

Task Force 1

Global Health and COVID-19

Policy brief

ACCESS TO EDUCATION DURING PUBLIC HEALTH EMERGENCIES: KEEP SCHOOLS OPEN

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ABSTRACT

Education is society's greatest equalizer and a significant determinant of sustainable economic growth. Halting education exacerbates socio-economic and gender inequalities within and between countries and negatively impacts future generations. Despite this, together with the evidence of negative direct and indirect effects on children and adolescents of closing schools during the COVID-19 pandemic, many countries continue to keep schools closed even when there are clear World Health Organization (WHO) recommendations to the contrary.

This policy brief calls for the G20 to develop a policy to reopen schools and close them only when recommended by the WHO and as a measure of last resort.



CHALLENGE

Partial and full school closures related to COVID-19 have affected nearly 1.6 billion children and adolescents worldwide, 90 per cent of the total (UNESCO, 2020). Closing schools has led to negative social and health consequences (Townsend 2020), affected learning outcomes (Centers for Disease Control and Prevention 2020) and exacerbated inequities (Dorn et al. 2020). Remote learning, where available, did not prevent these. This is because schools provide children and adolescents with services ranging from meals and physical exercise to healthcare to immunization and mental health, in addition to learning and socializing.

Compared with adults, children and adolescents are at lower risk of severe illness, hospitalization and death from COVID-19 (European Centre for Disease Prevention and Control, 2020; Bhopal et al., 2021). Children, particularly those younger than 10 to 14 years, also have lower susceptibility to the infection than adults (Viner et al., 2020) and are less likely to be the index case in household transmissions (Zhu et al., 2020). Adults living with children under 12 do not appear to have a higher risk of infection than those without children (Forbes et al., 2021).

Studies from countries where schools reopened after lockdowns for in-person learning consistently demonstrate that schools are not driving COVID-19 outbreaks if mitigation measures are in place (European Centre for Disease Prevention and Control, 2020). Child-to-child transmission in schools is uncommon (Ismail et al., 2021), and children in school settings are not the primary transmitters of COVID-19 to adults (Lewis, Munro and Smith 2021; Zimmerman et al., 2021). Instead, infections in schools reflect broader community transmission (University of Melbourne, 2020), with household transmission being the main driver of the epidemics (Lee et al., 2020); teachers do not appear to have a higher risk of COVID-19 than adults from other occupational groups (Brandal et al., 2021).

Despite this evidence, and a World Health Organization (WHO) recommendation that schools stay open unless justified by very high levels of local transmission and where no alternative measures can be used (WHO 2020a), there was widespread implementation of full school closures.

Hence, despite their lower risk of severe COVID-19 disease, children and adolescents have been disproportionately disadvantaged by COVID-19 control measures. School closures, combined with other social isolation measures, have disrupted the provision of life-saving and protective services and increased emotional distress and mental health problems (Eurochild, 2020). When out of school, children are more prone to sexual and other violence, abuse, adolescent pregnancies and child marriage, all of which increases the probability of missing further education. According to the United Nations (UN), 24 million children are at risk of not returning to school owing to the pandemic (UNICEF, 2020a). In 2020 alone, missed education is estimated to have resulted in 13.8 million years of life lost for children in the USA and 0.8 million in Europe (Christakis, Van Cleve and Zimmerman 2020), and an estimated US\$10 trillion loss in lifetime earnings for those affected (World Bank, 2020).



PROPOSAL

REMOTE LEARNING SHOULD NOT REPLACE SCHOOLS

Though planned as temporary, school closures, with or without remote learning, will have a lasting effect on education provision and continue to widen the educational achievement gap, reinforcing inequities between better and worse-off within and across countries.

In the early phase of the pandemic, when little was known about SARS-CoV-2 transmission, most countries worldwide implemented partial and full school closures as an initial policy reaction (UNICEF, 2021a), irrespective of the incidence of COVID-19. Despite growing evidence of children's relatively minor role as drivers of the epidemic and contrary to the WHO's guidance on keeping schools open safely (WHO 2020a, 2020b), countries have adopted school closures as a fundamental part of their COVID-19 response.

The decision to close schools was taken quickly; reopening has taken much longer. As of May 2021, just over half (55 per cent) of countries globally have fully opened schools (Insights for Education, 2021). Only seven G20 countries (see Annex 1) have fully opened schools, and ninety-five countries have implemented additional closures after reopening (Insights for Education, 2021).

Governments have justified their decision to physically close schools by providing children with remote learning. However, this has been problematic. First, all countries – low to high income – report critical gaps in access to technologies. Second, there is a steep digital divide between girls and boys, with girls at increased risk of falling behind (UNICEF, 2020c). Third, virtual teaching requires special skills that are not adequately integrated into teacher training either in high- or lower-income settings (Dreesen et al., 2020). Finally, the current situation has driven an exodus of teachers from private and public education to other sectors (Friedman, 2020). Teacher deficit, particularly in low- and middle-income countries, is the expected result. Where low-cost private schools are common, as is the case in South Asia and sub-Saharan Africa, economic shock is predicted to reduce private school enrolment, leading to permanent school closures (Alam and Tiwari, 2021).

Two-thirds of the school-aged children, most of them in Africa and South Asia, do not have internet access and thus, digital learning is not an option for most households (UNICEF, 2020b). While other technologies, such as TV and radio are deployed in some settings, access can also be limited, particularly among economically deprived families, as is the electricity required to use them (Dreesen et al 2020). Even in countries with well-resourced school systems, access is problematic. For example, in both Italy and the US, one third of families lack internet connection or devices for remote learning (USAFacts 2020; Mascheroni et al 2021).



CLOSING SCHOOLS AFFECTS HEALTH AND WELL-BEING

In most places, schools provide more than education. The health sector relies on schools as a platform to deliver life-saving health services, from immunization and malaria management in low-income countries (Halliday et al., 2020) to mental health services in high-income settings.

In terms of mental health pre-pandemic, depression, anxiety and self-harm were already among the top causes of ill health in girls and boys aged 15–19 years (WHO, 2018) and are now increasing, aggravated by social isolation, loneliness and stress (Loades et al., 2020). Out of school and without normal routines, children are also more prone to use alcohol, drugs and tobacco and spend excessive time online, negatively affecting mental health. With schools and other services closed, limited access to support exacerbates the mental health issues of children and adolescents.

In all settings, school closures have affected access to nutrition, including school meals. In the context of worsening food insecurity, this contributes to a risk of malnutrition for children and adolescents in low-income communities. School closures have also resulted in the suspension of essential nutrition services, including iron and folic acid supplementation, deworming and nutrition education, affecting low-income countries in particular (Borkowski et al., 2021).

SCHOOL CLOSURES HAVE A GENDERED EFFECT

School closures have gendered effects. Women and girls are disproportionately affected, in particular where unequal gender norms limit opportunities for girls. As observed during the

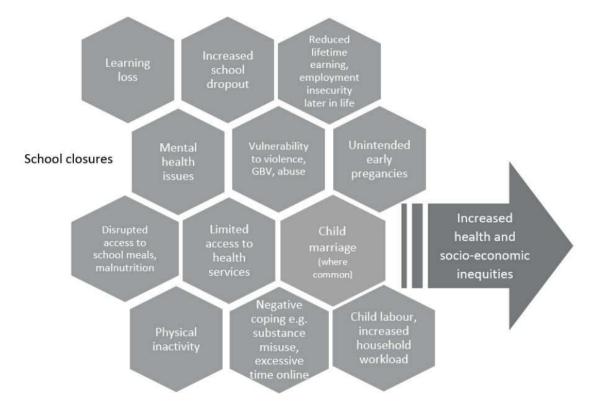


Figure 1. Negative effect of school closure



Ebola crisis in West Africa in 2015, girls are more likely to re-enrol later or permanently drop out of school than boys after reopening (Bandiera et al., 2018).

As a result of COVID-19 school closures, modelling estimates predict that 1 million girls across sub-Saharan Africa are at risk of permanently dropping out of school owing to unintended pregnancies (World Vision International, 2020). In South Asia, adolescent pregnancies could increase by an estimated one-third (UNICEF, 2021b). Compounded by the economic crisis, school closures are projected to increase child marriage by up to 10 million girls globally (UNICEF, 2021c) and increase child labour, particularly in low- and middle-income settings (ILO and UNICEF, 2020). Both factors will increase school dropout rates and decrease lifelong earning, particularly for females (World Bank, 2020).

Lockdowns have also increased the risk of domestic violence, particularly for girls, including physical and sexual violence and abuse (UN Women, 2020). Limited access to social support and services, including through school, has compromised the seeking of help (Viner et al., 2021).

OVERALL EFFECTS

Figure 1 summarizes the negative impact of school closures. While the economic, political, social and cultural context in which children and adolescents live determines the degree of the impact, children everywhere have been negatively affected in one way or another by COVID-19. However, the impact of school closure has been greatest on the poorest and structurally marginalized. Given that education is a key tool to escape poverty and gain good health, the lack of education over the past year has served to widen the gap between low- and middle-income and high-income settings.

POLICY RECOMMENDATIONS

School closures have had an irrevocable impact in the short and long term on children and adolescents' health, societal and economic development, and inequities more broadly. Children have played a minor role in transmitting COVID-19 and are at the least risk of severe COVID-19. Accordingly, this policy brief calls for stronger accountability by governments, the UN, including UNICEF, UNESCO, WHO and other bodies, for the consequences of the decision to close schools. The unilateral decision by governments has impacted progress towards fulfilling the human rights of children to health, development and protection, and is contrary to the UN Convention on the Rights of the Child ratified by 196 countries (UN Commission on Human Rights, 1990).

For the remainder of the COVID-19 pandemic and in future pandemics, governments should keep schools open unless advised to the contrary by the WHO. Where schools have been closed already owing to COVID-19, urgent support and resources are required for children to return to physical schooling and related services. There is also a need to invest in addressing the fear and anxiety that is associated with a return to in-person education (UNESCO et al., 2020). The G20 should adopt the following as policy positions:



1. Reassert education as a fundamental right: consider school closures only as a measure of last resort and only if recommended by the WHO

There is strong evidence that children and adolescents are disproportionally impacted by the indirect effects of the COVID-19, including school closure, while their contribution to the epidemic and risk of severe illness is relatively small. Transmission of COVID-19 in schools is not common, particularly among younger children, and reopening has not resulted in increased community transmissions (Brandal et al., 2020; Gras-Le Guen et al., 2021). For these reasons, the WHO, UNICEF and UNESCO all recommend that schools remain open.

At country level, local epidemiology should guide policy and avoid school closures. Any decision to close schools should only be considered in the context of high levels of community transmission, where there are no alternative measures available, and should consider the potential negative impacts and the best interest of children and adolescents (WHO, 2020c).

At global level, the G20 and UN agencies should commit to a principle that in future epidemics, school closures – even with remote learning – should not be used as a universal infectious disease control measure unless the evidence supports such a strategy. If a decision to close schools must be taken, it should follow WHO guidelines.

The WHO's May 2020 guidance and its September update on keeping schools open safely in the context of COVID-19 addressed community, school, classroom and individual level prevention measures. Public health measures acknowledge the public health imperative of maintaining schools safe for children, adolescents, teachers and other staff while also minimizing disruption to learning (WHO, 2020a, 2020b). If countries had followed WHO guidance, unnecessary school closures could have been avoided.

2. Include plans for education as part of pandemic preparedness, response and recovery – and invest accordingly

The pandemic has halted the positive trend in financing for education, which will disproportionately affect the poorest countries. Two-thirds of low- and lower-middle-income countries and one-third of upper-middle- and high-income countries have reduced their education spending since the onset of the pandemic (World Bank and UNESCO, 2021). The gap in spending and learning outcomes between children in the poorest and richest communities, exacerbated by unequal access to remote learning, will have a devasting impact, particularly on low- and middle-income economies. To this end, further targeted fiscal investment is required for education, particularly for the lower-income countries where official development assistance makes up a high share of education financing.

Education should be integrated into pandemic preparedness, response and recovery plans. The integration should include developing country preparedness plans based on WHO guidance and investing in education systems, teaching resources, a sufficient number of teachers and teacher education, preventing permanent school closures and improving the provision of good quality education. To this end, schools and staff, including teachers, directors and school health workers should be adequately supported to implement mitigation measures, provide health education and engage with communities to build trust and encourage children's return to school (Sundaram et al., 2021).



Furthermore, investment in school infrastructure, including handwashing facilities, water and soap, is key to continuing education during epidemics and promoting a healthy and safe school environment. Finally, investment in information and communication technology (ICT) equipment and skills for both teachers and children is required to narrow the digital divide. However, investments in ICT should not be justified by the potential for remote learning but as part of a holistic educational approach to developing critical 21st-century skills (World Economic Forum, 2016).

3. Track child-related policies and outcomes in real time

Lessons learnt from school closures related to the current and previous epidemics show that learning, health, and social outcomes have not been well monitored or analysed. Better tracking systems are needed globally and locally to understand the extent to which school closures and broader health and education policies are implemented. There is also a need to utilize data and evidence for rapid decision-making and revise recommendations as the evidence evolves.

Implementation science and research, based on multidisciplinary empiric research of policies and interventions in "real-world" contexts, are critical in helping policymakers understand how feasible measures are in a range of contexts and most importantly, the impact on children and adolescents in the short, medium and longer terms. Implementation science can also help policymakers avoid ineffective practices, including those that indirectly cause harm, and inform the development of implementable and effective recommendations.

For future pandemics, the G20 and UN agencies should prioritize funding research that informs a real-time understanding of the feasibility of policy recommendations. Tracking the direct and indirect effects of COVID-19 mitigation measures on children and adolescents should be part of the acute phase of the response. Tracking is critical in low- and middle-income countries, where little information on the effects of school closure owing to COVID-19 has been published.

CONCLUSION

The G20 countries account for nearly 60 per cent of the world's population (United Nations Department of Economic and Social Affairs, 2019). The G20 can play a critical role in ensuring access to education for the world's children by advancing the policy recommendations of this brief and influencing countries – both within and beyond the G20. In recognition of this, in August 2020, 275 former world leaders asked the G20, governments and global financial institutions to prioritize and invest in education (Education Cannot Wait, 2020).

In future, schools should remain open unless the closure is deemed essential by the WHO to control a pandemic. In line with the Sustainable Development Goals and the Convention on the Rights of the Child, countries and the global community should take immediate action to prioritize schools reopening and invest in policies and programmes that will mitigate the wide range of negative impacts of COVID-19-related schools closures. Contingency planning where school closure is unavoidable and associated investments to realize these plans should be a critical component of pandemic preparedness plans, so that children can realize their right to health, education and protection.

APPENDIX

ANNEX 1. SNAPSHOT OF SCHOOL POLICIES IN G20 COUNTRIES

Cou	Country Information	uc	School St	School Status (based on UNESCO tracking)	on UNESCO t	racking)	School Reo	School Reopening Checklist at National Level	tional Level
G20 Countries	GNI per capita (USD)	WB Classification	30 April 2020	30 Sept 2020	1 March 2021	30 May 2021	 Guidance on School Reopening/ Closure 	2) Protocol on mask wearing in schools	3) Physical distancing in schools
United States	65 760	HIC					Yes	Varies per state	6 feet
Australia	54 910	HIC					Yes	Varies per state	1.5 m (for adults)
Germany	48 520	HIC					Yes	Varies per state	Varies
Canada	46 370	HIC					Yes	Varies per state	2 meters
France	42 400	HIC					Yes	Mandatory	2 meters
United Kingdom	42 370	HIC					Yes	Varies per country	2 meters
Japan	41 690	HIC					Yes	Mandatory	1-2 meters
Italy	34 460	HIC					Yes	Mandatory	1 meter
South Korea	33 720	HIC					Yes	Mandatory	Yes, not specified
Saudi Arabia	22 850	HIC					Yes	Schools still closed	NA
Russia	11 260	UMIC					Yes	Not mandatory	None
Argentina	11 200	UMIC					Yes	Mandatory	1 meter
China	10 410	UMIC					Yes	Not mandatory	1 meter
Turkey	9 610	UMIC					Yes	Mandatory	Yes, not specified
Mexico	9 430	UMIC					Yes	Not mandatory	Yes, not specified
Brazil	9 130	UMIC					Yes	Not mandatory	1 meter
South Africa	6 040	UMIC					Yes	Mandatory	1 meter
Indonesia	4 050	UMIC					Yes	Mandatory	Yes, not specified
India	2 130	LMIC				Academic break	Yes	Mandatory	6 feet
		Fully open							
		Partially open							
		Closed							

NOTES

¹ For example, in low-income countries, 40 per cent of total public expenditure for education benefits the wealthiest quintile, and only 10 per cent the poorest, whereas in high-income countries the share is almost the same (World Bank and UNESCO 2021).



REFERENCES

Alam, Andaleeb and Priyamvada Tiwari (2021). *Implications of COVID-19 for Low-cost Private Schools. Issue brief no.* 8. New York: UNICEF

Bandiera, Oriana, Niklas Buehren, Markus Goldstein, Imran Rasul and Andrea Smurra (2018). The Economic Lives of Young Women in the Time of Ebola. Lessons from an Empowerment Programme. London: International Growth Centre

Bhopal, Sunil S, Jayshree Bagaria, Bayanne Olabi and Raj Bhopal (2021). Children and young people remain at low risk of COVID-19 mortality. *Lancet Child & Adolescent Health*, 5(5):e12-13 doi: 10.1016/S2352-4642(21)00066-3

Brandal, Lin T, Trine S Ofitserova, Hinta Meijerink, Rikard Rykkvin, Hilde M Lund, Olav Hugnes, Margrethe Greve-Isdahl, Karoline Bragstad, Karin Nygård and Brita A Winje (2021). Minimal transmission of SARS-CoV-2 from paediatric COVID-19 cases in primary schools, Norway, August to November 2020. *Eurosurveillance*, 26(1). doi:10.2807/1560-7917. ES.2020.26.1.2002011

Borkowski, Artur, Javier Santiago Ortiz Correa, Donald Bundy AP, Carmen Burbano, Chika Hayashi, Edwards Llouyd-Evans, Jutta Neitzel and Nicholas Reuge (2021). COVID-19: Missing more than a classroom. the impact of school closures on children's nutrition. Florence: UNICEF Office of Research – Innocenti

Centers for Disease Control and Prevention (2020). The importance of reopening America's schools this fall, 23 July, https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/reopening-schools.html

Christakis, Dmitri A, Wil Van Cleve and Frederick J Zimmerman (2020). Estimation of US children's educational attainment and years of life lost associated with primary school closures during the coronavirus disease 2019 pandemic. *JAMA Network Open*, 3(11):e2028786 doi:10.1001/jamanetworkopen.2020.28786

Dorn, Emma, Bryan Hancock, Jimmy Sarakatsannis and Ellen Viruleg (2020). COV-ID-19 and student learning in the United States: the hurt could last a lifetime. New York: McKinsey & Company, 1 June, https://www.mckinsey.com/industries/public-and-social-sector/our-insights/covid-19-and-student-learning-in-the-united-states-the-hurt-could-last-a-lifetime

Dreesen, Thomas, Spogmai Akseer, Matt Brossard, Pragya Dewan, Juan-Pablo Giraldo, Akito Kamei, Suguru Mizunoya and Javier Santiago Ortiz Correa (2020). Promising practices for equitable remote learning Emerging lessons from COV-ID-19 education responses in 127 countries. Florence: UNICEF Office of Research – Innocenti

Education Cannot Wait (2020). 275 world leaders call for urgent action to avoid 'COVID Generation'. *Reliefweb*, 17 August, https://reliefweb.int/report/world/275-world-leaders-call-urgent-action-avoid-covid-generation

Eurochild (2020). Growing up in lockdown: Europe's children in the age of COVID-19. 2020 Eurochild Report. Brussels: Eurochild, https://eurochild.org/up-loads/2020/12/2020-Eurochild-Semester-Report.pdf

European Centre for Disease Prevention and Control (2020). COVID-19 in Children



and the role of school settings in transmission - first update. Stockholm: ECDC, https://www.ecdc.europa.eu/en/publications-data/children-and-school-settings-covid-19-transmission

Forbes, Harriet, Caroline E Morton, Seb Bacon, Helen I McDonald and Caroline Minassian et al. (2021). Association between living with children and outcomes from COVID-19: an OpenSAFELY cohort study of 12 million adults in England. *BMJ*, 372:628, doi:10.1136/bmj.n628

Friedman, Zack (2020). 1 million teachers and staff lost their job in April. Forbes, 5 June, https://www.forbes.com/sites/zack-friedman/2020/06/05/teachers-unemployed-colleges-schools/

Gras Christèle, Robert Cohen, J Rozenberg, Élise Launay, Daniel Levy-Bruhl and Christophe Delacourt (2021). Reopening schools in the context of increasing COVID-19 community transmission: The French experience. *Archives de Pédiatrie*, 28(3):178–185, doi: 10.1016/j. arcped.2021.02.001

Halliday, Katherine E, Stefan S Witek-Mc-Manus, Charles Opondo, Austin Mtali Elizabeth, Allen, Andrew Bauleni, Saidi Ndau, Emmanuel Phondiwa, Doreen Ali, Virginia Kachigunda, John H Sande, Mpumulo Jawati, Allison Verney, Tiyese Chimuna, David Melody, Helen Moestue, Natalie Roschnik, Simon J Brooker and Don P Mathanga (2020). Impact of school-based malaria case management on school attendance, health and education outcomes: a cluster randomised trial in southern Malawi. *BMJ Global Health*, 5(1):e001666

ILO and UNICEF (2020). Covid-19 and child labour: a time of crisis, a time to act. New York: ILO & UNICEF, https://data.unicef.org/resources/covid-19-and-child-labour-a-time-of-crisis-a-time-to-act/

Insights for Education (2021). The story of COVID-19 and schools. Interactive infographic, January 15, https://infographic.education.org/insights/en/lowres/

Ismail, Sharif A, Vanessa Saliba, Jamie Lopez Bernal, Mary E Ramsay and Shamez N Ladhani (2021). SARS-CoV-2 infection and transmission in educational settings: a prospective, cross-sectional analysis of infection clusters and outbreaks in England. *Lancet Infectious Diseases*, 21(3):344–353, doi:10.1016/S1473-3099(20)30882-3

Lee, Elizabeth C, Nikolas I Wada, Kate M Grabowski, Emily S Gurley and Justin Lessler (2020). The engines of SARS-CoV-2 spread. *Science*, 370(6515):406–407, doi:10.1126/science.abd8755

Lewis, Sarah J, Alasdair PS Munro and George Davey Smith (2021). Closing schools is not evidence based and harms children. *BMJ*, 372:521, doi: 10.1136/bmj. n521

Loades, Maria E., Eleanor Chatburn, Nina Higson-Sweeney, Shirley Reynolds, Roz Shafran, Amberly Bridgen, Ctaherine Linney, Megan Niamh McManus, Catherine Borwick and Esther Crawley (2020). Rapid systematic review: the impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of American Academy of Child & Adolescent Psychiatry*, 59(11):1218–1239, doi:10.1016/j. jaac.2020.05.009

Mascheroni, Giovanna, Marium Saeed, Marco Valenza, Davide Cino, Thomas Dreesen, Lorenzo Giuseppe Zaffaroni and Daniel Kardefelt-Winther (2021). Learning at a distance children's remote learning experiences in Italy during the COVID-19 pandemic. Florence: UNICEF Office of Research – Innocenti



Sundaram, Neisha, Chris Bonell, Shamez Ladhani, Sinéad M Langan, Frances Baawuah, Ifeanychukwu Okike, Shazaad Ahmad, Joanne Beckmann, Joanna Garstang, Bernadette E Brent, Andrew J Brent, Zahin Amin-Chowdhury, Felicity Aiano and James Hargreaves (2021). Implementation of preventive measures to prevent COVID-19: a national study of English primary schools in summer 2020. *Health Education Research*, 36(3), doi: 10.1093/her/cyab016

Townsend, Ellen (2020). COVID-19 policies in the UK and consequences for mental health. *Lancet Psychiatry*, 7(12):1014–1015, doi:10.1016/S2215-0366(20)30457-0

UN Commission of Human Rights (1990). Convention on the rights of the child, 7 March, E/CN.4/RES/1990/74, https://www.refworld.org/docid/3b00f03d30.html

UN ECOSOC (The United Nations Department of Economic and Social Affairs) (2019). World Population Prospects 2019: Ageing in G20 Countries. New York, UN ECOSOC, https://www.un.org.development.desa.pd/files/unpd_ws_201906_key_findings.pdf

UNESCO (2020). COVID-19 Impact on education, October 23, https://en.unesco.org/covid19/educationresponse

UNESCO, UNICEF, the World Bank, World Food Programme and UNHCR (2020). Framework for reopening schools. Paris, UNESCO, https://www.unicef.org/documents/framework-for-reopening-schools

UNICEF (2020a). UNICEF Executive Director Henrietta Fore's remarks at a press conference on new updated guidance on school-related public health measures in the context of COVID-19, 15 September. New York: UNICEF, https://www.unicef.org/

press-releases/unicef-executive-director-henrietta-fores-remarks-press-conference-new-updated

UNICEF (2020b). How many children and young people have internet access at home? New York: UNICEF, https://data.unicef.org/resources/children-and-young-people-internet-access-at-home-during-covid19/

UNICEF (2020c). COVID-19 and education: the digital gender divide among adolescents in sub-Saharan Africa. New York: UNICEF, https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/

UNICEF (2021a). COVID-19 and school closures. one year of education disruption.

New York: UNICEF, https://data.unicef.org/resources/one-year-of-covid-19-and-school-closures/

UNICEF (2021b). Direct and indirect effects of the COVID-19 pandemic and response in South Asia. Kathmandu: UNICEF ROSA. https://www.unicef.org/rosa/media/13066/file/Main%20Report.pdf

UNICEF (2021c). COVID-19: A threat to progress against child marriage. New York: UNICEF, https://data.unicef.org/resources/covid-19-a-threat-to-progress-against-child-marriage/

University of Melbourne (2020). COVID-19 in Victorian ECEC and schools. an analysis of COVID-19 in ECEC and schools and evidence-Based Recommendations for opening ECEC and schools & keeping them open. 9 November 2020. Melbourne: The University of Melbourne, https://www.mcri.edu.au/sites/default/files/media/covid_in_schools_report_final_10112020_exec_summary.pdf



UN Women (2020) COVID-19 and Ending Violence Against Women and Girls. New York: UN Women, https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/issue-brief-covid-19-and-end-ing-violence-against-women-and-girls-en.pdf?la=en&vs=5006

USAFacts (2020). 4.4 million households with children don't have consistent access to computers for online learning during the pandemic, 28 September 28. Seattle: USAFacts, https://usafacts.org/articles/internet-access-students-at-home/

Viner, Russell M, Oliver T Mytton, Chris Bonell, GJ Melendez-Torres, Joseph Ward, Lee Hudson, Claire Waddington, James Thomas, Simon Russell, Fiona van der Klis, Archana Koirala, Shamez Ladhani, Jasmina Panovska-Griffith, Nicholas G Davies, Robert Booy and Rosalind M Eggo (2020). Susceptibility to SARS-CoV-2 infection amongst children and adolescents compared with adults: a systematic review and meta-analysis. *JAMA*, 175(2):143–156, doi:10.1001/jamapediatrics.2020.4573

WHO (World Health Organization (2018). Global Accelerated Action for the Health of Adolescents (AA-HA!): guidance to support country implementation. Geneva: WHO

WHO (World Health Organization (2020a). Considerations for school-related public health measures in the context of COV-ID-19, 14 September 2020, 2nd ed, [1st ed in May 2020]. Geneva: WHO, https://www.who.int/publications/i/item/considerations-for-school-related-public-health-measures-in-the-context-of-covid-19

WHO (World Health Organization (2020b). Checklist to support schools re-opening and preparation for COVID-19 resurgences or similar public health crises, 11 De-

cember. Geneva: WHO, https://www.who.int/publications/i/item/9789240017467

WHO (World Health Organization (2020c). WHO director-general's introductory remarks at the press briefing with UNESCO and UNICEF, 15 September. Geneva: WHO, https://www.who.int/director-general/speeches/detail/who-director-general-s-introductory-remarks-at-the-press-briefing-with-unesco-and-unicef

The World Bank (2020). Simulating the Potential Impacts of the COVID-19 school closures on schooling and learning outcomes: a set of global estimates. Washington DC: The World Bank, http://pubdocs.worldbank.org/en/798061592482682799/covid-and-education-June17-r6.pdf

The World Bank and UNESCO (2021). *EFW:* education finance watch 2021. Paris: UNESCO

World Economic Forum (2016). New Vision for Education: Fostering Social and Emotional Learning through Technology/. Cologny/Geneva: WEF, http://www3.weforum.org/docs/WEF_New_Vision_for_Education.pdf

World Vision International (2020). COV-ID-19 Aftershocks: Access denied teenage pregnancy threatens to block a million girls across sub-Saharan Africa from returning to school. Uxbridge: World Vision International, https://relief-web.int/sites/relief-web.int/files/resourc-es/2020-08-21-%20Aftershocks%20Education%20final2_3.pdf

Zimmerman, Kanecia O, Ibukunoluwa C Akinboyo, Alan M Brookhart, Angelique E Boutzoukas, Kathleen A McGann, Michael J Smith, Gabriela Maradiaga Panayotti, Sarah C Armstrong, Helen Bristow, Donna Parker, Sabrina Zadrozny, David



J Weber and Daniel K Benjamin for the Abc Science Collaborative (2021). Incidence and secondary transmission of SARS-CoV-2 infections in schools. *Pediatrics* 147(4):e2020048090, doi:10.1542/peds.2020-048090

Zhu, Yanshan, Conor J Bloxham, Katina D Hulme, Jane E Sinclair, Zhen Wei Marcus Tong, Lauren E Steele, Ellesandra C Noye, Jiahai Lu, Yao Xia, Keng Yih Chew, Janessa Pickering, Charles Gilks, Asha C Bowen, Kirsty R Short (2020). A Meta-analysis on the Role of Children in Severe Acute Respiratory Syndrome Coronavirus 2 in Household Transmission Clusters. In Clinical Infectious Diseases, 71:ciaa1825, doi:10.1093/cid/ciaa1825

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