



Evidence on the gendered impacts of extended school closures

A systematic review

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SHORT SUMMARY

Spotlight on the gendered impacts of extended school closures

School closures to mitigate the spread of COVID-19 have affected nearly 1.6 billion learners across the globe. While the scale of these closures is unprecedented, in recent decades children in many contexts have been out of school for long periods due to other pandemics, disruptions and disasters such as floods, earthquake and conflicts – with marked gender effects.

This publication investigates the evidence on the gendered impacts of extended school closures and periods out of school. The aim is to ensure that responses to the current and future crises are informed by an understanding of how they affect education access, participation and outcomes, as well as children's nutrition, health, well-being and protection.

154 studies
reviewed to grasp
the **gendered**
impacts of
school
closures

Building on the findings of 154 studies from every region of the world, it highlights how extended school closures and periods out of school deepen gendered exclusions and vulnerabilities – with the poorest children being the most affected. Seven different forms of gendered impact on education processes are delineated, linked to failures to address the needs, rights and capabilities of girls, boys, women and men, and to build institutional structures to sustain equality and protect from violence.

The publication sets out promising short-term interventions and medium-term measures, focusing on areas such as investment and financial support, teachers, community engagement, gender-transformative education system planning, and strengthened links with the health, social services and legal sectors, which can help prevent or mitigate adverse outcomes arising from extended periods of time out of school.



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"Since wars begin in the minds of men and women it is in the minds of men and women that the defences of peace must be constructed"

Evidence on the gendered impacts of extended school closures

A systematic review

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Acronyms

| | |
|-----------------|--|
| AIDS | Acquired immune deficiency syndrome |
| COVID-19 | Coronavirus Disease 2019 |
| CSE | Comprehensive sexuality education |
| EPPI | Evidence for Policy and Practice Information |
| EGRA | Early Grade Reading Assessment |
| GAGE | Gender and Adolescence: Global Evidence |
| H1N1 | Influenza A virus subtype H1N1 (swine flu) |
| HIV | Human immunodeficiency virus |
| LGBTIQ+ | Lesbian, gay, bisexual, transgender, intersex and queer |
| MERS | Middle East Respiratory Syndrome |
| NORRAG | Network for international policies and cooperation in education and training |
| SARS | Severe acute respiratory syndrome |
| UCL IOE | University College London Institute of Education |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |

Executive summary



Executive summary

The systematic review of evidence on the gendered impacts of extended school closures was commissioned as part of the work of the Gender Flagship of the Global Education Coalition, launched by UNESCO, as a platform for collaboration and exchange to protect the right to education during the period of unprecedented disruption associated with COVID-19 and beyond. The objective was to investigate the evidence on the gendered impacts of extended school closures, to ensure that responses to the current and potential future crises are informed by an understanding of the gendered impacts of these processes in relation to educational access and participation, education outcomes, and their links with children's nutrition, health, well-being and protection. The review aimed to answer the following research questions:

- What is the research evidence on the gendered impacts of extended school closures on children's education, and more broadly on their nutrition, health, well-being and protection from violence?
- What is the research evidence on the gendered impacts of extended periods out of school (when schools are open) for children's education, and more broadly on their nutrition, health, well-being and protection from violence? What are the short- and medium-term measures that facilitate these children's return to school?

Extended school closures were defined for the first research question as the closure of a whole school system or parts of a system – understood as all schools at a subnational or national level – shutting all enrolled children out of school for any period longer than a week during times designated as school terms. This narrow definition, while useful to understand school closures that took place during the Ebola and COVID-19 pandemics, does not allow for an understanding of children's experience of extended periods out of school due to pandemics, environmental disasters, violent conflicts and extended summer holidays, even though schools at subnational or national level remained open. To investigate this, the second research question was formulated. For this analysis, extended periods out of school were defined as any interruption of children's learning in school due to pandemics, environmental disasters, violent conflicts and extended summer holidays.

The review considered school closures as either creating or entrenching existing inequalities associated with education processes entailed in accessing or participating in schooling and associated initiatives to support health, nutrition, well-being and protection from violence. Seven different forms of gendered impact on education processes were delineated linked to failures to address the needs, rights and capabilities of girls, boys, women and men, to build institutional structures to sustain equality and to protect them from violence.

Conceptual framework and theory of change

A conceptual framework, in the form of a theory of change, was developed for the review. This located each individual child in a set of gendered, intersectional relationships that can be conceptualized as working at the level of the family, the school, the community, the education system and national, regional and global economic, political and cultural systems. These relationships are associated with political, economic, social and cultural conditions at micro-, meso- and macro-levels, which shape relationships between girls, between girls and boys, and between girls, boys, men and women.

Three hypotheses informed the review. The first was that extended school closures disrupt or intensify the gendered relationships associated with access, participation, attainment and outcomes of education, potentially compounding disadvantage and resulting in uneven effects of school-based interventions in health, nutrition and protection, which may further exacerbate gender and other forms of inequality. The second was that children who have been out of school (even if schools remained open) because of disruptions related to pandemics, environmental disasters, violent conflicts and extended summer holidays, may also experience similar impacts in uneven ways, which may further exacerbate gender and other forms of inequality. The final hypothesis was that measures put in place to address intersecting inequalities and assure these children's return to school can inform planning for the return to school of children after extended school closures.

The conceptual framework anticipated multiple forms of gendered effects of extended school closures and children out of school as a result of disruptions with negative, mixed or positive effects on:

- Education processes (access and participation in schooling).
- Education outcomes (broadly understood as attainment in specific subjects taught at school, life skills and intention to return to school).
- Physical and mental health, nutrition, well-being and protection from harm.
- Education systems (efficiency, equity and capacity to mitigate harms).
- Socioeconomic inequalities.

Methods

This study was undertaken using methods of systematic review, applying specified principles and procedures to guide the research process. It followed established steps to search the literature, collate, synthesize and analyse the research evidence, and clearly present the findings. The search covered literature published since 1995 in English, Chinese, French, Portuguese and Spanish, with the date having been chosen to provide insights into the gendered impacts of a range of pandemics, environmental disasters and violent conflict including HIV, Ebola, major earthquakes, floods and a series of conflicts.

Key findings

The review found little research on the gendered impacts of extended school closures before COVID-19, apart from literature on gender-based violence and inadequate access to learning materials for girls due to Ebola. The literature on the gendered impacts of school closures associated with the COVID-19 pandemic, although quite extensive, with substantial treatment of lack of access to technology-assisted learning and mental health and well-being, remains preliminary. There is limited research on gender, learning outcomes and attainment; virtually nothing on physical health and nutrition linked to school closures; no detailed studies of violence or early and unintended pregnancy; and considerable ground to be covered in researching gender and the way education systems responded to school closures. The very small number

of qualitative studies mean that enquiry is needed into why particular gendered impacts around extended school closures have taken their current form. There is more extensive literature on children out of school for extended periods due to HIV, environmental disasters, violent conflict and extended summer holidays, but only a small segment of this literature deals with gendered impacts.

Available research evidence on school closures and children out of school for extended periods points to these processes deepening gendered, intersecting exclusions and vulnerabilities. Studies show that the poorest children were most adversely affected by extended school closures due to Ebola and COVID-19, and that poor girls, because of household constraints on access to technology and economic insecurity, suffered in distinctive ways, sharing some forms of exclusion with poor boys, but also experiencing specific gendered impacts. Studies of school closures due to Ebola found increased gender-based violence and domestic burdens impeding learning and return to school. The risk of sexual assault for girls, and of the poorest children not returning to school is also documented in relation to COVID-19. Studies detail the mental health pressures of extended school closures as being particularly marked for schoolgoing girls, but mental health effects for boys are also noted, particularly linked to restrictions on mobility. The gendered division of labour in households and the insecurity of many women's work contributed to stresses on gendered and generational relationships within some families. A deepening of inequalities was also reported among female education professionals.

Research on children who have been out of school (even if schools remained open) because of disruptions related to pandemics, environmental disasters, violent conflicts and extended summer holidays highlights gendered disruptions in learning with gendered impacts on access, participation, attainment and social relationships associated with school. This literature indicates promising measures that can address intersecting inequalities as part of the process of supporting children to return to school after extended closures. But more work is needed to evaluate these interventions.

Promising interventions, including Stepping Stones, that examine gender and power as part of the school curricula and cash transfer programmes, are highlighted; these have not yet been evaluated with regard to return to school and medium-term plans to develop joined-up strategies for gender equality

in education, health, nutrition and protection from gender-based violence. Nonetheless, research documents key roles for teachers, teacher training, planning, and community development, with much that can be learned from the literature on HIV, Ebola, environmental disasters and violent conflict. This suggests a number of key interventions to mitigate the worst gendered impacts. In particular, the reviewed literature draws attention to the importance of:

- Clear attention to the inclusion and integration of all children back to school, including through support to their learning via appropriately customized curriculum, pedagogy, and health and nutrition programmes that take account of the disruptions and inequalities experienced, and the particular forms of associated gendered impacts.
- Protection and support to teachers, who have felt the impact of extended school closures in their gendered private and professional lives, through relevant training, pay structure and participatory approaches to education system planning.
- Addressing violence against women and girls, through promotion of school and community-based reflection on actions for eradicating violence through a combination of gender-transformative education systems and political, economic and social action to address the social determinants of gender inequality.

What evidence was identified?

In response to the first research question, 94 studies published since 1995 that dealt with the gendered impacts of extended school closures were identified and in response to the second research question, 60 studies of children out of school for extended periods were identified. The majority of the studies of extended school closures (80) reported on closures associated with COVID-19. Of the remaining, 13 studies deal with other pandemics, largely Ebola, with additional studies on HIV and SARS and one which looks at school closures linked to the Bougainville political crisis (1988–1997). The majority of the 60 studies of children out of school for extended periods were concerned with HIV, with studies of environmental disasters comprising a second large group. A smaller group of these studies looked at violent conflict, with the literature on summer holiday closures making up the smallest set.

In terms of geographical representation, there is a slight majority of studies undertaken in Northern America and Western Europe, but also a good range of studies reporting on research in sub-Saharan Africa. There are, however, markedly fewer studies on research in other regions. The majority (66) of the studies on extended school closures are quantitative, with only 10 of them qualitative, and 8 mixed method. There were ten literature reviews found, but although some were rigorous in their approach, none met the criteria for the systematic review.

Chapter 1

Introduction



Introduction

School closures were a major feature of the worldwide response to COVID-19, aiming to mitigate the spread of the virus (Hale et al., 2020). At the peak of the COVID-19 pandemic, school closures affected nearly 1.6 billion learners in more than 190 countries (UN, 2020). While this is by far the largest educational disruption in history, affecting all corners of the globe, other crises – linked to pandemics, environmental disasters and violent conflicts – have led to extended school closures in different settings around the world.

The closest similarity to the disruptions associated with school closures linked to COVID-19 are the school closures established as a response to the Ebola pandemic in 2014–2016 in a small number of districts in Guinea, Liberia and Sierra Leone (Smith, 2021), and the closure of schools or parts of education systems due to violent conflict in different contexts (Cardozo and Novelli, 2018; Sonoda, 2020). Some children have been out of school for extended periods during these crises, even when schools have remained opened. For example, through the HIV pandemic, children were out of school because of their own experiences of illness, or illness or death in their families or among teachers, but schools remained open (Guo and Sherr, 2012; Poku and Freeman, 2005). During some earthquakes, floods and other environmental disasters, children in locally affected areas were relocated to other schools or had lessons in specially established shelters, but all schools in a district or country were not closed (Tatebe and Mutch, 2015).

Extended summer holidays have also been documented as affecting children's learning outcomes and transitions to new classes or phases of school (Sabates, et al., 2021; Slade et al., 2017), although these are part of the school cycle and not associated with the political, social and economic disruptions that accompany disruptive school closures which form the main focus of this review. Nonetheless, the ways in which relationships at home or in communities might disrupt school learning during long holidays is pertinent to this analysis.

Objectives and research questions

This systematic review has been commissioned by UNESCO, for the UNESCO Global Education Coalition's Gender Flagship, to ensure that responses to current and potential future crises are informed by an understanding of the gendered impacts of extended school closures in relation to educational processes and outcomes, and their links with children's nutrition, health, well-being and protection. Specifically, the review aims to answer the following two research questions:

- What is the research evidence on the gendered impacts of extended school closures on children's education, and more broadly on their nutrition, health, well-being and protection from violence?
- What is the research evidence on the gendered impacts of extended periods out of school (when schools are open) for children's education, and more broadly on their nutrition, health, well-being and protection from violence? What are the short- and medium-term measures that facilitate these children's return to school?

UNESCO Global Education Coalition's Gender Flagship

UNESCO launched the Global Education Coalition in February 2020 as a platform for collaboration to protect the right to education during COVID-19 and beyond. The Coalition, with some 200 members, has designated gender as one of three flagship areas of action. The Gender Flagship supports three pillars of action: the generation and use of data, research and evidence to inform policies, programmes and plans; advocacy and communication efforts to promote continuity of learning and return to school, partnerships and systems reform; and country-level action to prevent widening gender inequalities in education. UNESCO, under the umbrella of the Global Education Gender Flagship's commissioned this systematic review along with a global study on the gendered impacts of COVID-19 on education (UNESCO, 2021).

For more information: UNESCO Global Education Coalition's Gender Flagship website: <https://on.unesco.org/GenderFlagship>

Conceptual framework and theory of change

A conceptual framework for this review was developed as part of the inception stage and reviewed with a group of researchers and practitioners, and subsequently used iteratively to guide the description of the literature and the synthesis.

This framework (see **Figure 1**) in the form of a theory of change notes that each individual child is located in a set of gendered, intersectional relationships that can be conceptualized as working at the level of the family, school, community, education system and national, regional and global economic, political and cultural systems, recognizing that for some children, particularly refugees and migrants, some of these levels are unstable and fluid (Gerrard and Sriprakash, 2020; Monkman, 2021; Parkes et al., 2016; Unterhalter and North, 2018; Unterhalter et al., 2020). These gendered relationships are associated with political, economic, social and cultural conditions which form relationships at micro-, meso- and macro-levels. They historically shape the form of relationships between groups of girls, groups of boys, between girls and boys, and between girls, boys, men and women (as shown with arrows in Figure 1).

The first hypothesis for the review is that extended school closures disrupt or intensify the gendered relationships associated with access, participation, attainment and outcomes of education. They do so in different ways for children depending on their gender and other relationships, such as age, ethnicity, ability and location, potentially compounding disadvantage. These impacts also result in uneven effects of school-based interventions in health, nutrition and protection, which may further exacerbate gender and other forms of inequality.

The second hypothesis for the study is that children who have been out of school (even if schools remained open) because of disruptions related to pandemics, environmental disasters, violent conflicts and extended summer holidays, may also experience similar impacts but in uneven ways, which may further exacerbate gender and other forms of inequality.

The final hypothesis is that measures put in place to address intersecting inequalities and assure these children's return to school can inform planning for the return to school of children after extended school closures such as COVID-19 or other crises. These adaptations, mitigations and forms of learning can have short- and medium-term outcomes addressing gendered relationships associated with access, participation, attainment and outcomes of education.

As outlined in **Figure 1**, the framework anticipates multiple forms of effects of extended school closures and children out of school (even if schools remained open) because of disruptions, including those:

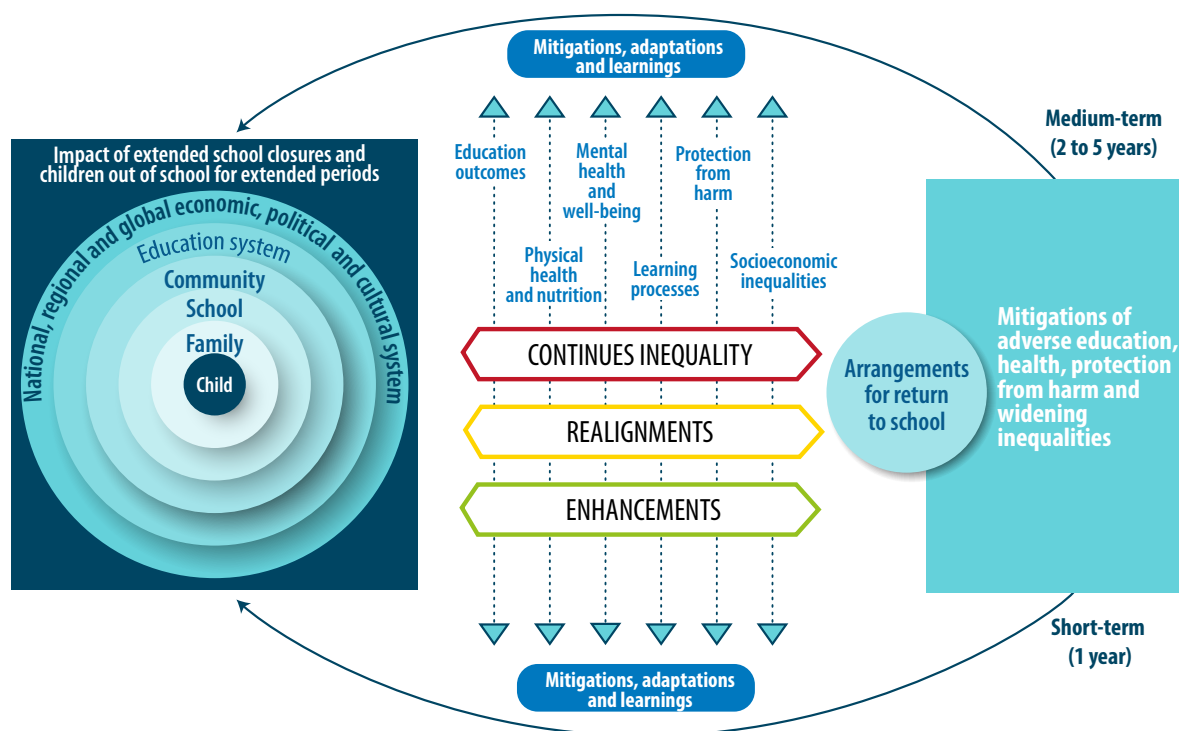
- That are disruptive, perpetuating the institutionalization of gender and intersectional inequalities (denoted by the red arrow),
- That have some mixed negative and positive effects leading to realignments in local, national or global policies and practices concerned with gender and education (denoted by the amber arrow),
- That may result in wholly positive outcomes enhancing opportunities and outcomes (denoted by the green arrow), associated with gender and other equalities.

These gendered impacts have effects on:

- Education outcomes
- Physical health and nutrition
- Mental health and well-being
- Learning processes
- Protection from harm
- Education system
- Socioeconomic inequalities.

The framework recognizes short- and medium-term effects linked to the return to school and the policies and practices for mitigation, adaptation and learning from the period of school closures and children out of school which will positively or negatively shape gendered impacts. These will, in turn, have consequences for the nested sets of relationships in which a child is located. They may result in further exclusion, reform or transformation of existing gender and intersectional inequalities. Gendered relationships, structures and practices in place in any context (the overarching arc in Figure 1) and the actions of girls, boys, men and women towards realizing needs, rights and capabilities (the undergirding arc in Figure 1) frame the practices associated with the gendered impact of school closures and return to school.

Figure 1. Theory of change



Source: Authors.

Methods

The study was undertaken using methods of systematic review, applying specified principles and procedures to guide the research process (EPPI Centre, 2019). It followed established steps to search the literature, collate, synthesize and analyse the research evidence, and clearly present the findings.

Search strategy

The first phase of the review involved electronic and manual searches of both 'mainstream' academic databases and repositories of 'grey literature' across a range of websites and open access knowledge platforms (see full list in **Annex 1**). The process involved searching literature published since 1995 in English, Chinese, French, Portuguese and Spanish on the gendered impacts of extended school closures and extended periods out of school associated with pandemics, environmental disasters and violent conflicts on children's education, health and well-being, and protection from violence. The date of 1995 was chosen to provide insights into the gendered impacts of a range of pandemics, environmental disasters and violent conflict including HIV, Ebola, major earthquakes, floods and a series of conflicts.

To guide the search process, a research guideline was developed with a list of search terms regarded as important to identifying the relevant literature. These terms drew on systematic reviews in related areas (Burde et al., 2017; Haberland, 2015; Haberland et al., 2018; Parkes et al., 2016; Unterhalter et al., 2014) and from a consultative process with UNESCO, the UNESCO Global Education Coalition's Gender Flagship's Reference Group, and other peer reviewers (for a full list see the acknowledgements). See **Annex 2** for the final search terms which guided this review.

Definitions

Extended school closures: A narrow definition of extended school closures was initially applied to understand their gendered impacts. Extended school closures were defined in relation to the first research question as the closure of a whole school system or parts of a system – understood as all schools at a subnational or national level – shutting all enrolled children out of school for any period longer than a week during times designated as school terms.

Extended periods out of school: The narrow definition of extended school closures does not allow for an understanding of children's experience of extended periods out of school due to pandemics, environmental disasters, violent conflicts and extended summer holidays even though schools at subnational or national level remained open. In order to address the second research question, extended periods out of school were defined as any interruption of children's learning in school due to pandemics, environmental disasters, violent conflicts and extended summer holidays.

Extended summer holidays: The length of summer holidays varies around the world, and can also vary in duration within a country, for example, in federal systems. Literature on learning loss associated with extended summer holidays has largely focused on the United States, where a number of classic studies from the 1970s onwards have noted a decline in learning outcomes, particularly for children from lower socioeconomic groups, over the long period of school closure during the summer which can be up to 2.5 months (Davies, Aurini and Milne, 2020). This report reviews literature on extended summer holidays, although the period of closure will vary by country.

Gender: In defining gender, the analysis drew on discussions of gender, education, national and global inequalities, which highlight the significance of locally negotiated realities and complexities (DeJaeghere, 2015; Moletsane, 2018; Monkman, 2021; Morrell et al., 2009; Nnaemeka, 2005; Pereira, 2009; Unterhalter, 2005; Unterhalter and North, 2018; Unterhalter et al., 2014; Unterhalter et al., 2018; Unterhalter et al., 2020). There are a multitude of meanings associated with the term 'gender'. It is used to denote both biological sexual differences and the social and institutional relationships which structure policies and practices concerning sexual identities and differences, which often inscribe inequality. Gender can also indicate particular forms of action, dress, styles of learning or ways of expressing ideas. The meanings given to gender are often disputed or challenged. Unterhalter's distinctions (2005, 2007, 2012, 2017) and metaphors regarding many different forms of gender have been used in this study to help define gendered impacts, noting how these may be harmful by either creating or entrenching existing inequalities.

Gendered impact: This review defines gendered impacts by considering how they may be harmful, through either creating or entrenching existing inequalities, associated with education processes entailed in accessing or participating in schooling and associated initiatives to support health, nutrition, well-being and protection from violence. Seven different forms of gendered impacts on education processes were delineated which derive from failing to address the needs, rights and capabilities of girls, boys, women and men, and failing to build institutional structures to sustain equality. Gendered impact was seen as:

- Harmful for girls
- Harmful for boys
- Harmful for girls and boys (possibly in different ways)
- Establishing a structure, relationship or practice (including discourses and ideas) which entrench unequal power linked to gender, intersecting with race, class, ethnicity and other inequalities
- Inciting, contributing to or failing to protect from violence against women and girls
- Establishing harmful conditions for women, now and in the future
- Establishing harmful conditions for men, now and in the future.

This is not an exhaustive list of the ways in which gendered impacts can be categorized, as it deploys a binary framing of gender, which has been subject to critique (e.g. Jolly, 2000; Epprecht, 2008; Ruberg and Ruelos, 2020), but these seven forms of gendered impact encompass the literature reviewed, and form the framework from which the analysis has been developed.

Children: This review focused on literature dealing with the schoolgoing population of children from primary through secondary education, aged approximately 5 to 18, associated with the age of compulsory education in the majority of countries. As outlined in the limitations, further analysis of the gendered impact on students in pre-primary and higher education would provide a more comprehensive picture. This review also considered children and their parents/caregivers, as outlined in the conceptual framework (**Figure 1**).

Screening, coding and analysing the literature

The electronic and manual searches using the search terms outlined in **Annex 2** led to the uploading of 6,071 sources into a newly constituted database for the review. Using the EPPI software, 1,930 duplicates were removed, resulting in 4,141 records for a first process of screening. This second phase of the review involved screening the literature according to two pathways of enquiry – each one aimed at synthesizing and analysing the research evidence to answer the two central research questions.

Literature on extended school closures

The process of screening the literature for the first research question on the gendered impacts of extended school closures first involved considering titles and abstracts to exclude studies according to the following criteria:

- Exclude if published before 1995 (exclude on date)
- Exclude if does not focus on extended school closures (exclude on context)
- Exclude if it does not deal with schooling or children of schoolgoing age (exclude on population)
- Exclude if not published in English, Chinese, French, Portuguese or Spanish (exclude on language)
- Exclude if the study is not underpinned or informed by some form of research process (exclude on study design).

This process of screening titles and abstracts resulted in the exclusion of 3,373 studies and the retention of 758 studies for further screening.

These 758 studies were scanned to determine if they assessed ‘gendered impacts’ of extended school closures, drawing on the conceptual framework and the definitions presented in this report. This process led to the further exclusion of 616 studies, resulting in a refined database of 142 studies for final consideration.

A further screening process was then undertaken of the full text of these 142 studies to see if they met the final eligibility criteria for inclusion in the review for this research question. A study was regarded as eligible if the methodology used in the research clearly described how it had arrived at its findings. The study, whether involving empirical or non-empirical research, also needed to show methodological fitness for purpose, where the methods used were appropriate to the evidence claims made (Gough, et al., 2019; Rutter et al., 2010). These claims needed to be credible

by offering well-founded and plausible arguments about the significance or importance of the findings, especially for small-scale studies where findings and claims have been understood and interpreted in context (Gough, 2016; Nutley et al., 2013). This was an especially important consideration in this review, where research studies, however small or of limited scope, could still provide important insights into the gendered impacts of extended school closures. This process of determining eligibility resulted in 94 studies of extended school closures for review.

Literature on extended periods out of school

The process of screening the literature for the second research question considering the gendered impacts of extended periods out of school (while schools are open) first involved considering titles and abstracts to exclude studies according to the following criteria:

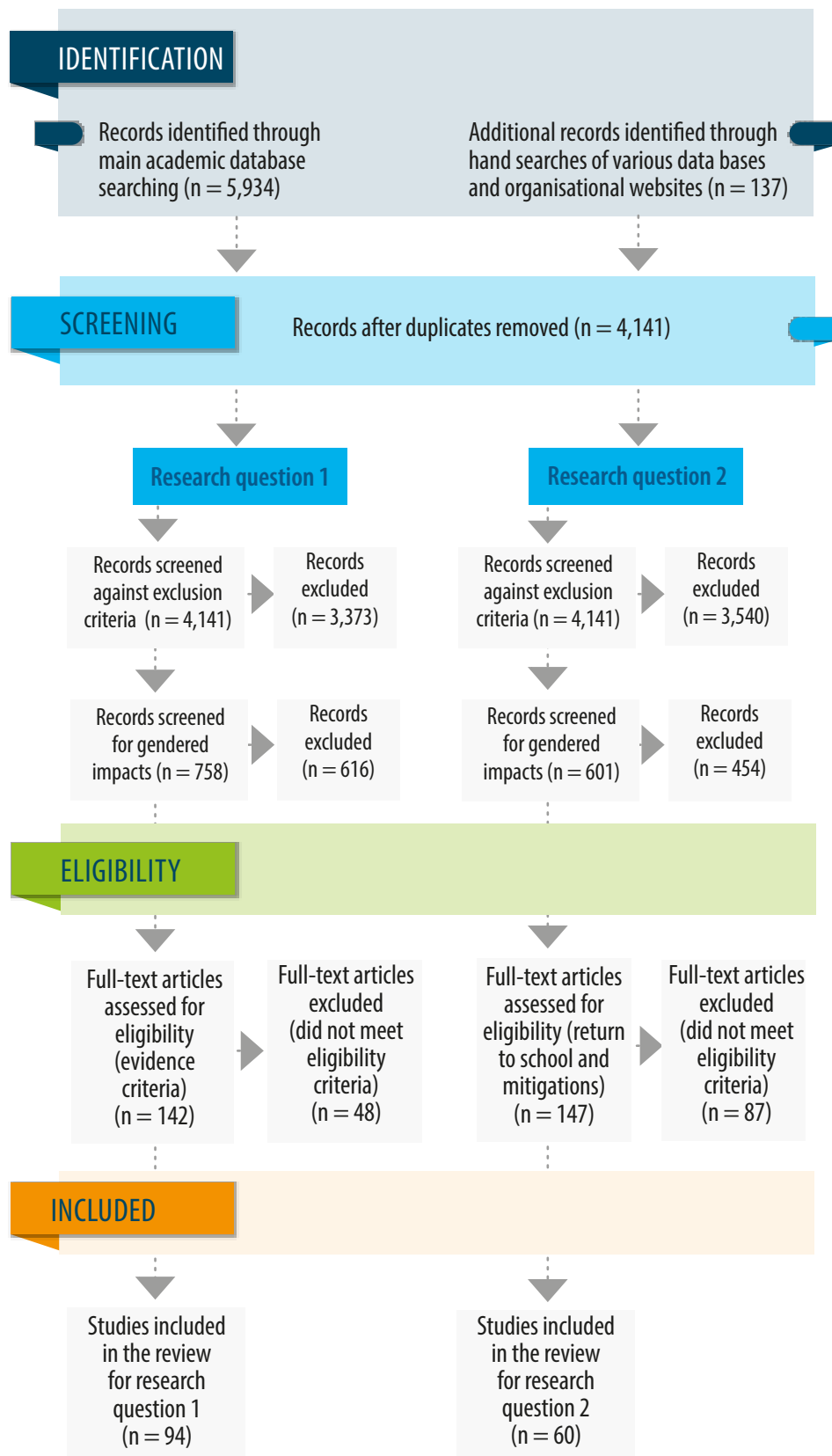
- Exclude if published before 1995 (exclude on date)
- Exclude if does not focus on extended periods out of school (exclude on context)
- Exclude if it does not deal with schooling or children of schoolgoing age (exclude on population)
- Exclude if not published in English, Chinese, French, Portuguese or Spanish (exclude on language)
- Exclude if the study is not underpinned or informed by some form of research process (exclude on study design).

This process of screening titles and abstracts resulted in the exclusion of 3,373 studies and the retention of 601 studies for further screening.

These 601 studies were scanned to determine if they assessed ‘gendered impacts’ of extended periods out of school, drawing on the conceptual framework and the definitions presented in this report. This process led to the further exclusion of 554 studies, resulting in a refined database of 147 studies for final consideration.

A further screening process was then undertaken of the full text of these 147 studies to see if they met the final eligibility criteria for inclusion in the review for this research question. A study was regarded as eligible if it considered arrangements for return to school or processes to mitigate adverse education, health, protection from harm and widening inequalities. This process of determining eligibility resulted in 60 studies of extended periods out of school and processes associated with adaptation and mitigation of intersecting inequalities for review.

Figure 2. PRISMA flow diagram for identification of studies on the gendered impacts of extended school closures and extended periods out of school



Source: Authors.

Synthesizing, mapping and analysing the evidence

The conceptual framework and theory of change guided the process of synthesizing and analysing the included literature in order to address the research questions and consider the hypotheses.

This involved coding the literature to obtain a contextual and methodological ‘picture’ of the research, including noting the cause of the explored extended school closures or children out of school for extended periods. To distinguish the literature, studies were coded by the cause of school closures, distinguishing studies that dealt with COVID-19, other pandemics (e.g. Ebola, HIV, SARS), environmental disasters (e.g. earthquakes, floods), violent conflict, and extended summer holidays. **Table 1** (see **Chapter 2**) shows the distribution of studies included in the review in response to the two research questions.

In addition, the quality of the research evidence was assessed, drawing on a set of codes developed by the EPPI Centre to consider the strength of research evidence. The strength of the evidence for each of the studies reviewed is captured in **Annex 4**.

The second phase of coding drew from our conceptual framework and theory of change to organize and synthesize the literature.

The research evidence was coded according to whether the study dealt with the gendered impacts of extended school closures or children out of school for extended periods and return to school looking primarily at the child, family, school, community or education system. This literature was further coded considering seven areas of gendered impact:

- Education processes
- Education outcomes
- Physical health and nutrition
- Mental health and well-being
- Protection from harm
- Education systems
- Socioeconomic inequalities

Each of the studies was coded according to all of the categories, with most studies dealing with a number of different areas of gendered impact on school closures, children out of school for extended periods and return to school.

The processes associated with extended school closures, extended periods out of school, return to school and longer-term attempts at mitigation to support education, health, nutrition and protection from violence and address intersecting inequalities were coded with regard to whether they were:

- Disruptive – associated with negative change, and establishing or deepening inequalities
- Associated with some realignment or reform regarding gender and intersecting inequalities
- Associated with processes that enhanced equality.

A table of all the main codes used for these processes is included in **Annex 3**.

The final stage of the research process involved drawing on this synthesis to explore and interpret the central findings from the review and answer the research questions. An interpretivist approach was applied to the final analysis of the evidence, reflecting on how it led to some reflection on the theory of change, and the range of conclusions to be drawn.

Positionality

This review builds on the experience of the authors in conducting reviews of literature on interventions to enhance girls’ education and gender equality (Unterhalter et al., 2014), comparing by region literature produced on gender, education and health (Unterhalter et al., 2019), reviewing gender equality and other development outcomes of higher education in low- and middle-income countries (Howell et al., 2020), gender and non-state actors in education (Unterhalter et al., *forthcoming*) and on the effects of the COVID-19 pandemic on higher education in the United Kingdom (Unterhalter et al., 2021). The review connects with Unterhalter’s co-editing of a special issue for the Network for international policies and cooperation in education and training (NORRAG) on the effects of COVID-19 on education (Brehm et al., 2021), which includes work by Robinson and Hussain (2021).

Limitations

Reviews of this nature are limited by language, especially as the major databases include research primarily published in English. This limits the scope of the evidence and skews it away from studies in countries where English is not the main language of academic inquiry. To try to mitigate these challenges, filters were applied to include literature published in Chinese, French, Portuguese and Spanish and focused and limited manual searches were undertaken of

two Chinese language databases, three Spanish and Portuguese databases and two French language databases. Despite these additional measures, few studies published in other languages were identified and included in the final list of sources for review, although some of the studies included were originally published in another language or had been published in more than one language. Gaps in the research evidence are evident, especially in relation to the Latin America and the Caribbean, West Africa, Central Asia and Central and Eastern Europe regions, from which only a small body of work has been reviewed.

In the initial stages of the research, it became clear that the literature on the effects of extended school closures was dominated by research into the impacts of the COVID-19 pandemic and that this would have implications for the findings. Although the coding process enabled a distinction between this literature and research into the impacts of extended school closures from other causes, such as the Ebola epidemic in parts of West Africa, the notion of 'lockdown' was often used interchangeably with 'school closure/s' or school closure was a key element of lockdown and its effects. While literature was excluded that did not have any clear focus on school closures as part of

lockdowns, sometimes it was difficult to identify the specific effects of school closure outside the broader effects of lockdowns.

The review demonstrates that the gendered impacts of extended school closures, children out of school for extended periods, mainly linked to disasters, and processes for return to school are complex and multifaceted. While a coding frame was used aiming to understand these complexities, some of the codes on gendered impacts may not be as distinct from each other as the frame implies and the boundaries between them more fluid. Where overlap was identified, the research was coded according to what was identified as the most significant impact suggested from the evidence. However, the map presented in this review of the evidence reflects initial readings of the studies, and many have a number of additional features beyond those delineated by the main code.

There is a preponderance of quantitative studies in the work on the gendered impacts of extended school closures and on children out of school for extended periods. The lack of qualitative studies, which may be small scale and not easily visible to the search strategies used for this review, is a matter of note.



UN Photo/JC McIlwaine — Flickr — United Nations Photo. Children at Kapuri School, South Sudan. Available under [CC BY-NC-ND 2.0](#)

Chapter 2

Profile of studies included in the review



Profile of studies included in the review

This chapter provides an overview of the range of studies included in the review, describing the distribution of studies according to the reasons for school closure, regional focus and methods used. It highlights the number of studies reviewed, noting the form of relationships documented (e.g. between child, family, school and community), the form of gendered impacts identified and whether arrangements for return to school had short- or medium-term effects that were negative, mixed or positive.

Studies of extended school closures

By cause of closure

The screening process resulted in the inclusion of 94 studies on extended school closures. The majority of these studies report on extended school closures associated with COVID-19 (**Table 1**). Of the remaining, 13 studies deal with other pandemics, largely Ebola and SARS, and one (Tierney et al., 2016) which looks at school closures linked to the Bougainville political crisis (1988–1997), the largest armed conflict in the Pacific since World War II. See **Annex 4** for a summary of the evidence on extended school closures, including an analysis of the studies' regional context, method(s) used, study population, strength of evidence, and coding on the nature of the gendered impact.

Table 1. Number of studies, by cause of extended school closure

| Cause | No. of studies |
|--|----------------|
| COVID-19 | 80 |
| Other pandemics (e.g., Ebola, HIV, H1N1, MERS, SARS) | 13 |
| Violent conflict | 1 |
| Total | 94 |

By regional focus

In terms of the region where the research was conducted, there is a slight majority of studies undertaken in North America and Western Europe, but also a good range of studies reporting on research in sub-Saharan Africa (**Table 2**). There are, however, markedly fewer studies on research in other regions, especially Latin America and the Caribbean, the Arab States and South and West Asia. As highlighted in the limitations section (**Section 1.3.5**), although additional measures were taken to for the findings to show geographic diversity, the lack of regional diversity may be due to the majority of publications being published in English.

Table 2. Regional focus of studies on extended school closures

| Region | No. of studies |
|----------------------------------|----------------|
| Sub-Saharan Africa | 24 |
| South and West Asia | 9 |
| East Asia and Pacific | 12 |
| Latin America and Caribbean | 2 |
| Arab States | 3 |
| North America and Western Europe | 27 |
| Central and Eastern Europe | 5 |
| Multiple regions | 12 |
| Total | 94 |

By method

The majority of studies on extended school closures are quantitative, largely involving the analysis of data collected through surveys (61 out of 66 quantitative studies). The preponderance of studies of COVID-19 (n = 80) in the review of evidence on extended school closures partly helps to account for this, as restrictions on movement and face-to-face interactions made qualitative data collection very difficult during the COVID-19 lockdowns. The very small number of qualitative studies (n = 10) indicates how many of the processes, often best explored by qualitative research, remain underexamined. Questions as to why certain developments emerge in the way they do are not very extensively discussed. There have been a good number of literature reviews (n = 10); some were rigorous in their approach, but none met the criteria for the systematic review.

By focus of the research

The majority of studies included in the literature reviewed on the gendered impacts of extended school closures focus on the level of children or child-to-child relationships (n = 58), as outlined in **Table 4**. The next most sizeable segment focused on family relationships. This is not surprising given the preponderance of literature on COVID-19, and the concern of researchers to gather data while schools were closed, leading to the widespread use of telephone surveys or online methods for data collection with children and families. Only five studies document relationships at the community level and four at school level. Three studies look at subnational workings of the education system and three at how national or global processes affect school closures and their gendered outcomes.

Regarding gendered impacts, the vast majority of the studies reviewed for the first research question were coded according to gendered impact associated with harm. Of the 94 studies included, 40 document how conditions associated with school closures are especially harmful for girls (**Table 5**). Their focus is mainly on mental health and emotional well-being, and how education processes and outcomes (see **Table 6**) are unequal. A small number of studies document how boys' experiences of education or lack of education entailed harmful gendered impact (n = 8). Gendered impacts associated with the entrenchment of unequal power relations were noted in 13 studies reviewed. The effects on female teachers and mothers at home due to heavy burdens of care comprise another segment of the literature. Five studies note increases in violence against women and girls associated with school closures. For further detail of all studies see **Annex 4**.

The majority of studies on extended school closures are journal articles (n = 57), followed by reports (n = 30), largely commissioned by UN organizations, multilateral and bilateral donors, non-governmental organizations and foundations. Seven studies are policy briefing notes or summaries of research data.

Table 3. Method of studies on extended school closures

| Method | No. of studies |
|-------------------------|----------------|
| Quantitative | 66* |
| Qualitative | 10 |
| Mixed method | 8 |
| Other literature review | 10 |
| Total | 94 |

Note: * 61 of these studies involved the use of a survey to gather data.

Table 4. Focus of research on extended school closures

| Focus | No. of studies |
|---|----------------|
| Child (including peer relationships) | 58 |
| Family (including parent/child relationship) | 21 |
| School | 4 |
| Community | 5 |
| Education system | 3 |
| National, regional and global economic, political and cultural system | 3 |
| Total | 94 |

Table 5. Focus of gendered impact of studies on extended school closures

| Gendered impact | No. of studies |
|---|----------------|
| Harmful for girls | 40 |
| Harmful for boys | 8 |
| Harmful for girls and boys | 8 |
| Entrenches unequal power | 13 |
| Incites, contributes to or fails to protect from violence | 5 |
| Harmful for women now/in the future | 20 |
| Harmful for men now/in the future | 0 |
| Supports gender equality | 0 |
| Total | 94 |

Table 6 presents the evidence reviewed for the first research question according to the seven areas associated with the gendered impact. Harms related to mental health and well-being were most prominent, followed by socioeconomic inequalities and disruptions or challenges related to education processes, often associated with online learning as a result of COVID-19 school closures. Nineteen studies researched gender-based violence and the ways in which school closures had impacted on children's safety, especially for young girls, but a major part of this work was concerned with Ebola, rather than COVID-19. The smallest segment of work was concerned with physical health and nutrition. This may be because the literature on the physical effects of COVID-19 has largely focused on adults, or that the high profile of the COVID-19 pandemic reduced research attention on other aspects of children's health during this period.

There were various areas associated with gendered impacts for those studies linked to COVID-19 and extended school closures (**Figure 3**). The pattern here is similar to that presented in **Table 6** for all the studies reviewed on extended school closures, with the largest number of studies being on mental health and well-being, and a sizeable body of literature on education processes, education outcomes and socioeconomic inequalities. However, a slightly different pattern is

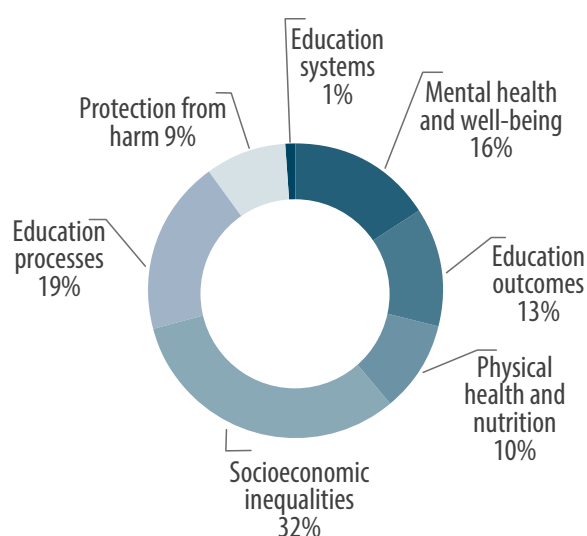
Table 6. Areas associated with gendered impacts for studies on extended school closures

| Category | No. of studies |
|-------------------------------|----------------|
| Mental health and well-being | 43 |
| Socioeconomic inequalities | 29 |
| Education processes | 27 |
| Education outcomes | 26 |
| Protection from harm | 19 |
| Physical health and nutrition | 13 |
| Education systems | 1 |

Note: Studies were coded according to all areas addressed in the research, enabling multiple responses in the table above.

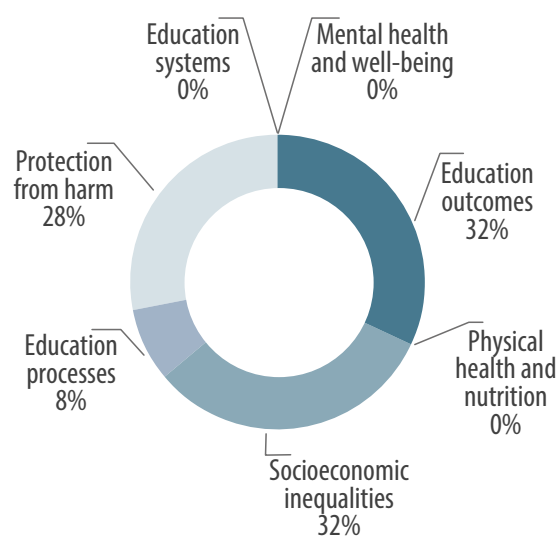
found on the areas associated with gendered impacts for those studies linked to other pandemics (**Figure 4**). The 13 studies on earlier experiences of school closures (mainly related to Ebola) deal primarily with education outcomes, worsening socioeconomic inequalities and failure to protect from violence. In these studies, mental health and well-being were a very small proportion of the work.

Figure 3. Areas associated with gendered impacts noted in studies on extended school closures linked to COVID-19



Note: Studies were coded according to all categories of gendered harm addressed in the research, enabling multiple responses.

Figure 4. Areas associated with gendered impacts noted in studies on extended school closures linked with other pandemics



Note: Studies were coded according to all categories of gendered harm addressed in the research, enabling multiple responses.

Studies of extended periods out of school

By cause

The majority of the 60 studies of children out of school for extended periods report on HIV, with studies of environmental disasters comprising a second large group (**Table 7**). There is a smaller group of studies on violent conflict, with the literature on extended summer holidays making up the smallest set. More details of these studies, including the study population, region and methods used, are in **Annex 5**.

By regional focus

The second research question considered gendered impacts of extended periods out of school (when schools are open) and the regional focus of the relevant research was identified, showing a large body of work based on research in Africa, a site of considerable research activity on the HIV pandemic (**Table 8**). The second largest group of studies is based on work in East Asia and the Pacific, mainly dealing with environmental disasters. The regional distribution highlights that the literature reviewed for this question comprises a very small segment of the substantial literature on children out of school due to HIV, environmental disasters and violent conflict. The search strategy and the screening for work on gendered impact and implications for return to school and future mitigation account for the relatively small number of studies included.

Table 7. Number of studies, by cause of extended periods out of school

| Cause | No. of studies |
|--|----------------|
| COVID-19 | 1 |
| Other pandemics (e.g., Ebola, HIV, H1N1, MERS, SARS) | 27 |
| Environmental disaster | 18 |
| Violent conflict | 9 |
| Extended summer holidays | 5 |
| Total | 60 |

Table 8. Regional focus of studies on extended periods out of school

| Region | No. of studies |
|----------------------------------|----------------|
| Sub-Saharan Africa | 27 |
| South and West Asia | 2 |
| East Asia and Pacific | 10 |
| Latin America and Caribbean | 2 |
| Arab States | 1 |
| Central Asia | 1 |
| North America and Western Europe | 6 |
| Central and Eastern Europe | 0 |
| Multiple regions | 11 |
| Total | 60 |



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By method

In the review of the gendered impact of children out of school for extended periods linked to HIV, environmental disasters, violent conflict and extended summer holidays, there is a roughly even distribution of quantitative and qualitative studies. A relatively large number of qualitative studies were included, when considering the overall make-up of the studies on extended school closures. The screening process may be the reason: studies were selected for inclusion if they provided insight into conditions and relationships that would affect return to school, i.e. selection was skewed towards qualitative study. A sizeable segment of the studies synthesized are systematic or other reviews and a number are based on reports for UN agencies or large NGOs.

By focus of research

In contrast to the literature reviewed for the first research question, where studies focusing on the child and the family made up the majority of works, the literature analysed for the second research question is quite evenly spread between all levels of analysis, although the largest groups of studies concern the child, school, community and family (**Table 10**).

A large group of studies reviewed in investigating the second research question, considering gendered impacts of extended periods out of school (when schools are open), looks at harms for boys and girls, highlighting similarities and differences (**Table 11**). In contrast to the literature reviewed on extended school closures, very few studies were concerned with specific harms to boys. Seven studies discussed harms to girls, and four studies discussed harms to women, mainly focusing on the stress for teachers of the experience of pandemics, disasters or conflict.

The second research question also asked how interventions or strategies aimed at addressing gendered impacts of children out of school might have implications for return to school and how they propose mitigating the effects of children being out of school for extended periods. This focus resulted in a set of studies being included in the literature reviewed, which documented initiatives to establish gender equality, even if they were unevenly realized. The studies included for this analysis also included six studies that dealt with unequal power relations.

Table 9. Method of studies on extended periods out of school

| Method | No. of studies |
|-------------------------|----------------|
| Quantitative | 21 |
| Qualitative | 23 |
| Mixed method | 3 |
| Systematic review | 7 |
| Other literature review | 6 |
| Total | 60 |

Table 10. Focus of research on extended periods out of school

| Focus of impact | No. of studies |
|---|----------------|
| Child (including peer relationships) | 14 |
| Family (including parent/child relationship) | 9 |
| School | 10 |
| Community | 12 |
| Education system | 9 |
| National, regional and global economic, political and cultural system | 6 |
| Total | 60 |

Table 11. Focus of gendered impact of studies on extended periods out of school

| Gendered impact | No. of studies |
|---|----------------|
| Harmful for girls | 7 |
| Harmful for boys | 3 |
| Harmful for girls and boys | 25 |
| Entrenches unequal power | 6 |
| Incites, contributes to or fails to protect from violence | 3 |
| Harmful for women now/in the future | 4 |
| Harmful for men now/in the future | 1 |
| Supports gender equality | 11 |
| Total | 60 |

Table 12 demonstrates that the literature included to address the second research question was somewhat more evenly spread across the seven areas identified as the focus of gendered impacts as compared to the literature reviewed for the first question. Two sizeable groups of studies dealt with mental health and well-being (12 studies) and education processes (12 studies). Themes noticeably under-researched in relation to extended school closures – education outcomes and the education system – were each investigated in nine studies for children out of school for extended periods (when schools are open). The theme of violence and protection from harm was discussed in nine studies for this research question, comprising a similar proportion to the studies on this theme for extended school closures.

In coding studies for extended periods out of school, an additional code was added, which was not used in the literature included for school closures. The code required an appraisal of the implications of the study with regard to arrangements for return to school, whether or not this took place, and for future mitigations, adaptations and learning. **Table 13** demonstrates that, of the 60 studies, 31 documented ways in which the gendered impacts and inequalities documented might be mitigated through a particular intervention or form of action, while 28 presented evidence of the ways in which inequalities were reproduced.

Table 12. Category or focus of harms associated with gendered impacts for studies on extended periods out of school

| Category | No. of studies |
|-------------------------------|----------------|
| Mental health and well-being | 12 |
| Socioeconomic inequalities | 5 |
| Education processes | 12 |
| Education outcomes | 9 |
| Protection from harm | 9 |
| Physical health and nutrition | 5 |
| Education systems | 9 |

Note: Studies were coded according to all categories of gendered harm addressed in the research, enabling multiple responses in the table above.

Table 13. Arrangements for return or mitigations associated with gendered impacts for studies on extended periods out of school

| Arrangement/mitigation | No. of studies |
|------------------------|----------------|
| Continues inequality | 28 |
| Realignments | 31 |
| Enhancements | 1 |
| Total | 60 |



Chapter 3

Gendered impacts of extended school closures and children out of school for extended periods



Gendered impacts of extended school closures and children out of school for extended periods

This chapter discusses the literature on the gendered impacts of school closures, looking at the forms of nested relationships outlined in the conceptual diagram (Figure 1) involving children, families, schools, communities, the education system, and national, regional and international political, economic and cultural relationships. It highlights what the literature outlines about the gendered impacts on education outcomes, education processes, physical health and nutrition, mental health and well-being, protection from harm, education systems and socioeconomic inequalities.

It considers, first, the research evidence on school closures due to pandemics other than COVID-19, then considers the research evidence due to environmental disasters and violent conflict, and finally the research evidence on COVID-19. It concludes with an analysis of other research evidence on events that lead to children's experience of being out of school for extended periods, and what we can learn from this research for the current context.

The majority of the 94 studies systematically reviewed for gendered impacts of extended school closures are concerned with COVID-19. Only 14 studies deal with other reasons for extended school closures and their gendered impacts; the largest segment of this literature is concerned with the Ebola pandemic. The contours of this literature reflect the novelty of this theme.

Extended school closures due to pandemics other than COVID-19

Thirteen studies included in this review deal with the gendered impacts of school closures due to pandemics other than COVID-19. The largest group on this theme, nine studies, deal with Ebola, of which six studies are in Sierra Leone (Bandiera et al., 2018; Bandiera et al., 2020; Kosetelny et al., 2018; Murray et al., 2021; Risso-Gill and Finnegan, 2015; UNFPA Sierra Leone, 2018), one in Liberia (Korkoyah and Wreh, 2015) and two on West African countries affected by Ebola (Plan International, 2015; West African Network for Peacebuilding, 2020). Three studies are literature reviews, which gathered together discussion of the research literature on the effects of selected pandemics (Ebola, H1N1, MERS, SARS) documenting their effects on education, noting

some gendered effects of school closures (Hallgarten, 2020; Rohwerder, 2020; Selbervik, 2020). Sadique et al. (2008), in a study written before Ebola and COVID-19, made estimations of what the national and household cost of an influenza-like epidemic might be in the United States with schools closed and parents forced to stay home, highlighting a predicted loss to women's earnings, and overall household financial security, because of women's added responsibilities for children in the home.

All 13 studies drawing on empirical data regarding Ebola and the gendered impacts of school closures focus on children or adolescents, primarily girls (Bandiera et al., 2018; Bandiera et al., 2020; Korkoyah and Wreh, 2015; Plan International, 2015; UNFPA Sierra Leone, 2018; West African Network for Peacebuilding, 2020) although some studies draw out harms for girls and boys (Kosetelny et al., 2018; Murray et al., 2021; Risso-Gill and Finnegan, 2015). There are very few studies of family or household relationships, apart from Risso-Gill and Finnegan (2015) who commented on children's exposure to violence at home and the increased burden of girls' domestic work, a theme also highlighted by Korkoyah and Wreh (2015) and Plan International (2015). Risso-Gill and Finnegan (2015) note girls and boys were involved in trading and contributing work to support households due to the death of relatives.

Few studies deal with education processes, such as access to remote learning, although Murray et al.'s (2021) qualitative study based on in-depth community discussions highlighted how lack of batteries meant that children did not have access to education programmes transmitted by radio, and Risso-Gill and Finnegan (2015, p. 9) found that 24 percent of 384 children aged 7 to 10 who participated in focus groups reported having no learning materials when schools were closed due to Ebola. Older children (aged 11 to 18) participating in this study described having access to education delivered through government radio and television when electricity was available. Children in some rural locations spoke about not having easy or reliable access to radio, television or electricity, particularly at night.

No work identified through this review dealt with the education outcomes associated with Ebola, although the children participating in the Risso-Gill and Finnegan study (2015) shared fears they would not be able to return to school because of a decline in family income. Nor did this review find any studies of how the education system worked or responded to the pandemic in any of the countries. Physical health and nutrition emerge as a theme in Murray et al.'s (2021) qualitative study, which described how food was inaccessible and children went hungry. In Risso-Gill and Finnegan's work (2015), based on focus group discussions with children, and in the UNFPA Sierra Leone (2018) study, the focus is on sexual and reproductive health issues. Mental health is not raised except in the in-depth discussions documented by Murray et al. (2021), which highlighted aspects of children's loneliness during school closures. This study also documented stigma in villages where people were ill, and where people were shunned for fear they would pass on the virus. These themes are echoed by children contributing to focus group discussions reported by Risso-Gill and Finnegan (2015), Bandiera et al. (2020) and Korkoyah and Wreh (2015). UNFPA Sierra Leone (2018) discuss some of the effects of the collapse of the health system, but nothing related to education. The West African Network for Peacebuilding (2020) reports on some alternative schools offered to girls who were pregnant and could not return to school, noting these were of poor quality. UNFPA Sierra Leone (2018) highlights how many girls who became pregnant during the Ebola pandemic wished to return to school.

A major theme in the literature on Ebola is gender-based violence experienced by girls, often resulting in unplanned pregnancies (Bandiera et al., 2018, 2020; Korkoyah and Wreh, 2015; Kostelny et al., 2018; Plan International, 2015; Risso-Gill and Finnegan, 2015; UNFPA Sierra Leone, 2018). The shutdown of schools is associated in one study with exposure to risky behaviours for some boys, who are described as drinking and gambling when schools and markets were closed (Kostelny et al., 2018). The ways in which school closures worsen socioeconomic conditions for the poorest girls and boys is highlighted in one study (Risso-Gill and Finnegan, 2015). One study followed a cohort of 4,700 adolescent girls and women (aged 12 to 25) from the eve of the Ebola crisis in 2014 to the post-epidemic period in 2016 (Bandiera et al., 2018; Bandeira et al., 2020), documenting their experiences. These included unplanned pregnancies, exposure to gender-based violence and living on a very insecure income. The levels of pregnancy among young women in Sierra Leone associated with the Ebola pandemic

were assessed through survey research by UNFPA Sierra Leone (2018). This study reported on the desire of young mothers to return to school, an issue that became the topic of a highly politicized campaign in Sierra Leone, resulting in the right of return to school for young mothers being recognized in 2020 (Sierra Leone Ministry of Basic and Senior Secondary Education, 2021).

All the studies of Ebola concluded that the effects of school closures had been harmful for girls. Harms were associated with increased levels of sexual violence against girls with an increase in unintended pregnancies among adolescent girls (Bandiera et al., 2020; Kostelny et al., 2018; Risso-Gill and Finnegan, 2015; UNFPA Sierra Leone, 2018), linked in one study to the stopping of provision of information and care for sexual and reproductive health (Korkoyah and Wreh, 2015). Other harms were linked with an increase in housework and limited mobility (Plan International, 2015) and increased exposure to violence against women at home (Bandiera et al., 2020). Kostelny et al. (2018) documented harms for boys, including smoking and gambling, as markets were closed and there was no work. They also noted boys were exposed to an increased number of beatings. Murray et al.'s (2021) in-depth qualitative study of communities in Sierra Leone exposed to the worst effects of Ebola notes the effects of school closures were similar for girls and boys regarding lack of food, lack of access to education broadcasts and prohibitions on seeing friends.

A major theme in the literature on Ebola is gender-based violence experienced by girls, often resulting in unplanned pregnancies

Only one study, not based on Ebola, drew out how a pandemic and extended school closures might have particularly harmful effects for women who would lose income because of their increased childcare responsibilities. Sadique et al. (2008) made estimations, based on the US census and labour force data, of what the national and household cost of an epidemic might be when schools were closed, highlighting the loss to women's earnings because of their added childcare work.

Three reviews (Hallgarten, 2020; Rohwerder, 2020; Selbervik, 2020) synthesized evidence on the effects of selected pandemics (Ebola, H1N1, MERS, SARS) on education, noting some gendered impacts of school closures particularly related to the increased workload of girls as caregivers, increased levels of violence against women and pregnant schoolgirls refused admission to schools. Many of the conclusions of these reviews, however, were based on summaries of the research on gender and school closures during Ebola; earlier pandemics (H1N1, MERS and SARS) apparently did not generate published or easily accessible research on gender and school closures or children out of school.

This relatively small body of literature suggests that, apart from work on Ebola, the gendered education impacts of school closures associated with previous pandemics have not been extensively documented. It is also notable that while some of the literature on gender-based violence during Ebola does discuss economic or health opportunities that developed after the pandemic (Bandiera et al., 2020; Murray et al., 2021), this work does not deal with the gendered aspects of the return to school associated with these processes.

Extended school closures due to environmental disasters and violent conflicts

One study draws out how school closures, associated with periods of violent conflict, exacerbate violence against women and girls. Tierney et al.'s (2016), study of the Bougainville crisis in Papua New Guinea (1988–1998) documents the high levels of death,

displacement and educational dislocation experienced during this period of political violence when schools were closed. This was associated with high numbers of sexual assaults against girls and women. The study notes that school closures during the Bougainville crisis intensified disassociation, particularly for young boys, from established networks for socialization linked to education and work.

Extended school closures due to COVID-19

The 80 studies which deal with the gendered impacts of extended school closures due to COVID-19 have a wide range of concerns. Of the total, 50 studies deal with gendered impacts on children. Although, as detailed in **Annex 4**, the majority of these studies of children included samples of girls and boys, the discussion of the gendered impacts mainly highlighted harms for girls (noted in 31 studies). These included heightened levels of anxiety, increased levels of domestic work, and concerns that family hardship would mean they would not return to school. Four organizations – Gender and Adolescence: Global Evidence (GAGE) (Baird et al., 2020a, 2020b, 2020c; Jones et al., 2020, 2021); the Malala Fund (Ghatak et al., 2020; Malala Fund, 2020a, 2020b, 2020c), MIET AFRICA (2021) and the Population Council (Briggs et al., 2020; Presidential Policy and Strategy Unit (PASU) (Kenya) and Population Council, 2021) conducted surveys and focus group discussions with girls linked with specific projects exploring the effects of COVID-19 school closures on their family relationships and views about schooling (Bryce, 2020).



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Table 14. Studies on the gendered impacts of extended school closures due to COVID-19 by region

| No. of studies (n = 80) | Region | Reference |
|----------------------------|----------------------------------|---|
| 3 | Arab States | Abid et al., 2021; Baird et al., 2020b; Radwan et al., 2021 |
| 5 | Central and Eastern Europe | Fodor et al., 2021; Gacek and Krzywoszanski, 2021; Loziak et al., 2020; Ng et al., 2021; Zengin et al., 2021 |
| 11 | East Asia and the Pacific | Cheb, 2021; Foster, 2020; Guo et al., 2020; Guo et al., 2021; Seck et al., 2021; Waddell et al., 2021; Wang, 2020; Yamamura and Tsustsui, 2021; Zhou et al., 2021; Zhu et al., 2021a; Zhu et al., 2021b |
| 2 | Latin America and the Caribbean | Cejas et al., 2021; Mancilla et al., 2021 |
| 26 | North America and Western Europe | An, 2020; Berthomier and Octobre, 2020; Chartier et al., 2021; Commodari and La Rosa, 2020; El-Osta et al., 2021; Esposito et al., 2021; Giannopoulou et al., 2021; Grewenig et al., 2020; Haesebaert et al., 2020; Hanzl and Rehm, 2021; Mastorci et al., 2021; McGuine et al., 2021; McKune et al., 2021; Mohler-Kuo et al., 2021; Petts et al., 2021; Pizarro-Ruiz and Ordóñez-Cambor, 2021; Portillo et al., 2020; Sancho et al., 2021; Scarpellini et al., 2021; Shafer et al., 2020; Shum et al., 2021; Thierry et al., 2021; Tosso et al., 2020; Ventura et al., 2021; Williams, 2020; Yerkes et al., 2020 |
| 9 | Multiple regions | Akmal et al., 2020; Bahn, 2020; Banati et al., 2020; Briggs et al., 2020; Bryce, 2020; Croda and Grossbard, 2021; Jones et al., 2021; Jones et al., 2020; Mkhize and Gopal, 2021 |
| 9 | South and West Asia | Baird et al., 2020c; Ghatak et al., 2021; Khan et al., 2021; Makino et al., 2021; Malala Fund, 2020c; Raza et al., 2020; Sahithya et al., 2020; Shukla et al., 2021; Tajik and Vahedi, 2021 |
| 15 | Sub-Saharan Africa | Baird et al., 2020a; Bellerose, 2020; Casale and Shepherd, 2020; Dione et al., 2021; Malala Fund, 2020a; Malala Fund, 2020b; MIET AFRICA, 2021; Mott MacDonald and Oxford Policy Management, 2021; PASU (Kenya) and Population Council, 2021; Rafaeli and Hutchinson, 2020; Save the Children Somalia Research and Evaluation Team, 2020; Sharpe et al., 2021; World Vision International, 2020; Yorke et al., 2021; Young Lives, 2020 |

Eight studies, based on surveys with a sample of children, identified harms for boys. A number of these drew on study populations in North America and Western Europe: Germany (Grewenig et al., 2020), Spain (Sancho et al., 2020) and the United States (An, 2020). Three presented data from East Asia and the Pacific: Zhou et al. (2021) discussed more sedentary behaviour among young boys in China, Zhu et al. (2021b) reported on a study with teenagers in Hong Kong, China on how gaming addiction had increased for boys, and Cheb (2020) identified children at risk of school dropout after school closures through surveys in Cambodia, noting a higher risk for boys. Zengin et al. (2021) carried out a survey in Southeast Turkey of changes due to the pandemic in children's nutrition, sleep, television and internet use, social activity, coursework time, and school success, showing boys experienced higher anxiety levels compared to girls. This finding regarding mental stress contrasts with a number of other studies of children's mental health, where girls were more likely to report anxiety than boys, or girls and boys reported different areas of anxiety (as discussed below). The observation of reduced physical activity for boys was also noted by Zhou et al. (2021) in China and Ventura et al. (2021) in Spain.

Five studies noted harms to girls and boys, sometimes associated with different areas of anxiety or different avenues to express it. Zhu et al. (2021a) surveyed 2,863 students in grades 4 to 8 in Hong Kong, China during school closures in 2020. Girls were more likely than boys to report they had paid attention to physical and mental health and said they had taken time to relax, but girls were also more likely than boys to report feeling stressed and to have sought support from family. Shum et al.'s (2021) tracking, through monthly surveys, of a large cohort of 8,752 parents/caregivers and 1,284 adolescents (aged 11 to 16) in the United Kingdom noted that parents/caregivers reported higher symptoms of behavioural and attention difficulties among boys than girls, and higher levels of emotional difficulties for girls than boys. Khan et al. (2021), in a survey drawing on 385 secondary school students from grades 8 to 12 in Delhi, India, found that both girls and boys reported feelings of isolation from peers, but both were adequately able to engage with online learning materials.

While the largest body of the literature on the gendered impacts of school closure focused on children and their views and how they engaged with families, 21 studies drew out how family relationships, not only focused on parent-child interactions, had been affected by school closures. The research explored the views of parents/caregivers and/or children on shifts in family relationships in relation to parental stress, workloads, particularly for mothers, and some aspects of changing socioeconomic conditions. A large part of this literature, 13 studies, reported on women in families in high-income countries (Berthomier and Octobre, 2020; Chartier et al., 2021; Croda and Grossbard, 2021; El-Osta et al., 2021; Fodor et al., 2021; Hanzl and Rehm, 2021; Petts et al., 2021; Shafer et al., 2020; Thierry et al., 2021; Waddell et al., 2021; Yamamura and Tsustsui, 2021; Yerkes et al., 2020). Family stress, with pressures on mothers, was also considered in seven studies which dealt with low- and middle-income countries. Seck et al. (2021) noted these forms of stress and harm through Rapid Gender Assessment surveys in East Asia and the Pacific. Casale and Shepherd (2020) studied these relationships in South Africa, noting stress associated with the impact of the closure of childcare services which coincided with school closures. Sahithya et al. (2020), through an online survey based on responses from 227 parents in India, noted high levels of stress in mothers of school-aged children linked to schools being shut. Raza et al. (2020), drawing on a survey conducted online of 428 professionals in Pakistan, noted that more highly educated mothers were more likely to report high levels of stress among their children linked to school closures than those with fewer qualifications. Save the Children Somalia Research and Evaluation Team's (2020) survey and focus group-based research with 1,569 adults and 456 children in Somalia reported an increase in intimate partner violence and psychosocial stress in families linked to lockdown and school closures.

A group of studies examined how family relationships were placed under particular stress during school closures because of anxieties over food or changes in the gendered pattern of work linked to food preparation. Dione et al. (2021) note different patterns of family access to food and risks of gender-based violence for women in different provinces of Senegal during school closures. Radwan et al. (2021) explore gendered relationships around food and family arrangements for shopping and cooking in Gaza during a time of school closures, highlighting changes in the dynamics at work.

No studies were identified of the gendered impacts of school closures due to COVID-19 on communities. Cejas and Demera's (2021) study draws on historical policy analysis in Ecuador and official data to detail the expected impacts of school closures on young people out of school. The study highlights increased risk of violence and the socioeconomic impacts of economic downturn. Similar themes emerge from a 2020 survey in Senegal (Dione et al., 2021) with 3,967 adolescents and young women who reported on general anxieties about the pandemic, school closures and food shortages in communities, together with threats of sexual violence.

There are also very few studies at the level of the school or education system. At the school level, the major focus of research has been on teachers. Four studies report on increased stress for female teachers linked to online technologies. This is noted in the Islamic Republic of Iran (Tajik and Vahedi, 2021) and Spain (Portillo et al., 2020). Loziak et al. (2020) reported high levels of stress among female primary school teachers in Slovenia delivering online lessons. Their stress was associated with challenging preparation of teaching materials, unclear and uncertain directions from school management, the intensity of communication with children and their parents, long periods using technologies and the pressures of time management. Tosso et al.'s (2020) qualitative study based on interviews with female education practitioners in Madrid, Spain, documented a sense of isolation, increased working time, physical and mental health concerns, and enormous pressures trying to support the psychosocial and protection needs of students, while delivering teaching and learning.

Three studies document some of the effects of school closures on the education system, but provide only snapshots of gendered impacts in the way certain components of the system responded to school closures. Two studies, based on telephone surveys during school closures, carried out with head teachers by the Young Lives project in Ethiopia (Yorke et al., 2020; Young Lives, 2020) report on head teachers' views on what level of support could be provided, and that the majority feared that girls were at greater risk of dropping out, as they had not been reached through distance provision. One study in Sierra Leone (Mott MacDonald and Oxford Policy Management, 2021) reports on the provision of online materials, and the lower performance of girls compared to boys in learning assessments conducted after the lockdown.

The next section considers in greater depth the forms of gendered impacts noted in the studies of school closures linked to COVID-19, drawing on the seven areas of gendered impact noted in the conceptual framework (**Figure 1**).

Education processes

Education processes, such as access and participation, linked to learning, teaching and peer relationships associated with schools, are a major theme in the literature on the gendered impacts of COVID-19 school closures. The largest body of work, 10 studies (see **Appendix 4**), documents how time for educational engagement, particularly following formal school lessons, working with teachers or fellow learners, was limited or difficult. This was most noted in the case of girls and was linked with added burdens of household work or difficulties in accessing computers or mobile phones.

Reduced participation in learning for girls appears associated with their age and the family's socioeconomic status. GAGE's studies based on data collection in 2020 with over 2,000 adolescents and their female primary caregivers in Bangladesh, Ethiopia, Jordan and Palestine show some variability in how family and community dynamics interacted with

the experience of school closures (Jones et al., 2021). Surveys in Bangladesh noted a higher proportion of girls than boys reporting increased household duties, although the difference was not statistically significant (Baird et al., 2020c). In the study in Ethiopia, a majority of those surveyed were doing something to continue learning during the pandemic/closures, but boys and younger adolescents were more likely to be continuing their education than girls and older adolescents (Baird et al., 2020a). Families were also providing more support to boys to continue schooling by giving them space or access to radio or TV lessons or a reduction in chores (Baird et al., 2020a). In Jordan, by contrast, more older girls than older boys reported that their families reduced the time they had to spend on household chores to allow them to study (Baird et al., 2020b). More older girls than older boys reported that their families provided them with access to mobile learning apps and helped to coordinate study groups with their peers online or over the phone (Baird et al., 2020b). Variability in household arrangements for study during school closures is confirmed by a study in Chile (Mancilla et al., 2021), which showed girls spending more time on average in learning compared to boys (but also more time doing housework). But the authors do not comment on whether this suggests more support for their education or not.



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Poverty intersects with gender to make the experience of school closures harsher for some groups, placing particular burdens on girls. Because of the nature of the surveys conducted, however, it is hard to distinguish what the harms to girls are associated with. It may be the reduced time they have for study because of household work, possibly linked to the family's economic insecurity. It may be girls' reduced access to the technologies for online lessons. Or it could be a mixture of these, possibly augmented by some of the anxieties and mental stress for families, and particular girls, as discussed below. A study of poor marginal households in three Indian states during lockdown (Ghatak et al., 2020) documents how household work fell more heavily on girls than boys and that, where there was household access to televisions or phones, boys were more likely than girls to be permitted to use them in support of their schooling. A Malala Fund (2020b) study in Nigeria, conducted through telephone interviews with a sample of 1,309 households, including 717 teenage girls identified through contacts of the Nigerian Malala Fund's Education Champion Networks programmes in Kaduna, had a large representation of households in lower socioeconomic quintiles. Nearly two thirds of the households, 63 percent, in this study were entirely dependent on the informal economy for income. The study found 10 percent of girls surveyed compared to 24 percent of boys could access distance learning offered via television to help with their education during school closures (Malala Fund, 2020b, p. 4). A second Malala Fund study (2020a) based on survey data in three districts in Ethiopia (Addis Ababa, Amhara and Gambela) from 1,302 parents and 1,302 girls and boys, identified through contacts of the Ethiopian Malala Fund's Education Champion Networks programmes, provided no information on household socioeconomic status, but noted higher proportions of girls and boys accessing learning material remotely than had been recorded in the Malala Fund Nigeria study (Malala Fund, 2020b). These studies suggest that although distance learning was made available to a large share of students via the internet, TV and radio, barriers related to infrastructure, finance and social norms prevented some students from accessing these technology-dependent learning options, with gendered impacts affecting who could and could not make use of these resources.

Poverty intersects with gender to make the experience of school closures harsher for some groups, placing particular burdens on girls

Different demands in families for work by girls and boys was linked in some studies with who had time to use remote learning technologies (Malala Fund, 2020b; MIET AFRICA, 2021; PASU (Kenya) and Population Council, 2021). When lessons were only provided remotely at a set time, this could be difficult for girls and boys whose household chores were tied to particular times of the day.

A set of studies highlighted the gendered impacts associated with norms regarding which children were given access to learning technologies. A gender gap regarding girls' and boys' access to remote learning technologies was noted in a study with 322 adolescents and young people involved with the FutureLife-Now! and School's Out programmes in five Southern African Development Community (SADC) countries (Lesotho, Malawi, Madagascar, Zambia and Zimbabwe) (MIET AFRICA, 2021). Because of the way data were collected, it is not possible to assess family socioeconomic status linked to access to technology, but there are some clear differences in access to technology by gender. For example, 23 percent of male respondents said they were able to continue studying without problems, compared to only 12 percent of female participants. Meanwhile, 28 percent of male respondents always had internet access to help with their studies compared to only 15 percent of female participants, while 30 percent of female respondents had internet access rarely or not at all, compared to 21 percent of male respondents (MIET AFRICA, 2021, p. 57). While 78 percent of female participants reported they were continuing with their studies but not consistently, only 59 percent of young men gave this response (MIET AFRICA, 2021, p. 54). This suggests greater difficulties for some young women compared to men to continue studying without problems.

Complexities of gender relationships around remote learning are also revealed in the PASU (Kenya) and Population Council (2021) study of 3,921 adolescents, age 10 to 19, surveyed initially during the lockdown in Kenya in 2020, and contacted again in February 2021 when 2,747 respondents were reached. In this study, a greater share of girls than boys reported reading more widely than just schoolbooks, when textbooks were not available. Meanwhile, boys reported longer times spent studying and a larger proportion of girls, compared to boys, reported that household chores prevented them from studying.

It is not clear whether boys' increased use of computers helped or hindered their participation in school activities. Three studies report on boys engaging heavily with online gaming (Berthomier and Octobre, 2020; Mancilla et al., 2021; Zhu et al., 2021b), but only one (Zhu et al., 2021b) notes this as a matter of concern. These studies do not provide information as to whether these activities led to a decline in boys' interest in formal school lessons.

A number of studies note the engagement of parents, particularly mothers, to ensure education provision and participation by their children (Mancilla et al., 2021; MIET AFRICA, 2021; Shum et al., 2021; Thierry et al., 2021). In some studies, this is noted as a feature of the added stress for women (Fodor et al., 2021; Hanzl and Rehm, 2021; Petts et al., 2021; Seck et al., 2021; Tosso et al., 2020; Waddell et al., 2021; Yamamura and Tsutsui, 2021; Yerkes et al., 2020). Shafer et al. (2020), using data from a survey with 1,234 Canadian parents in heterosexual relationships, noted some small shifts toward more gender equality in households during the first phase of lockdown, with fathers taking more share of housework and childcare. Much more needs to be investigated about how gender dynamics within families worked in relation to the different elements of education during COVID-19 and how this related to socioeconomic status. Given that this review is being completed while the pandemic is still ongoing, and that a major part of the research on this theme rests on surveys, giving a snapshot in time, there is still much to be investigated.

Significant gaps were noted in the provision of remote learning and related policy and practice. The impacts were gendered. The MIET AFRICA (2021) study in five countries from the Southern Africa Development Community noted how comprehensive sexuality education had been stopped due to school closures and that participants were having to rely on peers or the internet for sexual and reproductive health information, which was not always satisfactory

(MIET AFRICA, 2021). Representatives of organizations surveyed for this study noted that, during the period of school closures, there was insufficient scope to address discriminatory social norms regarding early pregnancy, learner and teacher discrimination against pregnant schoolgirls, and perceptions that early pregnancy was associated with promiscuity. A conclusion was the need to create an enabling environment for the continued education of pregnant girls and re-entry of adolescent mothers into schools (MIET AFRICA, 2021).

Akmal et al. (2020) assessed the experiences of nine frontline organizations across a wide range of countries and contexts delivering services to children during the lockdown. They noted that despite awareness of risks of gender-based violence for children out of school during the pandemic, organizations were restricted by budget cuts in the actions they could take. The role played by girls' groups is documented by the Population Council in a snapshot of programmes in three regions (sub-Saharan Africa, Latin America and the Caribbean and South and West Asia) (Briggs et al., 2020). This study records how many groups could not meet because of restrictions on mobility, but that mentors in groups played a key role, trying, if technology allowed, to keep in touch with girls and to put them in touch with each other. Some groups expanded their remit, delivering food and face masks to members, and trying to connect them with family planning services.

The Ebola crisis highlighted key areas important to support in subsequent pandemics or periods of school closure, including how to provide access to learning technologies to the poorest households, reviewing the timing of education broadcasts to enable girls doing household chores to participate, and providing learning materials in a range of formats. Support for girls at risk of gender-based violence and for pregnant schoolgirls, including comprehensive sexuality education, is needed. Failures of the response can be noted to try to improve or address for current or future pandemics or school closures. Curriculum, pedagogy and learning materials were inadequately provided with particular gendered impacts. Partly, this was linked to the lack of preparation of teachers for the new forms of lesson delivery online and the lack of support for teachers who were dealing with learners' anxieties (Loziak et al., 2020; Tosso et al., 2020).

Education outcomes

The literature discusses education outcomes associated with school closure, broadly understood as attainment in specific subjects, i.e. learning outcomes and whether a child intends to or does re-enrol in school after school closures.

There is very little research currently published on gender and learning outcomes from test results. No comparative studies of these before and after COVID-19 school closures have been published, although this is an area of major concern for governments and international organizations. Only one study by Mott MacDonald and Oxford Policy Management (2021) looks at learning outcomes in Maths and English in Sierra Leone among learners who had been through the months of school closures and who were enrolled in classes marking the end of junior and senior secondary school. This study shows learning outcomes in Maths and English were at a higher level in 2020 than 2019, but it is difficult to make comparisons as the two assessments discussed were administered to different grades and at different times of the academic year, (Mott MacDonald and Oxford Policy Management (2021, p. 8). In the 2020 skills assessment of Maths and English with 2,000 secondary school students, boys performed better in both subjects compared to girls, with the gap widening for the older cohorts (Mott MacDonald and Oxford Policy Management, 2021, p. 4). As these data are not compared with data from the same cohort collected before the pandemic, it is not possible to draw conclusions as to whether or not the pandemic deepened existing gender gaps in attainment.

A number of studies consider whether girls and boys intend to return to school after the period of school closure. School closures were still in place when much of the research included in this review was conducted, hence the focus on intended return rather than actual school outcomes was most frequently reported. The GAGE studies in Bangladesh and Ethiopia asked girls and boys whether they intended to return to school after the lockdown (Baird et al., 2020a, 2020c). In Bangladesh, 91 percent of girls surveyed wished to return to school, compared to 86 percent of boys, with little variation between more and less vulnerable households (Baird et al., 2020c, p. 9). In one study in Ethiopia (Baird et al., 2020a, p. 4), there was no difference among girls and boys surveyed on whether they wished to return to school; however, further data

from this study reported in the cross-national report (Jones et al., 2021, p. 21) note that caregivers surveyed in Ethiopia were doubtful they would return, with 51 percent of caregivers of adolescent daughters thinking this would not happen, compared to 41 percent of caregivers of adolescent sons.

The Malala Fund study in Ethiopia found regional differences associated with gender and views on return to school (Malala Fund, 2020a). In Addis Ababa, there was little gender difference among those surveyed regarding their views on return to school, but a gender difference was marked in more food- and income-insecure families surveyed in Gambela province, where more boys intended to return to school compared to girls. The opposite trend was noted in data from Amhara province, where 50 percent of boys reported they would not return to school because of work (compared to 20 percent of girls surveyed). In this province, more than half the study population attended private schools, compared to only 15 percent of those surveyed in Addis Ababa and 3 percent in Gambela (Malala Fund, 2020a, p. 17). A survey of 64 head teachers by the Young Lives project in Ethiopia noted that 54 percent estimated that girls would be at risk of dropping out due to the experience of COVID-19 (Young Lives, 2020, p. 5). The three studies of views of return to school and the gendered impact of school closures give somewhat different results, associated with the study populations, and the ways in which the surveys were framed. What they indicate is that regional location, family socioeconomic status and whether children attended a private or public school are key elements in education outcomes linked to return to school.

Increased risk for boys of dropping out because of school closures was documented in the GAGE study for Jordan, but not for Palestine (Baird et al., 2021b; Jones et al., 2021). The very high premium on education among Palestinian boys and girls in Gaza, noted in a number of studies before COVID-19 (Abu-Ras and Mohamed, 2018; Thabet, 2020) and the work opportunities available to boys in Jordan (Hendy and Mimoune, 2021) may possibly explain these differences in countries in the same region. This underlines the need for close socioeconomic and political-cultural analysis to provide context and to interpret the implications of survey data – which form the largest component of the research evidence on the gendered impacts of COVID-19.

Some surveys provide a closer understanding of local contexts at the level of the district, school and family. A study in Cambodia by Save the Children (Cheb, 2021) surveyed 7,609 students and caregivers in districts where the risk of school dropout was considered high. The study looked at variables that influence the risk of school dropout. Male students had a 2.1 percent higher risk of dropout than female students, and children in male-headed households had a 5.2 percent higher risk of dropping out than students in a female-headed households (Cheb, 2021, p. 22). Risks were compounded in households where Khmer was not spoken, and no household members had education.

A Malala Fund study (Malala Fund, 2020c) in Pakistan, based on a survey conducted in 2020, noted different household processes cited by girls and boys regarding why they may not return to school. The cost of fees was mentioned by 30 percent of boys, compared to 24 percent of girls, and the requirement to work was mentioned by 32 percent of boys and 16 percent of girls (Malala Fund, 2020c, p. 18). The study suggests that boys, more likely to be enrolled in private schools compared to girls, may be at risk of withdrawal from school because of the fees involved. Ghatak et al.'s (2020, pp. 18-19) study among poor households in three Indian states noted that 78 percent of boys and 76 percent of girls from households who did not experience food or cash shortages during the lockdown said they would go back to school after the schools reopened, but only 50 percent of boys and girls from households who faced both cash and food shortages intended to return, with greater uncertainty about returning to school among those who attended private schools. Makino et al. (2021),

in a study using data from a telephone-based survey covering 3,790 rural households (with at least one unmarried female household member aged 13 to 29) in Bangladesh, uncover the range of household decisions that influence whether girls or boys return to school after lockdown, and highlight how experience of respiratory illness by girls might increase the risk of not returning to school and preparing for marriage.

There is limited evidence on actual return to school. The GAGE study (Jones et al., 2021, p. 9) in Ethiopia found that when schools reopened in 2020, participants reported that a number of their peers had dropped out of school due to poverty, pressures to work and/or child marriage. The PASU (Kenya) and Population Council (2021, p. 66) study reports on actual school enrolments post-COVID-19 school closures in a sample of 3,921 from the first round of interviews and notes that 84 percent of girls and 92 percent of boys re-enrolled. Reasons for non-enrolment included school fees, pregnancies and work.

At the time of completing the review, very sparse evidence existed on the gendered impacts on learning outcomes associated with the COVID-19 school closures. The different patterns noted underline the importance of close contextual investigation and the importance of in-depth qualitative work. The studies on reduction in opportunities to return to school for some of the poorest children, and declining test scores for girls in Sierra Leone, highlight that disruptions to learning associated with the pandemic require careful investigation and well-focused attention to revisions of curriculum and pedagogy when children return to school.



Physical health and nutrition

Studies of gendered impacts on children's physical health due to school closures mainly focus on how COVID-19 school closures and lockdowns reduced children's physical exercise and affected sleep patterns. Mancilla et al.'s (2021) survey-based study with children aged 4 to 18 in Chile showed children doing very little sport or exercise, even among those living in homes with access to outdoor areas, with similar patterns for boys and girls. Survey research in Catalonia, Spain, with a sample of 3,464 children under 17 regarding diet, sleep and TV habits during lockdown, reported no difference between boys and girls in relation to changes in sleeping habits, but boys were at greater risk than girls of not doing sufficient physical exercise and of spending too much time with television and electronic devices (Ventura et al., 2021). Abid et al. (2021) conducted an online survey on sleep patterns with 100 Tunisian children (52 boys and 48 girls, randomly selected, aged 5 to 12). They noted that an increase in screen time, linked to school closures and online lessons, had worse effects on girls than boys. Similar findings were reported in China based on a cross-sectional online survey of 10,933 students from 10 schools (primary, junior and senior secondary) in Guangzhou, although the main focus of this study was mental health and anxiety (Guo et al., 2021).

Only one study links school closures with gendered impacts on children's nutrition. The MIET AFRICA (2021, p. 65) study in five SADC countries noted 71 percent of adults and 52 percent of youth respondents to an online survey reporting increased cases of economic and sexual exploitation of girls for food in rural areas and high-density or informal settlements, suggesting school closures and the end of school feeding programmes were partly to blame. A small group of studies note aspects of gender and nutritional deficits associated with lockdowns, highlighting particular vulnerabilities for the poorest children, with special hardship for girls. No information is provided, however, as to whether the closure of school feeding schemes withdrew a key source of food. The GAGE study in Bangladesh noted vulnerable households cut back on the levels of food they could include in the diet of all children, with some statistical significance associated with decrease in protein provision for girls (Baird et al., 2020c). The PASU (Kenya) and Population Council (2021) study in Kenya documents how a larger proportion of girls surveyed in Wajir reported missing a meal, compared to boys. Bellerose et al.'s (2020, p. 142) study with 154 adolescent girls living in informal settlements in Nairobi in 2020, with more than half of

the sample from the poorest socioeconomic group, reported that 77 percent of participants said they were skipping meals or eating less since COVID-19.

There are a number of studies of nutritional gains and deficits for boys during COVID-19. Radwan et al. (2021) collected data in Gaza with 2,398 primary and secondary school students aged 6 to 18, allowing them to compare food quality and quantity for girls and boys before and after the lockdown. They noted girls' quality and quantity of food was higher before COVID-19; for boys the quality of food was higher during the pandemic while the quantity was lower, although socioeconomic variables affected these patterns. They recommend that the Ministry of Education promote healthy eating habits when schools reopen to learn from these experiences. Zengin et al.'s (2021) study of mental health and nutrition among 309 children aged 9 to 12 in Southeast Turkey note disrupted activities which led to worse nutritional outcomes for boys. A 2020 study used simulations, associated with reduced exercise linked to school closures during COVID-19, drawing on data from a longitudinal study of 15,631 children who were followed from kindergarten to grade 5 from 2011, to allow representation of the demographics of childhood obesity in the USA. The report concluded that the impact of COVID-19, eating habits and reduced physical activity linked to school closures would have modestly larger effects on obesity among boys than girls; there was a need when schools reopened for the promotion of increased physical activity.

The medium-term consequences of reduced physical activity, altered sleep patterns and changes in nutrition for girls and boys and their families remain to be documented

Evidence of the gendered impacts of extended school closures due to COVID-19 on physical health and nutrition remains limited, and the medium-term consequences of reduced physical activity, altered sleep patterns and changes in nutrition for girls and boys and their families still remain to be documented and their implications assessed.

Mental health and well-being

The literature on the gendered impact on mental health and well-being linked with the period of school closures comprises the largest set of studies in this review. This is divided between a group of studies that focus on children, and a group that focus on adults, primarily mothers and teachers.

A cluster of research in high-, middle- and low-income countries highlights how girls, out of school due to school closures, reported more stress, anxiety and depression than boys. Giannopoulou et al. (2021), surveyed 442 Greek teenagers taking the school-leaving examination before and after the school closures and lockdown, noting significantly higher scores for depression and anxiety among girls compared to boys. Similar results regarding a larger share of girls reporting on sadness, anxiety or depression associated with school closures due to COVID-19 were recorded among adolescents and young people in many different contexts – China (Guo, 2020), the Czech Republic (Ng et al., 2021), France (Haesebaert et al., 2020), Italy (Mastorci et al., 2021), Spain (Pizarro-Ruiz and Ordóñez-Cambor, 2021), Switzerland (Mohler-Kuo et al., 2021), Florida, USA (McKune et al., 2021), and Wales, UK (Williams, 2020). Other studies reported similar trends among particular populations, including adolescent female athletes in the United States, who comprised 52.9 percent of 13,002 teenage athletes who responded to an online survey (McGuine et al., 2021), a group of disabled and disadvantaged boys and girls aged 14 to 19 surveyed in Sierra Leone and Zambia (Sharpe et al., 2021), and children with mild developmental disabilities in Poland (Gacek and Krzywoszanski, 2021). Psychosocial stress was reported as more marked for adolescent girls in the GAGE surveys during COVID-19 conducted in Jordan (Baird et al., 2020b), and in a study based on interviews with GAGE respondents in Ethiopia and Lebanon, and on interviews conducted by UNICEF in Côte d'Ivoire (Banati et al., 2020). Banati et al. (2020) suggest psychosocial stresses among adolescent girls during lockdown link to pre-existing gendered vulnerabilities but no causal pathways are discussed.

Stress and anxiety for children during COVID-19, Bryce (2020) argues, are associated with a process of accumulation of disadvantage linked with vulnerability to forms of violence and stress. A number of studies document that girls and boys reported different mental health and well-being concerns, sometimes linked to gender and sometimes to age. In a survey of 310 adolescents aged 12 to 18 from North India, Shukla et al. (2021) noted that girls and boys worried

about different areas – more adolescent girls than boys worried about academic outcomes and physical health, while more boys worried about social or recreational activities. Girls and boys aged 14 to 19, surveyed during school closures for a study by Esposito et al. (2021, p. 4), were much more likely than younger girls and boys (age 11 to 13) to report on feelings of sadness linked to missing the school community (26.5 percent vs 16.8 percent). However, having a relative with COVID-19 increased anxiety and sadness for both boys and girls. In Lebanon, among the 100 adolescent participants, aged 15 to 19, in a survey, girls described a shared sense of loneliness as long-term school closures led to a loss of social contact and mobility (Banati et al., 2020). Boys did not describe this sense of isolation, but did comment on the potential for growing conflict between host and refugee communities and the consequence of economic crises (Banati et al., 2020). More marked anxiety among girls, compared to boys, associated with missing friends as a result of being out of school was noted in the MIET AFRICA (2021) study during lockdown, due to them being cut off from psychosocial support provided by teachers and social workers at school. This theme is noted by UNESCO (2021) drawing on several studies of LGBTQ adolescents in the United States. The proportion of girls reporting recent experiences of anxiety and depression was not markedly larger than boys in the PASU (Kenya) and Population Council (2021) report. Particular anxieties for boys are noted in a handful of studies. Baird et al. (2020c) in a study of 2,095 adolescents in Bangladesh, surveyed initially while in school before COVID-19, and followed up during the lockdown, noted boys fared worse than girls, reporting on stress associated with reduced mobility, while girls were more accustomed to staying at home. Similar trends are noted in Uganda and in Cox's Bazaar, Bangladesh, in work analysed by UNESCO (2021).

In contrast to the snapshot results from surveys of children, a small group of studies look at family dynamics, socioeconomic conditions, housing and community relationships in relation to mental health and well-being. Shum et al. (2021) conducted, over the course of the pandemic in the United Kingdom, an ongoing set of interviews with 8,752 caregivers and 1,284 adolescents aged 11 to 16, regarding mental health. They report that as the lockdown eased, levels of stress and anxiety were reduced in children; the same effects were seen in girls and boys. A survey of well-being of 1,225 children with special needs aged 2 to 12 during total lockdown in northern Spain (Sancho et al., 2021) noted girls, younger children and children

with access to an outside space fared better under lockdown conditions than children living in confined conditions in apartment buildings.

Although there is a good cluster of survey-based research on stress, anxiety and loneliness among girls and boys in a range of contexts describing their different characteristics, the absence of more in-depth qualitative and mixed method studies in this area means that the implications of these snapshot pictures are hard to determine. It is not clear whether stress decreased or increased for some children as school closures progressed, and why. It remains to be investigated how stress experienced during school closures affected children's return to school and gendered impacts.

Similar caveats apply to the cluster of studies on stress experienced by women with increased care responsibilities at home because of school closures. They often focus on this single aspect of mental health and do not explore relationships with children, partners, the wider family or community networks. Stress experienced by women is linked to the increased burden of work in the home and added anxiety with children out of school, and is associated with loneliness and lack of sleep (Croda and Grossbard, 2021; El Osta et al., 2021; Sahithya et al., 2020; Seck et al., 2021). Anxiety is intensified in families where women have lost social support for children with disabilities (Scarpellini et al., 2021). Three studies link anxiety associated with children out of school with women's increased fears of exposure to violence (Bryce, 2020; Croda and Grossbard, 2021; Dione et al., 2021).

Very few studies explored how family and community relationships might contribute to stress or the alleviation of stress during school closures. A small number of works hint at these processes. More female than male caregivers in the MIET study in five SADC countries noted the difficulties children experienced while learning at home (MIET AFRICA, 2021), suggesting their closer involvement with children's learning, both in terms of offering support, but also experiencing stress when they could not do it. The absence of mothers was noted by Wang (2020) in a case study of five girls aged 7 and 8 in rural China, of how poverty and family insecurity during COVID-19 created enormous pressures and anxieties around learning for girls attending school and concern over the risk of school closure. Raza et al.'s (2020) study in Pakistan noted that the children of highly educated mothers experienced high levels of stress during the lockdown. Berthomier and Octobre's (2020) study highlighted the amount of involvement by mothers and fathers in France with children's leisure activities during school closures, showing links to

housing and parents' occupation to a wider range of possible activities. These works suggest that survey research on the mental health pressures on women, linked to school closure, need to be well contextualized in relation to other relationships.

A theme emerging from the literature suggests that relationships in place before the pandemic contributed to the levels of anxiety reported, relating to the gendered division of labour in families, family income levels, family collaboration around education, and the norms around mobility and social interaction for girls and boys, women and men. However, the lack of qualitative work on these themes means that the form, depth and longer-term consequences of the anxiety and loneliness reported remain to be investigated.

Protection from harm

Sexual violence, harassment and unwanted pregnancies were documented in a small group of studies, although the depth and form of these issues could not fully be probed given the wide use of telephone surveys in the studies in the review. Akmal et al. (2020) surveyed 105 organizations, the majority of which were working in Africa on girls' education, to find out the perceived effects of school closures. Most respondents highlighted concern with increased levels of gender-based violence and limited social protection.

School closures, combined with the shutdown of public life, contributed to a lack of safe spaces

Data collected during school closures reported on young girls' experiences of sexual assault and increases in early pregnancies, many not planned. Fears of sexual assault during school closures were a feature of analyses in Chile, Ecuador and Senegal (Cejas and Demera, 2021; Dione et al., 2021). School closures, combined with the shutdown of public life, were noted by many respondents in the MIET AFRICA (2021) survey in five SADC countries as contributing to a lack of safe spaces. Girls interviewed for two survey rounds of the PASU (Kenya) and Population Council (2021) study reported more experiences of sexual assault as the months of school closure stretched out, with some providing accounts of physical and emotional violence by strangers and others at home. A small

number of participants in this study admitted to engaging in transactional sex because of stress factors of the pandemic.

The increased use of online technologies during the pandemic raised anxiety, as noted in some studies about risks for children of exposure to pornography or sexual harassment online (Babvey et al., 2021; Fore, 2020; Sallie et al., 2021). Only one study included in the review, Mkhize and Gopal (2021), reports on the gendered impacts, analysing social media sites widely used by adolescents around the world, noting high levels of cyberbullying, including sexting, and negative comments about the bodies of young girls.

Very few studies included in the review deal with early and unintended pregnancies associated with extended school closures. This theme, which was key in the literature on Ebola (see previous discussion), is not evident in the literature on COVID-19; this may be because of the wide use of snapshot surveys, generally conducted during school closures. Whether or not girls had become pregnant in greater numbers requires further investigation. Only one study, the MIET AFRICA (2021, pp. 70–71) survey in five SADC countries, reported on this, noting 25 percent of participants knew someone who had experienced an unwanted pregnancy linked to school closures. However, this is the perception of participants rather than more definitive evidence.

Work on school closures linked to Ebola highlighted the importance of addressing violence against women and girls during extended school closures. A number of journal articles and working papers highlighted these potential risks during COVID-19 (Cousins, 2020; Parkes, et al, 2020). At the time of completing this review, the form of violence against women and girls, and its consequences, with regard to physical and mental health, early and unintended pregnancy and increasing economic vulnerabilities, have not yet been established.

Education systems

There were no studies identified for the review which looked at how or whether education systems in addressing learners out of school had considered efficiency, equity and the capacity to mitigate harms, for example, with measures to counter gender and intersecting inequalities in the distribution of learning resources and to protect learners from hunger and threats of violence.

The small group of studies which document anxiety and stress experienced by female teachers (Loziak et al., 2020; Tosso et al., 2020) in coping with new learning technologies and student stress, suggest, but do not deal in any depth, there were shortcomings in education systems to plan for and train teachers for disasters and pandemics, and take into account the range of gender relationships which structure personal and professional lives.

The work included in the review on education systems comprises three studies. However, they do not uncover how systems addressed gendered impacts associated with extended school closures, and whether efficiency, equity or capacity to mitigate harm were considered in the actions taken. Mott MacDonald and Oxford Policy Management (2021) looked at the distribution of remote learning materials in Sierra Leone, but did not document themes associated with gender. The Young Lives (2020) survey of head teachers in Ethiopia recorded whether they responded to directives from the Ministry of Education and head teachers' views on whether girls had been adversely affected by school closures, but did not probe any actions taken to mitigate gender inequalities.

Socioeconomic inequalities associated with poverty and insecure employment were exacerbated by school closures

Socioeconomic inequalities

A number of studies reviewed provide insight into how an increase in socioeconomic inequality during lockdown was linked with views about schooling by adults and children. Boys and girls in Bangladesh, Ethiopia, India and Nigeria told survey teams that they feared that worsening socioeconomic conditions for their households, associated with lockdowns, would jeopardize their chance of returning to school (Baird et al., 2020a, 2020c; Ghatak et al., 2020; Malala Fund 2020a). Reductions in nutrition for children from the poorest groups, particularly girls, was recorded (Bellerose et al., 2020; Ghatak et al., 2020; MIET AFRICA, 2021), suggesting longer-term problems with health and learning. Difficulties in accessing online technologies for the poorest children, with high proportions of girls, was clearly associated in

many studies with poverty and inequality in access to infrastructure, income and assets (Ghatak et al., 2020; Malala Fund, 2020b).

A number of studies highlight how the experience of lockdown, with children out of school and economic anxiety, placed great pressure on women in households by adding to domestic workloads (Fodor et al., 2021; Hanzl and Rehm, 2021; Petts et al., 2021; Seck et al., 2021; Tosso et al., 2020; Waddell et al., 2021; Yamamura and Tsustsui, 2021; Yerkes et al., 2020). This socioeconomic inequality within households was amplified in some countries where economic contractions led to women's lack of employment and wage losses (Foster, 2020; Seck et al., 2021). A rapid assessment telephone survey in South Africa with 7,073 adults noted smaller shares of women than men had resumed employment after the first lockdown (Casale and Shepherd, 2020). The decline of women's economic security has implications for children's return to school, although no study has yet documented this.

These studies highlight how socioeconomic inequalities associated with poverty and insecure employment were exacerbated by school closures. This made participation in the education provided through remote technologies more difficult and put at risk the prospect of children returning to school. The level of school fees charged, and whether or not boys or girls attended private schools, partly account for the gendered impacts linked with decisions on returning to school (Ghatak et al., 2020; Malala Fund, 2020a).

The literature reviewed on the gendered impacts of the widening socioeconomic inequality that took place alongside extended school closures draws attention to the significance of schools, as settings where interventions can be made to mitigate some of the harshest effects of inequality associated with hunger, insecurity and ignorance.

Conclusion: Gender impacts of school closures and the COVID-19 pandemic

The literature reviewed on the gendered impact of school closures associated with the COVID-19 pandemic, while extensive, remains very preliminary in key areas of focus for this review, compared to literature on extended school closures and earlier pandemics, environmental disasters and violent conflict. There is very limited research on gender, learning outcomes and attainment in relation to COVID-19, virtually nothing on physical health and nutrition linked to school closures, no detailed studies of violence or early and unintended pregnancy, and

a considerable lack of research on gender and the way education systems responded to school closures. The focus areas of the literature has focused concern gender and access to remote learning technologies, aspects of anxiety and stress, particularly for girls and women, and deepening socioeconomic inequalities. The gaps in evidence appear partly linked to the methods available to researchers during periods of lockdown (primarily telephone surveys), partly to the absence of an integrated study of this area with coordinated research, and partly to inadequate consideration of the small literature on Ebola without reflection on similarities and differences in gendered impacts and the lessons that could be learned.

In order to consider a wider range of issues and reflect on what research indicates about processes of mitigation and adaptation linked to return to school and building an environment for gender equality in education, the analysis now considers the second research question: the gendered impact of children out of school for extended periods due to HIV, environmental disasters, violent conflicts and extended summer holidays.

The gendered impact of children out of school for extended periods due to HIV, environmental disasters, violent conflicts and extended summer holidays

In response to the second research question considering gendered impacts of extended periods out of school (when schools are open), the review considered what could be learned from the literature on HIV, environmental disasters and violent conflicts, each of which were associated with extensive periods out of school for *some* children, although schools remained open for others. It also considered the literature on extended summer holidays.

The discussion in this section synthesizes research evidence on the gendered impact on the experiences of children out of school for extended periods; reflections on processes associated with return to school; and policies, practices and research for mitigation, adaption and learning associated with disrupted education for children out of school due to HIV (28 studies), environmental disasters (18 studies), violent conflict (9 studies) and extended summer holidays (5 studies) (for details, see **Annex 5**). The literature reviewed in this section comprises a small segment of the considerable scholarship in all these

areas. The works reviewed are those generated through the search processes described in **Chapter 1**, and much more in-depth work on the literature in all these areas would expand the insights presented.

This section is organized into the seven areas where gendered impacts with relation to harms are identified in the conceptual diagram: education processes, education outcomes, physical health and nutrition, mental health and well-being, protection from harm, education systems, and socioeconomic inequalities. An additional area explored are findings from the literature on short-term interventions over approximately one year linked mainly to return to school, and medium-term processes over two to five years, intended to develop policies, practices, adaptations and learning to mitigate harm associated with intersecting inequalities and children out of school for extended periods.

Education processes

The literature reviewed addresses the education processes of access and participation in schooling. It highlights how such processes are of enormous social and emotional importance to individuals, communities and those who work in the education system. As addressing the second research question, the processes are the provision of learning opportunities

and return to school of children whose education has been disrupted by extended periods. Much of the literature emphasizes the importance of addressing both the factors that might keep children out of school (such as poverty and socioeconomic inequalities) and processes in school that can support and sustain children's return to school and the longer-term experience of gender equality in education.

Studies of HIV highlight that returning to school is hugely important for children whose school attendance was reduced because they, or family members, were ill (Day and Evans, 2015). Initiatives to support their return to school recommended in a number of studies include the elimination of school-related fees, support to teachers, both with regard to the additional pedagogic work to be done and health insurance, and social protection to support families in poverty due to illness so that they can make time for children to attend school (Bennell et al., 2001; Day and Evans, 2015; Ijumba, 2011; Watkins et al., 2014). However, few studies evaluate the implementation of such recommendations, although the difficulties for teachers of implementing and sustaining curriculum change and providing additional psychosocial support are noted (Campbell et al., 2016; Morrell et al., 2009). Inadequate support to teachers to carry out the care work needed with children affected by



HIV is one reason, Campbell et al. (2016) argue that children returning to school after an extended absence related to HIV experience continued discrimination and exclusion.

Studies addressing environmental disasters stress the importance of academic continuity for all children whose learning has been disrupted (Andrabi et al., 2021; Bradshaw, 2004; Johnson and Ronan, 2014). The need for good communication with parents and students to inform them about educational arrangements and return to school is highlighted in Johnson and Ronan's (2014) study of the New Zealand earthquake of 2011, and in a review of literature on psychosocial support and disaster risk reduction (Gray et al., 2020). The good communication described considers gendered impacts associated with how information is shared, highlighting the range of formats needed, for differently situated parents and children. Bradshaw (2004) highlights some of the particular vulnerabilities of women-headed households, both their immediate survival needs after a hurricane and the schooling needs of children.

Work is required for education processes to support children who have been out of school for extended periods due to disasters. Curricular and pedagogic work could support such children on their return to school, including in relation to gendered impacts of being out of school. Literature on such curriculum and pedagogic innovation, associated with HIV and on recovery from environmental disasters and violent conflicts, highlights how responsive education initiatives did help to mitigate some of the effects of being out of school, but were unevenly implemented.

The literature reviewed on educational change associated with HIV points to a need to strengthen the ways in which information about HIV is integrated in school curricula (Bennell et al., 2001; Morrell et al., 2009), to work to address some of the power imbalances associated with gender and schooling (Haberland, 2015; Moletsane et al., 2009), and to customize interventions with young men to reduce HIV risk behaviours before they become entrenched (Govender et al., 2019). This literature highlights a number of strategies, including teaching convention school subjects in a gender-equitable way, improved psychosocial support for schoolchildren to address the bereavement and trauma linked to the pandemic, and the importance of good education on sex and relationships (Bennell et al., 2001; Morrell et al., 2009). Bennell et al. (2001) make specific recommendations on developing school policies and practices to protect pupils from rape and other school-related gender-based violence.

The lack of and uneven capacity of adequate pedagogy and curriculum in the aftermath of conflicts was noted by Jewkes et al. (2017) in a study of the Bougainville crisis associated with school closures in Papua New Guinea, and by Santos and Novelli (2017) looking at the combination of Ebola and peacebuilding in Liberia. Some of the difficulties for schools in enacting policies to address gender-based violence were mapped in the literature reviewed by Parkes et al. (2016), although that study does examine challenges linked to pandemics or other disasters.

The literature on addressing learning loss over an extended summer holiday period highlights how this phenomenon is particularly noted in countries which have high levels of intersecting inequalities (Downey et al., 2004), and how effective well-targeted and appropriately supportive interventions with students can be (Kim and Quinn, 2013).

The literature reviewed indicates that after pandemics, environmental disasters and violent conflicts, there is a need to ensure education processes for access and participation include all children, girls and boys, with adequate support and recognition of what has been experienced in the period out of school. Studies suggest that teachers and parents working together can rebuild school communities by supporting learners with the cognitive and psychosocial skills required. The literature suggests a need to reflect on relevant lessons learned from pandemics, disasters and conflict, and integrate them into curriculum planning, content and sequence, as well as reflect on the role of teachers in relation to psychosocial support and pedagogic processes.

Education outcomes

Education outcomes are broadly understood as attainment in specific subjects taught at school, and intention to return to school. While sparse, literature on education outcomes associated with school closures due to COVID-19 and Ebola, including the return to school, suggests that existing gender disparities in access and attainment are either maintained or increased during crises (See 3.3.2). Studies of HIV and environmental disasters confirm similar trends. Guo and Sherr (2012), in a systematic review of the literature on learning outcomes for children impacted by HIV-related illnesses, noted reductions in school enrolment and attendance, some worsening of school behaviour and performance in class, and more limited attainment than that of peers. But individual and contextual factors mediated some effects of HIV on children's educational outcomes. These factors

include the child's gender, the pattern of parental loss, relationships with caregivers, and household poverty or insecurity. These findings were confirmed in Merville et al.'s study (2021) of children with HIV in Thailand. They note that the longer children with HIV were out of school, and without supportive parents or caregivers, the greater the decline in school-related areas of learning. Similar findings were reported in Pufall et al.'s (2014) study in Zimbabwe. Mitchell et al.'s (2016) study in South Africa of grade repetition, gender and family relationships showed that girls' grade repetition was most strongly associated with their mother being HIV-positive, which may indicate a larger burden of household work for daughters. Boys' grade repetition was most associated with a family owning a fridge, possibly bought with the earnings from a boy taking casual work instead of going to school. Zinyemba et al.'s (2020) systematic review on the effects of HIV on children's learning outcomes distinguished different outcomes for orphans associated with socioeconomic poverty, compared to children with HIV where families were alive and learning disruption was linked to missing school days to attend clinics. These studies highlight different gendered risks associated with school closure for poor girls linked to greater burdens of domestic work and for poor boys linked to pressures to engage in casual work.

Similar themes emerge in the literature on children's learning outcomes after environmental disasters (Andrabi et al., 2021; Thamtanajit, 2020) and violent conflict (Gershenson and Teken, 2015). Severe floods in Thailand had a more marked effect on attainment in examinations for children at lower levels of the education system (in which more poorer children were enrolled) compared to those in higher grades (Thamtanajit, 2020).

A number of studies, largely from the United States, find that some children lose reading or numeracy skills over extended summer holidays, and that girls respond better than boys to interventions (Kim and Quinn, 2013). Other studies report that skills losses are more pronounced in boys than girls from lower socioeconomic backgrounds (Downey et al., 2004; Slade et al., 2017). There are very few studies of this process in developing countries. Slade et al. (2017) looked at data on changes in reading skills before and after the summer break and grade transition among a sample of 900 children in Malawi, whose reading skills were assessed as part of the Early Grade Ready Assessment (EGRA) programme in 1,600 schools. It was established that while there were significant reductions in a range of processes associated with reading (including syllable recognition and sense),

no significant gender patterns emerged. Sabates et al. (2021) drew on the literature on summer learning loss in reviewing a rich data set on learning outcomes for a cohort of students in Ghana transitioning from a Complementary Basic Education programme to government schools. It was shown that access to supportive family relationships could help mitigate against learning loss over the extended period between the end of the programme and the beginning of the school term, but there were no findings on gendered impacts on children or the gendered division of labour in the family when children sought support for learning. Andrabi et al. (2021), looking at children's learning outcomes after the 2005 earthquake in Pakistan, emphasize the significance of mothers' education in sustaining children's learning while out of school.

The reviewed literature suggests that children in the most vulnerable socioeconomic groups show the largest gaps in achievement and disrupted learning after pandemics and environmental disasters. Given the ways in which gender intersects with other inequalities, mitigation and adaptation is required to support the most vulnerable children, address their disrupted learning and support inclusion. Watkins et al. (2014)'s qualitative study of the range of protective processes needed to enable an HIV-orphaned girl in South Africa to achieve a school certificate is indicative of the work required inside and outside of schools both in the short- and medium-term.

Physical health and nutrition

The HIV pandemic has generated a sizeable literature on gendered impacts with regard to education and physical health. Some studies note how, as the HIV pandemic escalated, sexual and reproductive health services improved with the potential for better access for girls and boys, although this was often not realized in practice (Bennell et al, 2001; Morrell et al., 2009). These studies highlight the importance of arrangements for return to school joining up practices between teachers and health workers. During COVID-19, there are concerns that funding for reproductive health might be reduced. This has implications for the physical health of children and sexually active adolescent girls returning to school (Eghtessadi et al., 2020; Muniu, 2020). HIV remains a risk around the world, with particular vulnerabilities for adolescent girls and their continuation in schooling (Govender et al., 2019). Reductions in funding for sexual and reproductive health services are also of concern when considering the continuing

growth of HIV infection, a risk factor for COVID-19 (Chaziya et al., 2021; Goga et al., 2020). Goga et al. (2020) documented declines in access to programmes supporting adolescent girls and young women with HIV in five African countries during the COVID-19 pandemic. These reductions in access to health services raises concerns not only about girls' and women's health and well-being, but also their ability to continue to access and benefit from education.

A number of studies identify the benefits of joined-up care involving schools, health workers, and social workers in gender-equitable practices in the wake of disasters, giving particular attention to the most vulnerable, such as children with disabilities in arrangements for return to school (Johnson and Ronan, 2014; Mutch, 2016). These short-term arrangements are associated with, for example, the provision of information on sexual and reproductive health and rights (Bennell et al., 2001) or recovery from injuries after a disaster (Johnson and Ronan, 2014).

The physical health consequences of children being out of school linked to disasters raises the need for medium-term strategies to join up health and education services after a disaster has formally ended, as noted, in the case of violent conflict by Jewkes et al. (2017) in Papua New Guinea, and by Santos and Novelli (2017) in relation to Ebola and violent conflict in Liberia.

Mental health and well-being

Studies on return to school after HIV, environmental disasters, violent conflict and extended summer holidays emphasize the importance of addressing psychosocial conditions for learners, their families and their teachers taking account of gender relationships in families, schools and communities (Gray et al., 2020; Johnson and Ronan, 2014; Sabates et al., 2021; Santos and Novelli, 2017; Watkins et al., 2014). The significance of engaging with children's anxieties after a disaster is also emphasized (Johnson and Ronan, 2014; Cueto and Agaton, 2021).

Disrupted learning for children and their stresses experienced during the HIV pandemic are partly linked with teacher absence due to illness and limited training for teachers to respond to the pandemic (Bennell et al., 2001; Campbell et al., 2016; Morrell et al., 2009). Support for teachers recommended in the studies reviewed include high-quality medical care packages and psychosocial support for coping with the difficulties of the pandemic (Bennell et al., 2001; Das et al., 2007). Studies of disaster risk recovery and schools

note the importance of teachers and communities in providing emotional support for communities after disasters (Johnson and Ronan, 2014; Mutch, 2016). Bradshaw (2004) noted the importance of women's groups in providing emotional support in communities in the wake of Hurricane Mitch in the Caribbean. Studies of the 2011 New Zealand earthquake documented teachers' provision of emotional support to displaced children, the importance of them leading informal classroom discussions and their involvement in curricular and pedagogic responses to the disaster (Johnson and Ronan, 2014; O'Toole, 2017).

Psychosocial support may be mentioned in responses but it does not resolve contrasting views about child-rearing, masculinity and femininity, and gender equality, as noted in a study of communities rebuilding after disasters in Senegal (Perry, 2009) and in South Sudan (Leonardi, 2007). The history of initiatives like Stepping Stones, associated with the HIV pandemic are instructive (Gibbs, et al., 2015; Jewkes et al., 2010). This programme took as its entry point acknowledgement of differences in how sex, sexuality, gender relations and the pandemic were viewed by older and younger women and girls, men and boys. The success of the intervention, both in relation to the psychosocial issues which surfaced, as well as education gains, points to ways to navigate some of these generational and gender tensions, through managed separate discussions among men, women, girls and boys. This work, used in response to gender-based violence associated with HIV, might have considerable potential in relation to a range of issues facing different constituencies of school communities after COVID-19.

Protection from harm

Studies report on increases in gender-based violence associated with children out of school due to environmental disasters, pandemics and violent conflict (Bradshaw, 2004; Moletsane et al., 2009; Jewkes et al., 2014; Jewkes et al., 2017). Thurston et al.'s (2021) systematic review of natural hazards, disasters and violence against women and girls notes that the studies reviewed found a positive association between disaster exposure, including school closure, and increased risk of violence against women and girls. Their analysis highlights that political violence and disasters establish an enabling environment for violence against women and girls, exacerbating some of the underlying drivers for verbal and physical attacks, already present in societies.

Children out of school for extended periods are at risk both from specific harmful acts linked with violence against women and girls (Jewkes et al., 2014) and with other forms of gender-based violence often linked with poverty and exclusion (Parkes, 2015). Research on interventions to address gender-based violence in conditions of disaster and conflict (Gray et al., 2020; Noble et al., 2019; Spangaro et al., 2015) give useful guidance for schools, although it is noted that considerably more work is needed in this area (Spangaro et al., 2015). Spangaro et al. (2015) identify four short- and medium-term interventions to build safety and protection from gender-based violence in schools and district administrations: i) increasing the risk to offenders of being detected; ii) building community engagement by enhancing protection for women and girls from sexual assault; iii) ensuring community members are aware of available help for and responses to sexual violence; and iv) establishing safe and anonymous systems for reporting and seeking help either through schools or education administration departments. Jewkes et al. (2014) looked at a combination of the Stepping Stones intervention, examining gendered power relations and developed in response to HIV, and economic empowerment projects for women; there were positive outcomes among women and men, although in somewhat different areas. Like Spangaro et al.'s (2015) study, this points to the kind of interventions that schools could do with communities beyond school-based interventions alone.

Longer-term programmes inside and outside school need to address the power issues associated with early and unintended pregnancies

Increased pregnancies associated with Ebola and COVID-19 (as discussed previously) may have been an outcome of consensual or non-consensual sexual relationships. The literature reviewed on children out of school for extended periods has not dealt extensively with adolescent pregnancy, although this is discussed in some studies included in the review on HIV in South Africa (Mampane, 2018; Moletsane et al., 2018; Morrell et al., 2009) and forms part of the content of the interventions reviewed by Haberland (2015), addressing gender and power in HIV and sexuality

education. Analysis of relevant works highlights the need to build a culture of safety and inclusion for girls out of school because of pregnancy, as has been done in Sierra Leone after Ebola (Walsh and Mulhearn, 2019), while Haberland (2015) makes a compelling case that longer-term programmes inside and outside school need to address the power issues associated with early and unintended pregnancies. Moletsane et al. (2009) and Mampane (2018) indicate how adequate social protection is needed for young mothers living in poverty who wish to return to school, because their added financial responsibilities place enormous burdens on them and one of their solutions may be transactional sex. Further in-depth qualitative research is needed to understand how to deliver support and effective protection from harm to young women who are out of school because of disasters, who do not want early pregnancy, and who want to return to school. What are the processes involved and what kinds of support are effective?

Education systems

In examining education systems in relation to children out of school, the key issues are efficiency, equity and the capacity to mitigate harms. Disrupted learning for children during the HIV pandemic was linked with teacher absence due to illness (Bennell et al., 2001; Campbell et al., 2016; Morrell et al., 2009). Support for teachers recommended in the studies reviewed include high-quality medical care packages and psychosocial support to handle the difficulties of the pandemic (Bennell et al., 2001; Das et al., 2007). Grassley et al. (2003) looked at the costs involved for the Ministry of Education in Zambia of additional training for teachers, which could build a culture of gender equality, combined with a culture of care and support at work, including helping families with funeral expenses.

A number of studies relating to HIV and disasters highlight some gendered features of education systems with useful implications for understanding return to school and longer-term processes for supporting gender equality. The literature emphasizes the crucial role of teachers, many of whom are women, and of a well-organized and responsive education system to support teachers' work in ensuring children's return to school (Bennell et al., 2001; Mutch, 2016). Campbell et al. (2016), based on a study of the effects of HIV in Zimbabwe, point out that under conditions of poverty and stress, it is unrealistic to expect teachers to be able to deliver education with ethics of care without support. The risk of teacher burnout and the need for dedicated support for their work was noted by Kuntz et al. (2013) and O'Toole (2018) in relation to the New

Zealand earthquake of 2011 and Sahin et al. (2009) commenting on the Marmara earthquake in Turkey. This support is especially important considering the large share of women in the teaching profession, who are likely to have many care responsibilities at home and work. O'Toole's study highlights how different pressures on female and male teachers and their experiences of disaster can have particular effects on them, putting their capacity to continue with their professional work at risk.

Teachers' insights are needed to enable plans to be implemented effectively

A number of studies highlight the importance of training teachers to deal with issues associated with pandemics, disasters and return to school, although gendered implications were not explored in depth. For example, Grassly et al. (2003) undertook a study in Zambia and estimated the costs to the Ministry of Education of lost teacher hours in work because of HIV. While these costs were not a high proportion of the Ministry's budget, a very significant outlay for expanded teacher training was required. Teacher training to support teachers working with children who have experienced disasters is noted in a number of studies that explored the education response to the 2011 New Zealand earthquake (Johnson and Ronan, 2014; Kuntz et al., 2013; Mutch, 2016). They considered the important role of teachers and principals in communities, noting ways they helped address disaster-related rumours and provide evidence-based guidance (Johnson and Ronan, 2014; Stuart et al., 2013). While these specific issues may not have been part of teachers' training, it is suggested that general orientation in teacher education should play this role, which implies going beyond conventional gender norms. The Mulligan and Garriga-López (2020) study of health workers after Hurricane Maria in Puerto Rico, drawing on professional knowledge and connection to local communities, points to training that builds processes of solidarity and support.

The connection between schools and communities is noted in a number of studies of schools during disasters which explore the important role of teachers in the provision of facilities and services to meet physical needs (food, water, shelter and safety), to address emotional,

social, and psychological needs (communication, emotional support, psychological counselling and social cohesion) (Johnson and Ronan, 2014; Mutch, 2016).

A number of studies of disasters show the importance for schools of planning for disasters (Esnard et al., 2018; Mutch, 2016) and for protective legislation with a focus on the most vulnerable (Freier and Gauci, 2020). Gray et al.'s (2020) review, however, brings out how little coordination there is between mental health and psychosocial support services and disaster and disaster risk reduction services. This lack of coordination may exacerbate gendered impacts. Mutch's (2016) study highlights the connection with the community as part of planning for disasters, drawing on participatory processes and respecting features of equality. Freier and Gauci (2020) highlight the importance of legislative frameworks for refugees associated with schooling after disasters, and the importance of promoting equality, including gender equality and human rights.

Planning for future disasters, taking account of lessons learned and some of their gendered features, is a short-term task. Studies illustrate how longer-term work is also needed to build community relationships. Also necessary are teachers' insights to enable plans to be implemented effectively.

Links from schools and communities require building from the bottom up for change to be sustained in addressing gender inequalities

A deeper and more sustained approach to building gender equality in education processes would support curricular and pedagogic reform including understandings of power relationships (Haberland, 2015), elements of public health, hygiene, girls' reproductive rights, and addressing gender-based violence (Spangaro, et al., 2015). Evidence suggests these longer-term processes involve links between schools and communities, which needs building from the bottom up for change to be sustained in addressing gender inequalities (Jewkes et al., 2017; Santos and Novelli, 2017).

Socioeconomic inequalities

Socioeconomic inequalities at the levels of the household, community, nation and region often shape how disruptions of a natural disaster, violent conflict or a pandemic like HIV are experienced (Bradshaw, 2004; Moletsane et al., 2009; Noble et al., 2019). Socioeconomic inequalities are a major cause of the ways in which girls cannot make progress at school related to family experiences with HIV, as noted in a number of studies in South Africa (Mitchell et al., 2016; Moletsane et al., 2009). Mothers' level of education appears to be a major protection, particularly for girls out of school due to environmental disasters (Andrabi et al., 2021). Educated parents with some confidence in responding to children's questions about learning appear to be a key support to mitigate against the disruptions of learning associated with extended summer holidays, as documented by Sabates et al. (2021), although with no comment on gender. Socioeconomic inequalities appear to heighten the risk of exposure to environmental disasters and some forms of violent conflict precipitating periods when children are out of schools as exemplified by studies in the United States of hurricanes (Esnard et al., 2018) and mass shootings (Gershenson and Tekin, 2015), although again, there is limited comment on the gendered impacts of socioeconomic inequalities. Poverty is associated with children's disrupted learning due to floods in Zimbabwe (Mudavanhu, 2014), but the gendered impact of this is also not clearly documented. Lack of secure employment for women in Nicaragua was one of the outcomes of the damage to education associated with hurricanes in the region (Bradshaw, 2004). Demand in poor households that children work, with different roles assigned to girls and boys, was noted as one of the outcomes of school closures associated with the Syrian war (Habib, 2019). It can be seen that gender is linked with the socioeconomic inequalities that exacerbate the experience of extended periods out of school associated with HIV, environmental disasters, violent conflict and extended school holidays but that the processes are complex and contextual, raising many different issues for thinking about return to school and sustaining policies and practices for mitigation, adaptation and learning.

Transforming deeply established structures of social stratification is not something that can be fixed quickly. Women's education appears to be a key element in supporting poor communities and helping with efforts to rebuild schools and communities. Mothers who completed primary school were best able to protect children from learning disruption after the

Pakistan earthquake of 2005 (Andrabi et al., 2021). The education sector has lessons that can be learned from the activities of women health workers, as documented in interviews conducted by Mulligan and Garriga-López (2021) who described an evolving ethic of care and solidarity, in their work on health, logistics and education initiatives in the aftermath of Hurricane Maria in Puerto Rico in 2017 as they helped to repair damage, offer psychosocial support and help communities imagine a future. The well-established literature on cash transfers and basic income grants in the aftermath of the HIV pandemic (e.g. Owusu-Addo et al., 2019; Pettifor et al., 2019) suggests that addressing the needs of poor women is a central feature in relation to supporting children who have been out of school following environmental disasters, pandemics, violent conflict and, possibly even, extended school holidays. A range of initiatives to enhance local socioeconomic development after disasters considers the importance of women's work (Bradshaw, 2004; Mulligan and Garriga-López, 2020). They offer examples of the kind of short-term local mobilization and social protection measures that could be implemented alongside longer-term programmes for expanding education for women, men and their children, developing more sustainable forms of social development and more substantive forms of equality.

Short- and medium-term measures to prevent or mitigate gendered impacts

The literature reviewed highlights the gendered impact of children out of school for extended periods associated with environmental disasters, pandemics, violent conflict and extended summer holidays. It highlights the associated harms linked with education processes and outcomes, and areas that connect with schooling, particularly physical health and nutrition, mental health and well-being, and protection from harm. Studies show the risks of intensifying social inequalities and the need to develop education systems to be efficient, equitable and responsive.

Several short- and medium-term measures outlined in the reviewed studies indicate a range of suggested actions that can help prevent or mitigate the adverse gendered impacts outlined above (**Table 15**).

Table 15. Interventions and measures to address gendered impacts and ensure gender equality in and through education in relation to children out of school

| Area | Gendered impact addressed | Short-term interventions (1 week to 1 year after schools reopen) | Medium-term measures (2 to 5 years) |
|---------------------|---|---|---|
| Education processes | Harms to girls; harms to boys; entrenching unequal power; inciting, contributing or failing to protect learners from gender-based violence. | <ul style="list-style-type: none"> When schools reopen, include all children, teachers and communities in discussions and the development of reopening guidelines and protocols, and readmit all children. | <ul style="list-style-type: none"> Progressively waive all school and school-related fees. Develop gender-responsive curricula and pedagogies with adequate teacher support and extended curriculum time to incorporate new material on gender and disasters into curricula, drawing on what has been learned from pandemics, environmental disasters and violent conflict (e.g. support for human development at the community level, public health measures, addressing gender-based violence). |
| Education outcomes | Harms to girls; harms to boys; entrenching unequal power; inciting, contributing or failing to protect learners from gender-based violence. | <ul style="list-style-type: none"> Invest significantly in education and learning for the poorest girls and boys and the most marginalized. Remove discriminatory school policies that prevent pregnant girls and adolescent mothers from attending school and consider the possibility of flexible attendance options to ensure access to education for these girls. | <ul style="list-style-type: none"> Develop social protection packages for poor families (including adolescent mothers) to support children's learning. Provide special accommodations, including flexible learning and school reintegration programmes, particularly for pregnant girls and young mothers, and other measures to build knowledge and skills, and ensure all girls' and boys' right to education. Sustain parents to support the learning outcomes of children during periods out of school, including through adult literacy education programmes, with a particular focus on women caregivers. Expand education policies and practices that redress and challenge gender and intersecting inequalities in socioeconomic structures, institutions and relationships that impact on learning, attainment and completion. |
| Education systems | Harms to girls; harms to boys; inciting, contributing or failing to protect learners from gender-based violence | <ul style="list-style-type: none"> Provide short-term training for teachers and school administrators on responding to school shutdowns. Develop rapid gender-responsive school and education pandemic and disaster mitigation plans. | <ul style="list-style-type: none"> Provide capacity-development and support for teachers and school administrators on gender, intersecting inequalities and pandemic, disaster and emergency responses. Promote gender equality as a key community and whole-of-school approach to education system pandemic and disaster risk management. Build gender-equitable education systems that sustainably and efficiently support inclusion of all learners, the protection of human rights and the enhancement of equality. |

| Area | Gendered impact addressed | Short-term interventions (1 week to 1 year after schools reopen) | Medium-term measures (2 to 5 years) |
|--|---|--|---|
| Physical, sexual and reproductive health and nutrition | Harms to girls and women; harms to boys and men. | <ul style="list-style-type: none"> Develop and expand non-formal health-related learning programmes, including on comprehensive sexuality education, that can be delivered remotely when children cannot attend school. Establish mechanisms for delivering nutrition services to children affected by school closures. When schools reopen, ensure effective communication and links with nutrition programmes, and develop with the health sector projects and programmes for increased physical activity and support to sexual and reproductive health and rights. | <ul style="list-style-type: none"> Improve water, sanitation and hygiene services and support for menstrual hygiene management. Maintain and develop sexual and reproductive health services, ensure access to comprehensive sexuality education, and promote an integrated and coordinated approach between schools to other services for health, nutrition and protection. |
| Mental health and well-being | Harms to girls and women; harms to boys and men; inciting, contributing or failing to protect learners from gender-based violence. | <ul style="list-style-type: none"> Provide short-term psychosocial support through teachers for children affected by lockdowns. Provide short-term psychosocial support to teachers affected by pandemics and disasters, taking into account gendered family relationships. | <ul style="list-style-type: none"> Work with communities to develop appropriate psychosocial support programmes that respond to mental health needs in the context of COVID-19 and future pandemics and disasters. Develop and implement education policies and practices through all levels of the education system that challenge inequalities associated with adverse physical and mental health outcomes, particularly gender inequalities. |
| Protection from harm | Harms to girls and women; harms to boys and men; inciting, contributing or failing to protect learners from gender-based violence. | <ul style="list-style-type: none"> Increase the rate of perpetrators of violence being identified and referred to the judicial system. Ensure community members are aware of, and can access coordinated information, protection and legal assistance services established to support people affected by violence and abuse. Establish safe and anonymous systems for reporting and seeking support through schools or education administration departments. | <ul style="list-style-type: none"> Build community engagement to enhance safety from gender-based violence through comprehensive advocacy campaigns. Develop coordinated community responses to support survivors of gender-based violence and their families. Develop education policies and practices that contribute to building enabling environments to prevent and respond to gender-based violence, including through education programmes that effectively engage men and boys in promoting violence-free masculinity. |
| Addressing socioeconomic inequalities | Harms to girls and women; harms to boys and men; inciting, contributing or failing to protect learners from gender-based violence; entrenching unequal power. | <ul style="list-style-type: none"> Remove financial barriers to school readmission, including readmission fees, and provide financial support to meet the costs associated with schooling for low socioeconomic status households. Ensure that learners from vulnerable backgrounds have access to remote learning materials, including electricity-free options. | <ul style="list-style-type: none"> Develop social protection packages, and explore combinations with programmes to end gender-based violence. Work with policies for human development to address socioeconomic inequalities that impact on education. |

Chapter 4

Conclusions



Conclusions

This concluding chapter reviews the hypotheses and conceptual diagram that shaped the initial thinking for this study, and the analysis distilled in response to the research questions. It also considers potential biases and limitations in the range of literature reviewed and outlines key areas for future research.

At the time when the COVID-19 pandemic struck, and education institutions across the world began to shut down, evidence on the gendered impacts of school closures was limited. Much of the relevant academic literature that existed, such as studies on the effects of school closures during the Ebola pandemic of 2013–2016 in West Africa, was not widely used in the context of COVID-19 planning.

This systematic review set out to address two research questions. The first concerned the research evidence on the gendered impacts of extended school closures, due to environmental disasters, pandemics, conflicts and emergencies and due to political, economic and social upheavals, on children's education, and their links with children's nutrition, health and well-being. The second considered the research evidence on the gendered impacts of extended periods out of school (when schools are open) for children's education, and more broadly on their nutrition, health, well-being and protection from violence. The short- and medium-term measures that facilitate these children's return to school were also explored.

Three hypotheses guided the study, together with a conceptual diagram in the form of a theory of change. Each hypothesis is reviewed, and the iterative process associated with the theory of change is outlined.

The first hypothesis suggested that extended school closures intensify gendered impacts associated with access, participation, attainment and outcomes of education, and that such impacts are different for children depending on their gender and on the combination of their gender with other characteristics, such as age, ethnicity, ability and location, that potentially compound disadvantage. The literature reviewed supports this hypothesis. Studies describe how the poorest children were the most adversely affected by extended school closures due to Ebola and COVID-19, and that poor girls, because of their household work, constraints on access to technology and economic insecurity, were a group who suffered in distinctive ways. While they experienced some of the same forms of exclusion as poor boys, they also experienced specific gendered impacts.

Studies of school closures due to Ebola found that gendered impacts amplified existing inequalities. In particular, gender-based violence and domestic burdens that increased for girls in particular because of lockdowns impeded their learning and return to school. Girls' and boys' widespread experience of loneliness and anxiety is also documented, as is the risk of sexual assault for girls, and of the poorest children not returning to school. Across a range of socioeconomic groups, a number of studies detail the mental health pressures of extended school closures as being particularly marked for school-going girls, but mental health effects for boys are also noted, particularly linked to restrictions on mobility. The gendered division of labour in households and the insecurity of paid work for many women contributed to stresses on family relationships between genders and generations within some families, intensifying inequalities. Similar deepening of inequalities was associated with the lack of training and confidence with online technologies reported among some female teachers, and the burdens they took on in attending to care work. Such gendered forms of care work were inadequately recognized in school closure response plans.

The second hypothesis for the study was that children who have been out of school (even if schools remained open) because of disruptions related to pandemics, environmental disasters, violent conflicts and extended summer holidays, may also, in uneven ways, experience similar impacts to those associated with extended school closures, which may further exacerbate gender and other forms of inequality. It was further hypothesized that these impacts also result in uneven effects of school-based interventions on health, nutrition and protection, further exacerbating gender and other forms of inequality. Disruptions in learning with gendered impacts were noted in the literature in relation to HIV, environmental disasters and violent conflict, even when schools remained open, and in the case of extended school holidays. The gendered impact of these forms of exclusion have been addressed through active inclusion strategies by schools and teachers, adapting curricula, and working with communities to examine and end different forms of violence against women and girls.

The final hypothesis was that measures put in place to address intersecting inequalities and assure the return to school of children who experience them can inform planning for their return to school after extended school closures such as COVID-19 or other crises. These adaptations, mitigations and forms of learning can have short- and medium-term outcomes addressing gendered relationships associated with

access, participation, attainment and outcomes of education. This body of literature is the least developed, although some promising interventions that exist, such as Stepping Stones, which examines gender and power as part of school curricula, and cash transfer programmes have not yet been evaluated with regard to links to programmes on return to school and medium-term plans to develop joined-up strategies for gender equality in education, health, nutrition and protection from harm. Nonetheless, existing research documents key roles for teachers, teacher training, planning and community development linked to this work.

The theory of change was amended iteratively as the review progressed. A key change made in the course of reviewing the literature entailed separating out two different processes, which came to be reviewed through two different research questions: extended school closures, as put in place during Ebola and COVID-19; and periods when children were out of school for extended periods but schools remained open. A second change that emerged during literature analysis was seeing the processes of return to school, and longer-term plans for mitigation, adaptation and learning with regard to gendered impacts, as a series of policies and practices that would themselves have effects on the seven areas reviewed – education processes, education outcomes, physical health and nutrition, mental health and well-being, protection from harm, socioeconomic inequalities and education systems. These effects would also have consequences on the nested relationships of children, families, schools, communities and economic, political and cultural systems, where the gendered impacts originated.

Current research evidence is not extensive on the gendered impacts of extended school closures due to environmental disasters, pandemics, conflicts and emergencies and due to political, economic and social upheavals on children's education, and their links with children's nutrition, health and well-being. The literature on COVID-19 is the most extensive component of this literature. Although there has been a considerable output of scholarship on this theme, the distribution across countries and regions is uneven, and in some areas – notably education outcomes, physical health and nutrition, violence against women and girls, early and unintended pregnancy, and education systems – very little has been published at the time of completing this review. There is a striking lack of mixed method, qualitative or follow-up surveys on gender and the impacts of school closures from Ebola and COVID-19.

Despite the large number of survey-based studies on COVID-19, there are no qualitative or mixed method studies of how education processes – particularly in relation to technology, gender-based violence, nutrition in families and teachers' work – were actually experienced, interpreted and impacted by gender relations under conditions of extended school closure. The preponderance of quantitative surveys (many of them only undertaken at one point during school closures) and the very small number of qualitative studies means that more enquiry is necessary, into the gendered impacts around extended school closures, their forms, and the range of different effects at different moments.

There are significant gaps in the literature around gender and the nutrition effects of extended school closures, and only limited work on why increases in teenage pregnancy have been reported, how education systems did and did not address gender inequalities, and what have been the gendered impacts of differential learning outcomes of school closures. There are no research outputs yet of a well-integrated programme of research work on the focus issues of this study, and the literature is scattered across a range of areas of concern. Other key gaps are understanding how education systems may or may not have contributed to gender inequalities associated with extended school closures, and how wider political, economic and social determinants of gender inequalities can be addressed to support strategies for mitigation, adaptation and learning.

While the literature is far more extensive which covers thematic areas on children out of school for extended periods due to HIV, environmental disasters, violent conflict and extended summer holidays, only a small segment of this literature deals with gendered impacts. The implications of return to school and longer-term policies and practices to mitigate, adapt and learn from disasters and pandemics about how to promote gender equality in education in these circumstances have not been systematically investigated or evaluated. Gaps in relation to work on violence against women and girls and school-related gender-based violence are striking. The literature is currently widely dispersed across many regions and settings, and cogent patterns within and between countries are hard to discern.

This review was undertaken before the publication of many of the studies of gender and COVID-19 in books and special journal issues. Studies on gender and learning outcomes as a result of COVID-19, and in-depth studies of gender and education system responses to COVID-19, are being conducted but findings were not available at the time of preparing this review.

The overall rationale for this study was to consider the available research evidence on the gendered impacts of arrangements associated with the return to school after extended school closures and for children who have been out of school because of pandemics, environmental disasters, violent conflict and extended summer holidays. The studies reviewed suggest that schools, even though they are imperfect settings to build gender equality, nonetheless provide essential sites for students' formal and informal learning, emotional support and social networking, nutrition and protection from violence. Some further protection is provided by parents' education, especially that of mothers, social services, teachers and community networks. However, these protective elements are unevenly distributed. Some of the most vulnerable in terms of intersecting inequalities may find it hard to access this support. The depth of the gendered impacts relating to the disruptions associated with COVID-19 may continue to put the work of teachers and social protection initiatives in jeopardy, just at the time when they are most needed.

The conceptual diagram for this study envisaged that extended school closures and inadequately planned processes for return to school could lead either to a worsening of exclusions associated with gender, to realignment of the education sector through reform or to enhanced gender equality. In the short term, studies on COVID-19 overwhelmingly suggest that a deepening of exclusions and vulnerabilities has taken place. However, the literature is very partial and fragmentary, and much remains to be investigated.

There is much that can be learned from the literature on the gendered impacts of HIV, Ebola, environmental disasters and violent conflict, and further work is needed to expand the range of sources identified and reviewed. This review was conducted in a relatively short time and drew chiefly on literature accessible through existing mainstream databases. Longer-term work is needed that explores less visible research studies, searching for small-scale qualitative work to fill in some of the gaps in research.

The study has been completed amidst hopes that schools in most countries are reopening and that vaccines and increased knowledge about the pandemic might slow its progress, giving communities time for well-planned work to be initiated to support the return to school and mitigate the gendered impacts of the pandemic.

In conclusion, policy and practice interventions in three areas emerge from the literature reviewed as highly relevant to addressing the gendered impacts of the pandemic; supporting gender-equitable policies, practices and return to school; and promoting mitigations, adaptations and learning from pandemics and disasters. First, there should be clear attention to the inclusion and integration of all children back to school, including through support to their learning, via appropriately customized curriculum, pedagogy and health and nutrition programmes that take account of the disruptions and inequalities experienced, and the particular forms of associated gendered impacts. Secondly, protection and support are needed for teachers, who have felt the impact of extended school closures in their gendered private and professional lives, through relevant training, pay structure and participatory approaches to education system planning. Finally, addressing violence against women and girls is needed, through the promotion of school- and community-based reflection on actions for eradicating violence through a combination of gender-transformative education systems and political, economic and social action to address the social determinants of gender inequality.

Schools are essential sites for students' formal and informal learning, emotional support and social networking, nutrition and protection from violence

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Annexes



Annex 1 — List of databases, repositories and organizational websites used

Education and social science databases

- China National Knowledge Infrastructure (CNKI) (Chinese)
- ERIC – Education Resources Information Center
- Google scholar
- ProQuest Central
- Scopus
- National Social Sciences Database (NSSD) (Chinese)
- Sistema de Información Científica Redalyc, Red de Revistas Científicas (Spanish)
- FLACSO (Spanish)
- CAIRN INFO (French)
- Persée (French)

Organizational websites/online repositories

- ACAPS
- ActionAid
- Agenda
- Association for Women's Rights in Development
- CARE International
- Cambridge Education

- Co-Space
- Education Development Trust
- Forum for African Women Educationalists (FAWE)
- Gender and Adolescence: Global Evidence
- Girls Not Brides
- Global Partnership for Education
- Institute of Development Studies
- Malala Fund
- Oxfam
- Plan International
- Population Council
- Poverty Action Lab
- Save the Children
- UN Women
- United Nations Children's Fund (UNICEF)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United Nations Girls' Education Initiative (UNGEI)
- United Nations Development Programme (UNDP)
- World Bank
- World Vision

Annex 2 — Search terms

This annex shows the main terms used in the literature searches. Although most searches were undertaken using the search strings constructed here, additional manual searches were also undertaken using particular terms and concepts.

Filters (all):

- Date: 1995–2021
- Languages:
- English (all)
- French, Spanish, Portuguese (filter in searches)
- Chinese (specific search)

Types:

- Journal articles
- Reports
- Books
- Conference papers and proceedings
- Government documents
- Working papers

Annex 3 — Main codes used to organize and synthesize the research evidence

| Search terms (title and abstract) | | |
|-----------------------------------|--|--|
| Main code | 1 st level | 2 nd level |
| Mapping of the evidence | | |
| Language | <ul style="list-style-type: none"> English Chinese French Spanish | |
| Region | <ul style="list-style-type: none"> Sub-Saharan Africa South and West Asia East Asia and Pacific Latin America and the Caribbean Arab States Central Asia North America and Western Europe Central and Eastern Europe Multiple regions | |
| Type of reference | <ul style="list-style-type: none"> Journal article Book/chapter Report Other | |
| Method | Quantitative | <ul style="list-style-type: none"> Survey report Application of statistical methods* Combination of more than one quantitative method Randomized control trial |
| | Qualitative | <ul style="list-style-type: none"> Interviews Historical policy analysis Case study Combination of more than one qualitative method Action research |
| | Mixed | <ul style="list-style-type: none"> Quantitative survey and qualitative method Application of statistical method and qualitative method |
| | Systematic review | |
| | Other review | |

| Search terms (title and abstract) | | |
|---|--|-----------------------|
| Main code | 1 st level | 2 nd level |
| Mapping of the evidence | | |
| Cause of extended school closure/ extended period out of school | <ul style="list-style-type: none"> • COVID-19 • Other pandemic (including Ebola, HIV, SARS) • Environmental disaster • Violent conflict • Extended summer holidays | |
| Focus of research | <ul style="list-style-type: none"> • Child • Family • School • Community • Education system • National, regional and global economic, political and cultural system | |
| Category of impact | <ul style="list-style-type: none"> • Education outcomes • Physical health and nutrition • Mental health and well-being • Education processes • Protection from harm • Education systems • Socioeconomic inequalities | |
| Arrangements for return to school or mitigation of harms | <ul style="list-style-type: none"> • Continues inequality • Realignment • Enhancement | |
| Focus of gendered impact | <ul style="list-style-type: none"> • Harmful for girls • Harmful for boys • Harmful for girls and boys • Entrenches unequal power • Incites, contributes to or fails to protect from violence • Harmful for women now/in the future • Harmful for men now/in the future • Supports gender equality | |

*Application of statistical methods involves secondary data analysis using regression analysis, correlation or principal component analysis (PCA)

Annex 4 — Summary of studies on extended school closures

Relevant studies (n = 94)

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|---|----------------------------------|-----------------|---|--|---------------------------|--|------------------------|--|-------------------------------------|
| Abid, R., Ammar, A., Maaloul, R., Souissi, N. and Hammouda, O. 2021. | Arab States | Journal article | Quantitative (survey) | School-aged children (5 to 12 years old) 52 boys and 48 girls (Tunisia) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being Education outcomes | Harmful for girls |
| Akmal, M., Hares, S. and O'Donnell, M. 2020. | Multiple regions | Other | Quantitative (survey) | 82 organizations in at least 32 different countries | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Education processes | Harmful for girls |
| An, R. 2020. | North America and Western Europe | Journal article | Quantitative (application of statistical methods) | Children were followed from kindergarten through 5th grade (USA) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Physical well-being and nutrition | Harmful for boys |
| Bahn, G.H. 2020. | Multiple regions | Journal article | Other review | No specific study population | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being | Harmful for girls and boys |
| Baird, S., Hamory, J., Jones, N., Oakley, E., Woldehanna, T. and Yadete, W. 2020a. | Sub-Saharan Africa | Other | Quantitative (survey) | Adolescent boys and girls in two cohorts, including those aged 10–12 and 15–17 (Ethiopia) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Mental health and well-being | Harmful for girls |
| Baird, S., Jones, N., Małachowska, A., Masannat, M., Oakley, E. and Qaryouti, M. 2020b. | Arab States | Other | Quantitative (survey) | Adolescent boys and girls in two cohorts (ages 10–12 and 15–17) (Jordan) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being | Harmful for girls |
| Baird, S., Seager, J., Sabarwal, S., Guglielmi, S. and Sultan, M. 2020c. | South and West Asia | Other | Quantitative (survey) | In-school adolescents aged 10–18 (Bangladesh) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Mental health and well-being | Harmful for girls |
| Banati, P., Jones, N. and Youssef, S. 2020. | Multiple regions | Journal article | Qualitative (interviews) | Adolescent/ young people (Côte d'Ivoire, Ethiopia and Lebanon) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being | Harmful for girls |
| Bandiera, O., Buehren, N., Goldstein, M., Rasul, I. and Smurra, A. 2018. | Sub-Saharan Africa | Report | Quantitative (survey) | Women aged 12 to 25 (Sierra Leone) | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | Child | <ul style="list-style-type: none"> Education outcomes | Entrenches unequal power |
| Bandiera, O., Buehren, N., Goldstein, M., Rasul, I. and Smurra, A. 2020. | Sub-Saharan Africa | Report | Mixed method (survey and qualitative methods) | Women and girls 12 to 25 and village leaders (Sierra Leone) | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | Child | <ul style="list-style-type: none"> Education outcomes | Harmful for girls |
| Bellerose, M., Diaw, M., Pinchoff, J., Kangwana, B. and Austrian, K. 2020. | Sub-Saharan Africa | Journal article | Quantitative (survey) | Girls, categorized as younger (10 to 14 years) or older (15 to 19 years) adolescents (Kenya) | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Physical health and nutrition Education processes | Entrenches unequal power |
| Berthomier, N. and Octobre, S. 2020. | North America and Western Europe | Journal article | Quantitative (survey) | 5,094 families (France) | Strong | COVID-19 | Family | <ul style="list-style-type: none"> Education processes | Harmful for women now/in the future |

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|---|----------------------------------|-----------------|---|--|---------------------------|--------------------------------------|------------------------|--|--|
| Briggs, H., Haberland, N., Desai, S., de Hoop, T. and Ngo, T. 2020. | Multiple regions | Report | Mixed method | Cohorts of girls and their households, experts in girl-centered programming, leaders and senior staff from NGOs (Multiple countries, including Bangladesh, Benin, Ethiopia, Guatemala, India, Kenya, Mozambique, Nigeria, Niger and the United Republic of Tanzania) | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Mental health and well-being Nutrition and physical well-being Protection from harm Education systems Socioeconomic inequalities | Harmful for girls |
| Bryce, I. 2020. | Multiple regions | Journal article | Other review | No specific study population | Medium (with limitations) | COVID-19 | Community | <ul style="list-style-type: none"> Mental health and well-being | Incites, contributes or fails to protect from violence |
| Casale, D. and Shepherd, D. 2020. | Sub-Saharan Africa | Report | Quantitative (survey) | Adults aged 18 years and older (South Africa) | Strong | COVID-19 | Family | <ul style="list-style-type: none"> Socioeconomic inequalities | Harmful for women now/in the future |
| Cejas, M. N. and Demera, H. D. 2021. | Latin America and the Caribbean | Journal article | Other review | No specific study population | Medium (with limitations) | COVID-19 | Community | <ul style="list-style-type: none"> Physical well-being and nutrition | Harmful for girls |
| Chartier, S., Delhalle, M., Baiverlin, A. and Blavier, A. 2021. | North America and West Europe | Journal article | Quantitative (survey) | Parents and children (Belgium) | Medium (with limitations) | COVID-19 | Family | <ul style="list-style-type: none"> Mental health and well-being | Harmful for women now/in the future |
| Cheb, H. 2021. | East Asia and the Pacific | Report | Quantitative (mixed quantitative methods) | Preschool, primary, lower secondary, upper secondary and non-formal education, trainee teachers (Cambodia) | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes | Harmful for boys |
| Commodari, E. and La Rosa, V. L. 2020. | North America and Western Europe | Journal article | Quantitative (survey) | Adolescents (Italy) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being | Entrenches unequal power |
| Croda, E. and Grossbard, S. 2021. | Multiple regions | Journal article | Other review | No specific study population | Medium (with limitations) | COVID-19 | Family | <ul style="list-style-type: none"> Mental health and well-being | Harmful for women now/in the future |
| Dione, M., Lo, C., Seye, M., Fall, A. S., Hidrobo, M., Le Port, A., Heckert, J. and Peterman, A. 2021. | Sub-Saharan Africa | Report | Quantitative (survey) | Women and adolescent girls aged 14 to 35 (Senegal) | Strong | COVID-19 | Community | <ul style="list-style-type: none"> Protection from harm | Incites, contributes to, or fails to protect from violence |
| El-Osta, A., Alaa, A., Webber, I., Sasco, E. R., Bagkeris, E., Millar, H., Vidal-Hall, C. and Majeed, A. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Parents of school-age children (UK) | Strong | COVID-19 | Family | <ul style="list-style-type: none"> Mental health and well-being | Harmful for women now/in the future |
| Esposito, S., Giannitto, N., Squarcia, A., Neglia, C., Argentiero, A., Minichetti, P., Cotugno, N. and Principi, N. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Adolescent students (Italy) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being | Harmful for girls |
| Fodor, É., Gregor, A., Koltai, J., and Kováts, E. 2021. | Central and Eastern Europe | Journal article | Quantitative (survey) | 18- to 65-year-olds (Hungary) | Strong | COVID-19 | Family | <ul style="list-style-type: none"> Socioeconomic inequalities | Harmful for women now/in the future |

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|---|----------------------------------|-----------------|--|---|---------------------------|--|---|--|-------------------------------------|
| Foster, G. 2020. | East Asia and the Pacific | Journal article | Quantitative (application of statistical methods) | Secondary and high school students (Australia) | Strong | COVID-19 | National, regional and global economic, political and cultural system | • Socioeconomic inequalities | Harmful for women now/in the future |
| Gacek, M. and Krzywoszanski, L. 2021. | Central and Eastern Europe | Journal article | Quantitative (survey) | Vocational school students with developmental disabilities (Poland) | Medium (with limitations) | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Ghatak, N., Yareseeme, A. S. and Jha, J. 2020. | South and West Asia | Report | Quantitative (survey) | One adult and one child in the age-group of 10–18 years from 3176 households across five states (India) | Strong | COVID-19 | Child | • Education outcomes | Harmful for girls |
| Giannopoulou, I., Efstathiou, V., Triantafyllou, G., Korkoliakou, P. and Douzenis, A. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Senior high school students (Greece) | Medium (with limitations) | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Grewenig, E., Lergepporter, P., Werner, K., Woessmann, L. and Zierow, L. 2020. | North America and Western Europe | Other | Quantitative (survey) | Parents (Germany) | Strong | COVID-19 | Child | • Education processes | Harmful for boys |
| Guo, P., Li, X., Liu, S., Hu, S., Mo, D., Yan, J. and Zhong, H. 2020. | East Asia and the Pacific | Journal article | Quantitative (survey) | Adolescents (China) | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Guo, Y-F., Liao, M-Q., Cai, W-L., Yu, X-X., Li, S-N., Ke, X-Y., Tan, S-X., Luo, Z-Y., Cui, Y-F., Wang, Q., Gao, X-P., Liu, J., Liu, Y-H., Zhu, S. and Zeng, F-F. 2021. | East Asia and the Pacific | Journal article | Quantitative (survey) | Primary, secondary and high school students (China) | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for girls and boys |
| Haesebaert, F., Haesebaert, J., Zante, E. and Franck, N. 2020. | North America and Western Europe | Journal article | Quantitative (survey) | No specific study population | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Hallgarten, J. 2020. | Multiple regions | Report | Other review | No specific study population | Medium (with limitations) | Other health-related pandemic (including Ebola, HIV, SARS) | Child | • Education outcomes • Education processes • Protection from harm | Harmful for girls |
| Hanzl, L. and Rehm, M. 2021. | North America and Western Europe | Other | Quantitative (application of statistical methods) | Austrian Corona Panel data and Oxford COVID-19 Government Response Tracker (OCGRT) (Austria) | Strong | COVID-19 | Family | • Socioeconomic inequalities | Entrenches unequal power |
| Jones, N., Guglielmi, G., Małachowska, A., Abu Hamad, B., Yadete, W. with Abu Hamad, S., Abu Hamra, E., Alam, F., Alheiwidi, S., Alabbadi, T., Al-Redaisy, N., Amaireh, W., Amdelessie, T., Banioweda, K., Diab, R., Gebeyehu, Y., Gezahegne, K., Iyasu, A., Qandeel, A., Sultan, M., Tilahun, K. and Workneh, F. 2021. | Multiple regions | Report | Mixed method (quantitative survey and qualitative methods) | Adolescents aged 12–19 at baseline (Bangladesh, Ethiopia, Jordan and Palestine) | Strong | COVID-19 | Child | • Education outcomes • Mental health and well-being • Protection from harm • Socioeconomic inequalities | Entrenches unequal power |

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|---|----------------------------------|-----------------|--|---|---------------------------|--|------------------------|--|-------------------------------------|
| Jones, N., Małachowska, A., Guglielmi, S., Alam, F., Hamad, B. A., Alheiwidi, S., and Yadete. 2020. | Multiple regions | Report | Qualitative (interviews) | Adolescent girls and 70 adolescent boys (Bangladesh, Ethiopia, Palestine and Jordan) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Mental health and well-being Socioeconomic inequalities | Entrenches unequal power |
| Khan, M. A., Kamal, T., Illiyan, A. and Asif, M. 2021. | South and West Asia | Journal article | Quantitative (survey) | School students from grades 8 to 12 (India) | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Education processes | Harmful for girls and boys |
| Korkoyah Jr, D. T. and Wreh, F. F. 2015. | Sub-Saharan Africa | Report | Mixed method (quantitative survey and qualitative methods) | Men, women and youth (Liberia) | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | Family | <ul style="list-style-type: none"> Education outcomes Protection from harm Socioeconomic inequalities | Harmful for girls |
| Kostelny, K., Lamin, D., Manyeh, M., Ondoro, K., Stark, L., Lilley, S. and Wessells, M. 2018. | Sub-Saharan Africa | Report | Qualitative (interviews) | Girls, young women, women, elderly women, boys, teenage boys, young men, men and elderly men (Sierra Leone) | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | Child | <ul style="list-style-type: none"> Education outcomes Protection from harm | Harmful for girls |
| Loziak, A., Fedakova, D. and Čopková, R. 2020. | Central and Eastern Europe | Journal Article | Quantitative (survey) | Primary school female teachers (Slovakia) | Strong | COVID-19 | School | <ul style="list-style-type: none"> Mental health and well-being | Harmful for women now/in the future |
| Makino, M., Shonchoy, A. S. and Wahhaj, Z. 2021. | South and West Asia | Report | Quantitative (survey) | Households (Bangladesh) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Socioeconomic inequalities | Entrenches unequal power |
| Malala Fund. 2020a. | Sub-Saharan Africa | Report | Quantitative (survey) | Parents and children (Ethiopia) | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Education processes Socioeconomic inequalities | Harmful for girls |
| Malala Fund. 2020b. | Sub-Saharan Africa | Report | Quantitative (survey) | Parents and children (Nigeria) | Medium (with limitations) | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Education processes Socioeconomic inequalities | Harmful for girls |
| Malala Fund. 2020c. | South and West Asia | Report | Quantitative (survey) | Adults and children (Pakistan) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Education outcomes Education processes Socioeconomic inequalities | Entrenches unequal power |
| Mancilla, T. P., Hurtado, C. V. and Carvacho, C. B. 2021. | Latin America and the Caribbean | Journal article | Quantitative (survey) | Parents and tutors of children up to 18 years (Chile) | Strong | COVID-19 | Family | <ul style="list-style-type: none"> Mental health and well-being Education processes Protection from harm | Harmful for girls and boys |
| Maistorci, F., Piaggi, P., Doveri, C., Trivellini, G., Casu, A., Pozzi, M., Vassalle, C. and Pingitore, A. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Adolescents (Italy) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being | Harmful for girls |
| McGuire, T. A., Biese, K.M., Petrovska, L., Hetzel, S. J., Reardon, C., Kliethermes, S. Bell, D. R., Brooks, A. and Watson, A. M. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Adolescent athletes (USA) | Strong | COVID-19 | Child | <ul style="list-style-type: none"> Mental health and well-being | Harmful for girls |

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|--|----------------------------------|-----------------|--|--|---------------------------|--|------------------------|---|--|
| McKune, S. L., Acosta, D., Diaz, N., Brittain, K., Joyce-Beaulieu, D., Maurelli, A. T. and Nelson, E. J. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Kindergarten to grade 12 students (USA) | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| MIET AFRICA. 2021. | Sub-Saharan Africa | Report | Mixed method (quantitative survey and qualitative methods) | Adult respondents (aged 25 and above) linked to the FutureLife Now! and School's Out Regional Programmes, adolescents and youth (aged 15–24) (Lesotho, Madagascar, Malawi, Namibia, Zambia and Zimbabwe) | Medium (with limitations) | COVID-19 | Child | • Education outcomes • Education processes • Socioeconomic inequalities | Harmful for girls |
| Mkhize, S. and Gopal, N. 2021. | Multi-regions | Journal article | Qualitative (observation) | Facebook, Twitter and Instagram – young people born in the 2000s | Medium (with limitations) | COVID-19 | Child | • Mental health and well-being | Incites, contributes to, or fails to protect from violence |
| Mohler-Kuo, M., Dzemaili, S., Foster, S., Werlen, L. and Walitzka, S. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Young adults 19 to 24 and children 12 to 17 and their parents (Switzerland) | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Mott MacDonald and Oxford Policy Management. 2021. | Sub-Saharan Africa | Other | Mixed method (quantitative survey and qualitative methods) | Secondary school pupils (Sierra Leone) | Medium (with limitations) | COVID-19 | Child | • Education outcomes • Education processes | Harmful for girls |
| Murray, R. T., Drew, L. B., Memmott, C., Bangura, Y. M. and Maring, E. F. 2021. | Sub-Saharan Africa | Journal article | Qualitative (interviews) | Primary school students, female and male caretakers, teachers, nurses (Sierra Leone) | Medium (with limitations) | Other health-related pandemic (including Ebola, HIV, SARS) | Community | • Socioeconomic inequalities | Harmful for women now/in the future |
| Ng, K., Cosma, A., Svacina, K., Boniel-Nissim, M. and Badura, P. 2021. | Central and Eastern Europe | Journal article | Quantitative (survey) | Children aged 11, 13 and 15 (Czech Republic) | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Petts, R. J., Carlson, D. L. and Pepin, J. R. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Parents (USA) | Medium (with limitations) | COVID-19 | Family | • Socioeconomic inequalities | Harmful for women now/in the future |
| Pizarro-Ruiz, J. P. and Ordóñez-Cambor, N. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Adolescents between 8 and 18 (Spain) | Medium (with limitations) | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Plan International. 2015. | Sub-Saharan Africa | Report | Qualitative (interviews) | School-age children, parents and community leaders (Liberia, Sierra Leone) | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | Child | • Education outcomes | Harmful for girls |
| Portillo, J., Garay, U., Tejada, E. and Bilbao, N. 2020. | North America and Western Europe | Journal article | Quantitative (survey) | Teachers (Spain) | Strong | COVID-19 | School | • Education processes | Harmful for women now/in the future |
| PASU (Kenya) and Population Council. 2021. | Sub-Saharan Africa | Report | Mixed method (quantitative survey and qualitative methods) | Adolescents 10 to 22 years (Kenya) | Strong | COVID-19 | Child | • Education outcomes • Nutrition and physical well-being | Harmful for girls |

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|--|----------------------------------|-----------------|--|---|---------------------------|--|---|--|--|
| Radwan, A., Radwan, E. and Radwan, W. 2021. | Arab States | Journal article | Quantitative (survey) | Secondary school students 6 to 18 years (Palestine) | Strong | COVID-19 | Family | • Nutrition and physical well-being | Harmful for girls |
| Rafaeli, T. and Hutchinson, G. 2020. | Sub-Saharan Africa | Report | Other review | No specific study population | Medium (with limitations) | COVID-19 | Child | • Education outcomes • Nutrition and physical well-being | Harmful for girls |
| Raza, S. H., Haq, W. and Sajjad, M. 2020. | South and West Asia | Journal article | Quantitative (survey) | Working professionals and students (Pakistan) | Medium (with limitations) | COVID-19 | Family | • Mental health and well-being | Harmful for women now/in the future |
| Risso-Gill, I. and Finnegan, L. 2015. | Sub-Saharan Africa | Report | Qualitative (interviews) | Children 7 to 18 years (Sierra Leone) | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | Family | • Protection from harm | Incites, contributes to, or fails to protect from violence |
| Rohwerder, B. (2020). | Multiple regions | Report | Other review | No specific study population | Medium (with limitations) | Other health-related pandemic (including Ebola, HIV, SARS) | Child | • Education outcomes • Socioeconomic inequalities | Harmful for girls |
| Sadique, M. Z., Adams, E. J. and Edmunds, W. J. 2008. | North America and Western Europe | Journal article | Quantitative (application of statistical methods) | No specific study population | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | National, regional and global economic, political and cultural system | • Socioeconomic inequalities | Harmful for women now/in the future |
| Sahithya, B. R., Kashyap, R. S. and Roopesh, B. N. 2020. | South and West Asia | Journal article | Quantitative (survey) | Parents with children under 15 years (India) | Medium (with limitations) | COVID-19 | Family | • Mental health and well-being | Harmful for women now/in the future |
| Sancho, N. B., Mondragon, N. I., Santamaria, M. D. and Munitis, A. E. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Parents of children aged 2 to 12 (Spain) | Medium (with limitations) | COVID-19 | Child | • Physical health and nutrition • Mental health and well-being • Education processes | Harmful for boys |
| Save the Children Somalia Research and Evaluation Team. 2020. | Sub-Saharan Africa | Report | Mixed method (quantitative survey and qualitative methods) | Adults, children aged 12 to 17 years and relevant individuals (Somalia) | Medium (with limitations) | COVID-19 | Family | • Education outcomes • Education processes • Socioeconomic inequalities | Entrenches unequal power |
| Scarpellini, F., Segre, G., Cartabia, M., Zanetti, M., Campi, R., Clavenna, A., and Bonati, M. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Mothers of children aged 6 to 15 years (Italy) | Strong | COVID-19 | Child | • Education processes | Harmful for women now/in the future |
| Seck, P. A., Encarnacion, J. O., Tinonin, C. and Duerto-Valero, S. 2021. | East Asia and the Pacific | Journal article | Quantitative (survey) | Mobile phone users across 11 countries | Medium (with limitations) | COVID-19 | Family | • Mental health and well-being | Harmful for women now/in the future |
| Selbervik, H. 2020. | Multiple regions | Report | Other review | No specific study population | Medium (with limitations) | Other health-related pandemic (including Ebola, HIV, SARS) | Child | • Education outcomes • Protection from harm • Socioeconomic inequalities | Harmful for girls |

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|---|----------------------------------|-----------------|--------------------------|---|---------------------------|--|------------------------|--|--|
| Shafer, K., Scheibling, C. and Milkie, M. A. 2020. | North America and Western Europe | Journal article | Quantitative (survey) | Parents with child under 18 (Canada) | Strong | COVID-19 | Family | • Socioeconomic inequalities | Entrenches unequal power |
| Sharpe, D., Rajabi, M., Chileshe, C., Joseph, S. M., Sesay, I., Williams J., and Sait, S. 2021. | Sub-Saharan Africa | Journal article | Quantitative (survey) | Vulnerable children and young people aged 12–25 (Sierra Leone and Zambia) | Medium (with limitations) | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| Shukla, M., Pandey, R., Singh, T., Riddleston, L., Hutchinson, T., Kumari, V. and Lau, J. Y. F. 2021. | South and West Asia | Journal article | Quantitative (survey) | Young people 12 to 18 years (India) | Medium (with limitations) | COVID-19 | Child | • Education outcomes | Harmful for girls |
| Shum A; Skripkauskalte S, Pearcey S, Waite P, Creswell C (2021) | North America and Western Europe | Report | Quantitative (survey) | Parents/ caregivers and young people (aged 11–16 years at baseline) (UK) | Strong | COVID-19 | Family | • Physical well-being and nutrition • Mental health and well-being • Education processes • Protection from harm | Harmful for girls and boys |
| Tajik, F. and Vahedi, M. 2021. | South and West Asia | Journal article | Quantitative (survey) | Teachers and students (Iran) | Medium (with limitations) | COVID-19 | School | • Education processes | Harmful for women now/in the future |
| Thierry, X., Geay, B., Pailhé, A., Berthomier, N., Camus, J., Cauchi-Duval, N., Lanoë, J-L., Octobre, S., Pagis, J., Panico, L., Siméon, T. and Solaz, A. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Parents of children aged 10 (France) | Strong | COVID-19 | Family | • Education processes | Harmful for girls |
| Tierney, D., Bolton, P., Matanu, B., Garasu, L., Barnabas, E. and Silove, D. 2016. | East Asia and the Pacific | Journal article | Qualitative (interviews) | Community members (Papua New Guinea) | Medium (with limitations) | Conflict and violence | Community | • Education outcomes • Mental health and well-being • Protection from harm • Socioeconomic inequalities | Incites, contributes to, or fails to protect from violence |
| Tosso, M. P., Sáinz, M. S. and Casado, C. M. 2020. | North America and Western Europe | Journal article | Qualitative (interviews) | Education professionals (Spain) | Strong | COVID-19 | School | • Mental health and well-being • Mental health and well-being • Protection from harm | Harmful for women now/in the future |
| UNFPA Sierra Leone. 2018. | Sub-Saharan Africa | Report | Quantitative (survey) | Adolescent girls aged 10 to 19 years (Sierra Leone) | Strong | Other health-related pandemic (including Ebola, HIV, SARS) | Child | • Education processes | Harmful for girls |
| Ventura, P. S., Ortigoza, A. F., Castillo, Y., Bosch, Z., Casals, S., Girbau, C., Siurana, J. M., Arce, A., Torres, M. and Herrero, F. J. 2021. | North America and Western Europe | Journal article | Quantitative (survey) | Parents of children under 17 (Spain) | Strong | COVID-19 | Child | • Physical health and nutrition | Harmful for boys |
| Waddell, N., Overall, N. C., Chang, V. T. and Hammond, M. D. 2021. | East Asia and the Pacific | Journal article | Quantitative (survey) | Parents (New Zealand) | Medium (with limitations) | COVID-19 | Family | • Mental health and well-being | Entrenches unequal power |

| Citation | Region | Type of source | Method | Study population (as stated) | Strength of the evidence | Cause of the extended school closure | Focus of impact/effect | Category of impact | Gendered impact |
|---|----------------------------------|-----------------|---|---|---------------------------|--|---|--|-------------------------------------|
| Wang, J. 2020. | East Asia and the Pacific | Journal article | Qualitative (combination of more than one qualitative method) | Girls aged 7 to 8 (China) | Strong | COVID-19 | Child | • Protection from harm | Harmful for girls |
| Williams, Z. 2020. | North America and Western Europe | Report | Other review | No specific study population | Medium (with limitations) | COVID-19 | Child | • Mental health and well-being | Harmful for girls |
| West African Network for Peace Building. 2020. | Sub-Saharan Africa | Report | Quantitative (mixed quantitative methods) | Data from West African Network for Peace Building (WANEP) Warning and Response (WARN) programme and ECOWAS Early Warning and Response Network (ECOWARN) | Medium (with limitations) | Other health-related pandemic (including Ebola, HIV, SARS) | National, regional and global economic, political and cultural system | • Socioeconomic inequalities | Entrenches unequal power |
| World Vision International. 2020. | Sub-Saharan Africa | Report | Other review | No specific study population | Medium (with limitations) | COVID-19 | Child | • Education processes | Entrenches unequal power |
| Yamamura, E. and Tsutsui, Y. 2021. | East Asia and the Pacific | Journal article | Quantitative (survey) | People aged 16 to 79 (Japan) | Strong | COVID-19 | Family | • Socioeconomic inequalities | Harmful for women now/in the future |
| Yerkes, M. A., André, S. C., Besamusca, J. W., Kruijven, P. M., Remery, C. L., van der Zwan, R. and Geurts, S. A. 2020. | North America and Western Europe | Journal article | Quantitative (survey) | Households with at least one member in paid employment and at least one child under the age of 18 living at home (Netherlands) | Strong | COVID-19 | Family | • Socioeconomic inequalities | Harmful for women now/in the future |
| Yorke, L., Rose, P., Bayley, S., Wole, D., Ramchandani, P. 2021. | Sub-Saharan Africa | Journal article | Quantitative (survey) | School principals and teachers (Ethiopia) | Medium (with limitations) | COVID-19 | Education system | • Education processes | Harmful for girls |
| Young Lives (2020) | Sub-Saharan Africa | Report | Quantitative (survey) | Head teachers (Ethiopia) | Medium (with limitations) | COVID-19 | Education system | • Education outcomes • Education processes | Harmful for girls |
| Zengin M., Yayan, E. H. and Vicnelioğlu E. 2021. | Central and Eastern Europe | Journal article | Quantitative (survey) | Children aged 9 to 12 (Turkey) | Medium (with limitations) | COVID-19 | Child | • Physical health and nutrition • Mental health and well-being • Education processes | Harmful for boys |
| Zhou, J., Xie, X., Guo, B., Pei, R., Pei, X., Yang, S. and Jia, P. 2021. | East Asia and the Pacific | Journal article | Quantitative (survey) | Youth (China) | Strong | COVID-19 | Child | • Physical health and nutrition | Harmful for boys |
| Zhu, S., Zhuang, Y. and Ip, P. 2021a. | East Asia and the Pacific | Journal article | Quantitative (survey) | Children and adolescents in primary and secondary education (Hong Kong, China) | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for girls and boys |
| Zhu, S., Zhuang, Y., Lee, P., Li, J. C-M. and Wong, P. W. C. 2021b. | East Asia and the Pacific | Journal article | Quantitative (survey) | Primary and secondary education students (Hong Kong, China) | Strong | COVID-19 | Child | • Mental health and well-being | Harmful for boys |

Annex 5 — Summary of studies on extended periods out of school due to HIV, environmental disasters, violent conflict and extended summer holidays

Relevant studies (n = 60)

| Citation | Region | Type of source | Method | Study population | Strength of evidence | Cause of extended school closure | Focus of impact | Category of impact | Gendered impact | Return to school |
|--|----------------------------------|-----------------|--------------------------------|--|---------------------------|----------------------------------|---|-------------------------------|---|------------------|
| Andrabi, T., Daniels, B. and Das, J. 2021. | South and West Asia | Other | Quantitative | Households near the 2005 Kashmir earthquake | Strong | Environmental disaster | Family | Education outcomes | Harmful for girls and boys | Disruptive |
| Aurini, J. and Davies, S. 2021. | North America and Western Europe | Journal article | Quantitative | Primary-grade students | Strong | Extended summer holidays | Child | Education processes | Harmful for boys and girls | Realignment |
| Bennell, P., Chilisa, B., Hyde, K., Makgothi, A., Molobe, E. and Mpotokwane, L. 2001. | Sub-Saharan Africa | Report | Mixed Method | Teachers, students, head teachers and school management team | Strong | HIV | Education systems | Education systems | Harmful for girls and boys | Realignment |
| Bradshaw, S. 2004. | Latin America and the Caribbean | Report | Qualitative | Key informants and review of reports | Strong | Environmental disaster | Community | Socioeconomic inequalities | Harmful for women now/ in future | Disruptive |
| Campbell, C., Andersen, L., Mutsikiwa, A., Madanhire, C., Nyamukapa, C. and Gregson, S. 2016 | Sub-Saharan Africa | Journal article | Qualitative | Teachers | Strong | HIV | Education systems | Education systems | Incites, contributes to or fails to protect from violence | Disruptive |
| Cueto, L. J. and Agaton, C. B. 2021. | East Asia and the Pacific | Journal article | Qualitative | Tertiary female students | Strong | Environmental disaster | Community | Mental health and well-being | Harmful for girls | Realignment |
| Das, J., Dercon, S., Habyarimana, J. and Krishnan, P. 2007. | Sub-Saharan Africa | Journal article | Quantitative | Teachers and grade 5 students | Strong | HIV | Education system | Education outcomes | Harmful for girls and boys | Disruptive |
| Day, C. and Evans, R. 2015. | Sub-Saharan Africa | Journal article | Qualitative | Young people, parents and professionals | Strong | HIV | Family | Mental health and well-being | Harmful to girls and boys | Realignment |
| Downey, D. B., Von Hippel, P. T. and Broh, B. A. 2004. | North America and Western Europe | Journal article | Quantitative | Studies of learning loss for children | Strong | Extended summer holidays | school | Education outcomes | Harmful for boys and girls | Realignment |
| Eghtessadi, R., Mukandavire, Z., Mutenherwa, F., Cuadros, D. and Musuka, G. 2020. | Sub-Saharan Africa | Journal article | Other review | System of funding and support for reproductive rights | Medium (with limitations) | HIV | National, regional and global political/cultural system | Physical health and nutrition | Entrenches unequal power | Disruptive |
| Esnard, A.M., Lai, B.S., Wyczalkowski, C., Malmin, N. and Shah, H. J. 2018. | North America and Western Europe | Journal article | Quantitative | Schools exposed to hurricane risks | Strong | Environmental disaster | School | Education processes | Harmful for girls and boys | Realignment |
| Freier, L. F. and Gauci, J-P. 2020 | Multiple regions | Journal article | Qualitative (legal/historical) | Legal framework for refugees in Latin America and Europe | Strong | Violent conflict | National, regional and global economic, political and cultural system | Socioeconomic inequality | Entrenches unequal power | Disruptive |
| Gershenson, S. and Tekin, E. 2015. | North America and Western Europe | Working Paper | Quantitative | School affected by violent shootings | Strong | Violent conflict | School | Education outcomes | Harmful for girls and boys | Disruptive |
| Gibbs, A., Jewkes, R., Sikweyiya, Y. and Willan, S. 2015. | Sub-Saharan Africa | Journal article | Qualitative | Young men participating in intervention | Strong | HIV | Community | Protection from harm | Supports gender equality | Realignment |

| Citation | Region | Type of source | Method | Study population | Strength of evidence | Cause of extended school closure | Focus of impact | Category of impact | Gendered impact | Return to school |
|---|----------------------------------|-----------------|-------------------|---|---------------------------|----------------------------------|---|-------------------------------|---|----------------------|
| Goga, A., Bekker, L. G., Van de Perre, P., El-Sadr, W., Ahmed, K., Malahleha, M., Ramraj, T., Ramokolo, V., Magasana, V. and Gray, G. 2020. | Sub-Saharan Africa | Journal article | Qualitative | Overview extent of provision of sexual and reproductive health services | Strong | HIV | National, regional and global health system | Physical health and nutrition | Harmful for girls | Continues inequality |
| Govender, K., Beckett, S. E., George, G., Lewis, L., Cawood, C., Khanyile, D. and Kharsany, A. B. 2019. | Sub-Saharan Africa | Journal article | Quantitative | Younger and older men who are HIV positive | Strong | HIV | child | Protection from harm | Harmful for boys | Realignment |
| Grassly, N. C., Desai, K., Pegurri, E., Sikazwe, A., Malambo, I., Siamatowe, C. and Bundy, D. 2003. | Sub-Saharan Africa | Journal article | Quantitative | Ministry of Education, finances | Strong | HIV | Education systems | Education systems | Towards gender equality | realignment |
| Gray, B., Hanna, F. and Reifels, L. 2020. | Multiple regions | Journal article | Systematic review | Systems for provision of psychosocial support and disaster risk reduction | Strong | Environmental disaster | National, regional and global | Mental health and well-being | Harms to girls and boys | Disruptive |
| Guo, Y., Li, X. and Sherr, L. 2012. | Multiple regions | Journal article | Systematic review | Literature on effects of HIV on children's schooling | Strong | HIV | Family | Education outcomes | Harmful for girls and boys | Disruptive |
| Haberland, N. A. 2015. | Multiple regions | Journal article | Systematic review | No specific study population | Strong | HIV | Community | Education systems | Entrenches unequal power Supports gender equality | Realignment |
| Habib, R. 2019. | Arab States | Journal article | Qualitative | International system governing refugees | Strong | Violent conflict | National, regional and global system | Increases inequality | Harmful for girls | Disruptive |
| Ijumba, N. 2011. | Sub-Saharan Africa | Journal article | Other review | Overview of trends | Medium (with limitations) | HIV | Child | Education processes | Harmful for girls | Disruptive |
| Jewkes, R., Jama-Shai, N. and Sikweyiya, Y. 2017. | East Asia and the Pacific | Journal article | Quantitative | Men and women | Strong | Violent conflict | Family | Mental health | Incites, contributes to or fails to protect from violence | Disruptive |
| Jewkes, R., Wood, K. and Duvvury, N. 2010. | Sub-Saharan Africa | Journal article | Qualitative | Men and Women participating in <i>Stepping Stones</i> intervention | Strong | HIV | Community | Protection from harm | Supports gender equality | Realignment |
| Jewkes, R., Gibbs, A., Jama-Shai, N., Wilson, S., Misselhorn, A., Mushinga, M., Washington, L., Mbatha, N. and Sikweyiya, Y. 2014. | Sub-Saharan Africa | Journal article | Quantitative | Young men and women in an intervention <i>Creating Futures</i> | Strong | HIV | Community | Protection from harm | Supports gender equality | Realignment |
| Johnson, V.A and Ronan, K.R. 2014. | East Asia and the Pacific | Journal article | Qualitative | Teachers involved in earthquake | Strong | Environmental disaster | School | Education processes | Harmful for girls and boys | Realignment |
| Kim, J. S. and Quinn, D. M. 2013. | North America and Western Europe | Journal article | Quantitative | Children from kindergarten to grade 8 | Strong | Extended summer holidays | Child | Education processes | Builds towards gender equality in intervention group | Enhancement |
| Kuntz, J. R.C., Näswall, K. and Bockett, A. 2013. | East Asia and the Pacific | Journal article | Quantitative | Teachers | Strong | Environmental disaster | Education system | Education system | Harmful for women now/future | Disruptive |
| Leonardi, C. 2007. | Sub-Saharan Africa | Journal article | Qualitative | Youth recruited into military | Strong | Violent conflict | Family | Mental health and well-being | Harmful for boys | Realignment |
| Mampane, J. N. 2018. | Sub-Saharan Africa | Journal article | Qualitative | Young women | Strong | HIV | Child | Socioeconomic inequalities | Harmful for girls | Disruptive |
| Merville, O., Puangmala, P., Suksawas, P., Kliangpiboon, W., Keawvilai, W., Tunkam, C., Yama, S., Sukhapon, U., Sathan, S., Marasri, Rolland-Guillard, L., Sirirungs, W. and Le Cœur, S. 2021 | East Asia and the Pacific | Journal article | Quantitative | Adolescents living with perinatal HIV | Strong | HIV | Family | Education processes | Harmful for girls and boys | Disruptive |
| Mitchell, J. M., Rochat, T. J., Houle, B., Stein, A., Newell, M. L. and Bland, R. M. 2016. | Sub-Saharan Africa | Journal article | Quantitative | Families with HIV and school going children | Strong | HIV | Family | Education processes | Harmful for girls and boys | Disruptive |

| Citation | Region | Type of source | Method | Study population | Strength of evidence | Cause of extended school closure | Focus of impact | Category of impact | Gendered impact | Return to school |
|--|----------------------------------|-----------------|-------------------|---|---------------------------|----------------------------------|---|---|--|------------------|
| Mitchell, K. M., Dimitrov, D., Silhol, R., Geidelberg, L., Moore, M., Liu, A., Beyrer, C., Mayer, K. H., Baral, S. and Boily, M. C. 2021 | North America and Western Europe | Journal article | Quantitative | Men who have sex with men | Strong | HIV | Community | Physical health and Nutrition Mental health and well-being | Harmful for men now/ future | Realignment |
| Moletsane, R., Mitchell, C., de Lange, N., Stuart, J., Buthelezi, T. and Taylor, M. 2009. | Sub-Saharan Africa | Journal article | Qualitative | Teachers, learners, community healthcare workers, and parents | Strong | HIV | Community | Socioeconomic inequality | Supports gender equality | Realignment |
| Mohammad, S., Acharya, N. and Borkar, K. 2020. | Multiple regions | Journal article | Other review | No specific study population | Strong | HIV | Community | Physical health and nutrition | Harmful for girls and boys | Disruptive |
| Morrell, R., Epstein, D., Unterhalter, E., Bhana, D. and Moletsane, R (eds). 2009. | Sub-Saharan Africa | Other | Qualitative | Learners and teachers | Strong | HIV | School | Education practices | Entrenches unequal power | Realignment |
| Mudavanhu, C. 2014 | Sub-Saharan Africa | Journal article | Mixed method | School children, key informants | Strong | Environmental disaster | Child | Education processes | Harmful for girls and boys | Disruptive |
| Muniu, S. 2020 | Sub-Saharan Africa | Other | Other review | No specific study population | Medium (with limitations) | HIV | National, regional and global political, social, system | Physical health | Harmful for girls | Disruptive |
| Mulligan, J. M. and Garriga-López, A. 2021. | Latin America and the Caribbean | Journal article | Qualitative | Healthcare workers and women's groups responding to hurricane disaster | Strong | Environmental disaster | Community | Mental health and well-being | Supports gender equality | Realignment |
| Mutch, C. 2016. | East Asia and the Pacific | Journal article | Qualitative | School children, teachers and principals | Strong | Environmental disaster | School | Mental health and well-being | Supports gender equality | Realignment |
| Noble, E., Ward, L., French, S. and Falb, K. 2019 | Multiple regions | Journal article | Systematic review | No specific study population | Strong | Violent conflict | Child | Protection from harm | Entrenches unequal power | Realignment |
| O'Toole, V. M. 2017. | East Asia and the Pacific | Journal article | Qualitative | Teachers | Strong | Environmental disaster | School | Mental health and well-being | Harmful for women | Realignment |
| O'Toole, V. M. (2018). | East Asia and the Pacific | Journal article | Mixed method | Teachers | Strong | Environmental disaster | Education system | Mental health and well-being Education system | Harmful for women now and in the future Harmful for men now and in the future | Realignment |
| Patel, S., Schechter, M. T., Sewankambo, N. K., Atim, S., Oboya, C., Kiwanuka, N. and Spittal, P. M. 2013. | Sub-Saharan Africa | Journal article | Quantitative | Transit camp residents | Strong | HIV | Child | Protection from harm | Harmful for girls and boys | Disruptive |
| Perry, D. L. 2009. | Sub-Saharan Africa | Journal article | Qualitative | Young men | Strong | Violent conflict | Family | Mental health and well-being | Harmful for boys | Realignment |
| Plan International (2013) | Multiple regions | Report | Other review | Girls subject to violence during conflict | Medium (some limitations) | Violent conflict | child | Education processes | Harmful for girls | Disruptive |
| Poulsen, H. 2006. | Sub-Saharan Africa | Journal article | Qualitative | Head teachers, teachers, parents and caregivers, school committee members, members of Orphans and Vulnerable Children Committees, members of Child Care Forums, students and out-of-school children | Strong | HIV | Education system | Education system | Harmful for girls and boys | Disruptive |

| Citation | Region | Type of source | Method | Study population | Strength of evidence | Cause of extended school closure | Focus of impact | Category of impact | Gendered impact | Return to school |
|---|---------------------------|-----------------|-------------------|---|---------------------------|----------------------------------|------------------|------------------------------|----------------------------|------------------|
| Pufall, E. L., Nyamukapa, C., Eaton, J. W., Campbell, C., Skovdal, M., Munyati, S., Robertson, L. and Gregson, S. 2014. | Sub-Saharan Africa | Journal article | Quantitative | Children | Strong | HIV | Children | Education outcomes | Harmful for girls and boys | disruptive |
| Ronoh, S., Gaillard, J. C. and Marlowe, J. 2015 | Multiple regions | Journal article | Other review | No specific study population | Medium (with limitations) | Environmental disaster | Children | Protection from harm | Harmful for girls and boys | Disruptive |
| Sabates, R., Carter, E. and Stern, J. M. 2021 | Sub-Saharan Africa | Journal article | Quantitative | No specific study population | Strong | Extended summer holidays | Children | Education outcomes | Harmful for girls and boys | Realignment |
| Santos, R. and Novelli, M. 2017. | Sub-Saharan Africa | Report | Qualitative | Individuals, key informants, Study of UNICEF Peacebuilding, Education and Advocacy Programme initiative | Strong | Violent conflict | Education system | Education Systems | Harmful for girls and boys | Realignment |
| Şahin, N. H., Batıgün, A. D. and Yılmaz, B. 2009. | Central Asia | Journal article | Qualitative | Teachers participating in an intervention post-disaster | Strong | Environmental disaster | School | Mental health and well-being | Supports gender equality | Realignment |
| Shah, A. A., Gong, Z., Ali, M., Jamshed, A., Naqvi, S. A. A. and Naz, S. 2020. | South and West Asia | Journal article | Quantitative | Schools resilience scores after floods | Strong | Education systems | School | Education systems | Entrenches unequal power | Realignment |
| Slade, T. S., Piper, B., Kaunda, Z., King, S. and Ibrahim, H. 2017. | Sub-Saharan Africa | Journal article | Quantitative | Children's reading scores after summer holiday | Strong | Extended summer holidays | School | Education outcomes | Harmful for girls and boys | Disruptive |
| Spangaro, J., Adogu, C., Zwi, A. B., Ranmuthugala, G. and Davies, G. P. 2015. | Multiple regions | Journal article | Systematic review | Review of literature on interventions to reduce sexual violence in armed conflict | Strong | Violent conflict | Community | Protection from harm | Incites violence | Realignment |
| Stuart, K. L., Patterson, L. G., Johnston, D. M. and Peace, R. 2013. | East Asia and the Pacific | Journal article | Qualitative | School principals | Strong | Environmental disaster | School | Education systems | Supports gender equality | Realignment |
| Thamtanajit, K. 2020. | East Asia and the Pacific | Journal article | Quantitative | Children examination results | Strong | Environmental disaster | Child | Education outcomes | Harmful for girls and boys | Disruptive |
| Thurston, A. M., Stöckl, H. and Ranganathan, M. 2021 | Multiple regions | Journal article | Systematic review | Literature on violence against women and girls and disasters | Strong | Environmental disaster | Community | Protection from harm | Entrenches unequal power | Disruptive |
| Watkins, J. A., Sello, O. M., Cluver, L., Kaplan, L. and Boyes, M. 2014. | Sub-Saharan Africa | Journal article | Qualitative | HIV-orphaned adolescents | Strong | HIV | Child | Education processes | Harmful for girls and boys | Realignment |
| Zinyemba, T. P., Pavlova, M. and Groot, W. 2020. | Multiple regions | Journal article | Systematic review | No specific study population | Strong | HIV | Family | Education processes | Harmful for girls and boys | Disruptive |

Evidence on the gendered impacts of extended school closures: A systematic review

School closures to mitigate the spread of COVID-19 have affected nearly 1.6 billion learners across the globe. While the scale of these closures is unprecedented, in recent decades children in many contexts have been out of school for long periods due to other pandemics, disruptions and disasters such as floods, earthquake and conflicts – with marked gender effects.

Building on the findings of 154 studies from every region of the world, this study investigates the evidence on the gendered impacts of extended school closures and periods out of school. Through a systematic review of the evidence, it highlights how these can deepen gendered exclusions and vulnerabilities – with the poorest children being the most affected.

Undertaken by a team of leading academic experts on gender equality and education, *Evidence on the gendered impacts of extended school closures: A systematic review* aims to prevent and mitigate adverse outcomes arising from extended periods of time out of school, by ensuring that responses to current and future crises are informed by a solid understanding of their effects on children's education, health, well-being and protection.

