government and subsidized at the state level for children whose caregivers meet a certain income level. Schools are required to stay open and provide meals (breakfast and lunch) at a free or reduced rate to those children who qualify. Schools have had to be creative with how they distribute the food, and although the funding for no cost lunches will not increase this school year, the number of students that will qualify for free lunch will rise. Some schools send out a weekly survey to capture all students who will need a free or reduced lunch each week.

Intellectual wellbeing

Online learning

The Tsunami of online learning has occurred. Many schools are offering online (virtual) learning for students (CDC, 2020a) as a means by which to continue education for the remainder of the academic year. Those teachers and administrators who were reluctant to teach online, have had little choice but to embrace this decade-old technology. Some teachers may have experienced fear and trepidation with transferring their classrooms online, but the majority have done so at a rapid pace and in a short period; in the long run, everyone seems to be adapting well. The digital divide is more apparent than ever (Guernsey, Ishmael, & Prescott, 2020). Children who are proficient with using computers are ready for it. Instructors and teaching methods

are a bit behind; however, there is hope that new models of education emerge. Change can be useful.

We live in a world where Internet access is a now necessity, not a commodity. Access to a computer is as essential for learning in school as is owning paper, pencils, and books. Unfortunately, we still have a disproportionate amount of children in parts of the country that are unable to access the Internet. Some families may share one computer; others may not own a computer at all. We need to find ways through partnerships with government, business, and educational systems to provide computers and Internet access for all learners. During this pandemic, some Internet companies have graciously offered their services for free (e.g., Comcast and Charter Spectrum) for a limited time to low income families (Guernsey et al., 2020). Caregivers may need to work with younger children to show them how to work a computer. School administrators may need to help families to troubleshoot computer and Internet connection issues (CDC, 2020a).

Services for children with disabilities

In the US, there are over seven million children with disabilities (mental, emotional-behavioral, physical, and more) that require special services in school (Silva, 2020). School districts are required to identify children with special needs and to develop Individual Education Plans [IEPs] (Silva, 2020). Schools are required by law to provide special needs children with free and adequate public education and special services (US Department of Education, 2020). During the COVID-19 pandemic, school districts are continuing to provide special needs children with therapeutic services online. Delivery of specialized therapy online opens the possibilities for services to children with special needs in remote areas who may not have previously had access. IEPs are traditionally complete on reams of paper; because of COVID-19 and school closures, now experts can meet online in synchronous or asynchronous forums with some completing the IEPs in an electronic format (Silva, 2020).

Spiritual wellbeing

Families struggled with being physically separated from their faith communities during the COVID-19 pandemic, especially during the holy season. Places of worship recognized the spiritual needs of the faithful, and many created access to their communities through social media. Some faith communities made themselves available through Livestream worship on Facebook, communicated with followers on Twitter, and accepted prayer requests on Websites. The Pope had several Livestream services from the Vatican in Rome that were translated, recorded, and posted on YouTube for followers to watch on-demand. Several faith-based educational learning platforms offered subscriptions free of charge for families so that they could continue religious education with their children at home.

Summary

Technology became essential during the COVID-19 pandemic. During a time of isolation and social distancing, the world relied on technology to learn, live, and stay connected. Technology is best used to leverage and maintain social, physical, emotional, intellectual, and spiritual wellbeing for children, in an environment where children are co-engaged with an adult.

The impact of the COVID-19 pandemic will be long-lasting. Hopefully, this time of disruption and loss of lives are not wasted and propels us toward a new way of life improved with technology in a way that enhances wellbeing for all.

References

- American Academy of Pediatrics [AAP] (2020a). Information for caregivers: Getting children outside while social distancing for COVID-19. Retrieved from <https://www.healthychildren.org/English/health-issues/conditions/chest-lungs/Pages/Getting-Children-Outside.aspx>.
- American Academy of Pediatrics [AAP] (2020b). COVID-19 clinical guidance Q & A. Retrieved from <https://services.aap.org/en/pages/covid-19-clinical-guidance-q-a/>.
- American Academy of Pediatrics [AAP] (2020c). AAP COVID-19 ECHO. Retrieved from <https://www.aap.org/en-us/professional-resources/practice-transformation/echo/Pages/AAP-COVID-19-ECHO.aspx>.
- American Academy of Pediatrics [AAP] (2020d). AAP guidance: Telehealth payer policy in response to COVID-19. Retrieved from <https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/aap-guidance-telehealth-payer-policy-in-response-to-covid-19/>.
- American Academy of Pediatrics [AAP] (2020e). State notices on telehealth policy in response to COVID-19 (as of April 10, 2020). Retrieved from <https://downloads.aap.org/DOCCSA/State-Telehealth-Notices.pdf>.
- Carruthers, F. (2020). Recession-proof jobs that should survive the pandemic. *Microsoft News Money* April 13. Retrieved from <https://www.msn.com>.
- Center for Disease Control and Prevention [CDC] (2020a). Caring for children: Tips to keep children healthy while school's out. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/prepare/children.html>.
- Center for Disease Control and Prevention [CDC] (2020b). Coronavirus disease 2019 (COVID-19): Stress & coping. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html>.
- Guernsey, L., Ishmael, K., & Prescott, S. (2020). Online learning in the wake of COVID-19 tips and resources for PreK-12 with equity in mind, New America. Retrieved 4/10/2020 from <https://www.newamerica.org/education-policy/edcentral/online-learning-wake-covid-19/>.
- Kids Harbor ©. (2020). Teaching children about wellness: 5 areas of focus, Retrieved from <https://www.kids-harbor.com/teaching-children-about-wellness/>
- Long, H., & VanDam, H. (2020, April 9). America is in a depression. The challenge now is to make it short-lived. *The Washington Post Business*. Retrieved from <https://www.washingtonpost.com>.
- Newland, L. (2015). Family wellbeing, parenting, and child well-being: Pathways to health adjustment. *Clinical Psychologist*, 19, 3–14.
- Roddick, M. (2016). Eight dimensions of wellbeing: Where do you fit it? *Good Therapy* Retrieved from <https://www.goodtherapy.org/blog/8-dimensions-of-wellbeing-where-do-you-fit-in-0527164>.
- Silva, E. (2020). What school closures mean for students with disabilities, New America. Retrieved from <https://www.newamerica.org/education-policy/edcentral/what-school-closures-mean-students-disabilities/>.
- Takeuchi, L., & Stevens, R. (2011). *The new co-viewing: Designing for learning through joint media engagement*. The Joan Ganz Cooney Center Retrieved from https://www.joanganzcooneycenter.org/wpcontent/uploads/2011/12/jgc_coviewing_desktop.pdf.
- US Department of Education (2020). Urging states to continue educating students with disabilities, secretary DeVos publishes new resource on accessibility and distance learning options. *Individuals with disabilities education act (IDEA)* Retrieved from <https://sites.ed.gov/idea/new-resource-accessibility-distance-learning-options-students-with-disabilities/>.