

The Impact of COVID-19 on the Progress towards Sustainable Development Goal 4 in the Early Years: A Rapid Review



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Abstract As a result of the COVID-19 pandemic, many events have been interrupted, but young child development has not. This rapid review of the literature explores some of the potential impacts of the pandemic on young children, early childhood education and care (ECEC) and Sustainable Development Goal (SDG) 4 (United Nations 2015). In times of crises, ECEC can play a critical role in keeping children, healthy and safe, while promoting the foundations for lifelong learning and wellbeing. Yet, with the closure of schools as one of the measures to control the spread of the virus, many opportunities for learning and development in these formative years will be missed. This will cause major issues especially for vulnerable children. The pandemic also has long-lasting impacts on child development, lifelong learning opportunities, as well as economic and human capital. It also has implications on the progress towards SDG 4 (United Nations 2015), which had already fallen behind before the crisis. While it is impossible to say at this point how long the crisis will last, if school closure and the COVID-19 pandemic were to last into the next academic year, there will be enormous losses for young children, with implications for human and economic capital.

Keywords Early childhood education · COVID-19 · Pandemic · Young children · Sustainable development goal 4 · Rapid review

1 Introduction

The World Health Organization (WHO) declared the novel coronavirus, or the virus SARSCoV-2 which causes COVID-19 pneumonia, a pandemic on March 11th, 2020 (WHO 2020a). In a short timeframe since the outbreak of the virus in Wuhan, China, in December 2019, COVID-19 has spread rapidly and sustainability from person-to-person in 210 countries, claiming thousands of victims, mostly the elderly and

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people with underlying health conditions (WHO 2020b). As the pandemic continues to unfold, disrupting many lives, it is presenting a series of challenges to the world.

In the absence of an effective vaccine for COVID-19, many countries opted for partial or total lockdown to enforce physical distancing measures required to control the outbreak. During lockdown, people are urged to stay home and practise physical distancing, where they go out only to meet urgent needs, such as going to work or to buy food and medicine (Reimers and Schleicher 2020). In this context, physical distancing means that people get further apart in terms of social interactions and contact but not in terms of social connection, the most critical dimension of child development. In these unprecedented times, while life has been brought to a halt because of lockdowns and physical distancing measures, child development has not.

2 Early Childhood Education and Care

The first five years of a child's life is a highly sensitive and critical period for human development (Organisation for the Economic Co-operation and Development [OECD] 2019; Schleicher 2019; Spiteri 2020; United Nations Children's Fund [UNICEF] 2020a). During early childhood the brain matures faster than any other time and children learn at a faster pace than any other period in their lives too (OECD 2019). Relationships with adults and peers in safe, predictable and nurturing environments together with stimulation learning experiences assist young children in developing cognitive, social and emotional skills fundamental to development and wellbeing throughout their lifetime (OECD 2019; Schleicher 2019). Such learning experiences are the hallmark of early childhood education and care (ECEC), which is the education of children from birth till age eight (Spiteri 2020).

Strong evidence suggests that high-quality ECEC has numerous benefits to children, society and for the achievement of a sustainable future (OECD 2019; Pramling Samuelson and Kaga 2008; Schleicher 2019; Spiteri 2020; United Nations 2015; United Nations Educational, Scientific and Cultural Organization [UNESCO] 2017). While there is no consensus on a universally-accepted definition of high-quality in ECEC (La Paro et al. 2012), this chapter draws on OECD's (2019) definition of high-quality ECEC as including meaningful interactions and learning experiences between educators and children via a variety of developmental and educational activities based on children's interests and peer interactions, which in turn encourage learning, wellbeing and holistic development. The importance of high-quality ECEC is also reflected in United Nations Sustainable Development Goal (SDG) 4, which focuses on the provision of quality education for all children around the world. In particular, Target 4.2 aims to "Ensure that all children have access to quality early childhood education and care so that they are ready for primary education" (United Nations 2015). Target 4.2 highlights the importance of school settings and systems that support the learning and development of young children (United Nations 2015). Most importantly, high-quality ECEC has the potential to improve life chances of children, especially for those hailing from disadvantaged backgrounds

(Schleicher 2019). The converse is also true. In fact, research indicates that poor-quality ECEC can either have no effect on child development or it can negatively impact the child's socio-emotional development, therefore impacting wellbeing from an early age, which has serious implications especially for highly-vulnerable children (OECD 2019; Schleicher 2019).

High-quality ECEC is even more important in times of crises, such as during the COVID-19 pandemic, when its proper implementation and the monitoring of its progress become even more problematic due to several restrictions imposed upon the public to reduce the spread of the virus, including school closure. Additionally, the benefits of ECEC across a lifetime are also evident in that this sector is transversal to all SDGs, including SDG 1 (reducing poverty), SDG 3 (health), SDG 4 (education), SDG 8 (employment and economic growth), SDG 10 (reduction of inequalities) and SDG 16 (achieving peace and justice and reducing violence) (Ponguta et al. 2018), making ECEC of utmost importance for the achievement of the 17 SDGs.

Building on the SDG 4 framework (United Nations 2015), and particularly its recognition of the importance of ECEC, and the current COVID-19 crisis, this chapter attempts to answer the question:

What is the impact of the COVID-19 pandemic on

(a) ECEC, the progress towards SDG4 and young children?

This chapter begins by examining the COVID-19 crisis, and how it impacts the ECEC sector, young children, families, educators, teaching and learning in the early years and the implementation of SDG 4. Then, it moves on to unpack the challenges therein, especially the issues faced by vulnerable young children. Finally, it discusses implications of these for the aftermath of the pandemic, identifies some research gaps, and concludes with some broad recommendations for the way forward.

3 Methods

To produce a succinct, timely, but in-depth synthesis of the current evidence on the impact of COVID-19 on ECEC and the implementation of SDG 4, a rapid review of the literature was conducted (Khangura et al. 2012). Rapid reviews use streamlined traditional methods for systematic reviews to help synthesise and communicate evidence within a short period of time (Khangura et al. 2012). In this chapter, the stages suggested by Khangura et al.'s (2012) were followed. These included:

- *Needs assessment*—A call for proposals from Springer for chapters related to COVID-19 and the SDGs was issued.
- *Question development and refinement*—Research questions were formulated based on the needs' assessment.
- *Proposal development and approval*—A proposal was sent to the editors for peer-review, and was approved.

- *Literature search*—With the research questions in mind, a rapid review was conducted.
- *Screening and selection of studies.* A decision was made to draw the information exclusively from evidence reported recently related to the topic under study to allow the review to be undertaken in a timely manner, reflecting the nature and purpose of a rapid review and the needs of this study. This review was restricted to articles written in English, even if this choice may have excluded pertinent material. Additionally, the search has also been partially limited by the specific terminology used in the context of COVID-19, ECEC and SDG 4, and time constraints. The search criteria were conducted through EBSCO Host via University of Malta library, focusing on 13 databases: GreenFILE, British Educational Index, Academic Search Complete, Education Source, Humanities International Complete, Education Resources Information Centre (ERIC), ProQuest, JSTOR, SCOPUS, ERIC, Web of Science, PubMed and PsycINFO.

Boolean searches were conducted using a combination of keywords with AND/OR operators to produce more relevant results. The keywords used were determined following careful consideration of a number of factors; such as awareness of scientific terminology, commonly used terms and the relationship between the AND/OR operators. Further research parameters were also included to reduce the volume of records returned. The full inclusion criteria are detailed in Table 1.

The searches were conducted from 2nd May 2020 up until 10th June 2020. A total of 43 searches were returned and nine of which were eliminated because they were not written in English or they did not fit the parameters of the review as described above. This screening reduced the records to 34. There may be more publications within the range, however the university database only revealed these titles. Taking that sample, journals/websites which were deemed relevant were considered more closely. A thematic approach to the data analysis was adopted.

Table 1 Inclusion criteria

Topic	Inclusion criteria
Keywords	AND—Using the Boolean Operator AND will narrow your search results. In this case, using AND will retrieve search results containing all keywords, in this case ‘COVID-19’, ‘early childhood education’, ‘educational outcomes’, ‘school’, ‘family’, ‘Sustainable Development Goal 4’ OR—Using the Boolean Operator OR will broaden your search results. In this case, using OR will retrieve search results containing either of the keywords, in this case ‘attainment’, ‘early childhood’, ‘pandemic’, ‘technology’, ‘wellbeing’
Date range	2nd May 2020—10th June 2020
Publication/Document type	Scholarly peer-reviewed publications, journals, websites, research reports, government reports, periodicals
Language	English
Education level	Early childhood education for children aged 0 to 8 years

- *Narrative synthesis of included studies*—No synonyms were used in order to exclude any unrelated results, which is prohibitive in a rapid review. It should be noted that there are some key articles that pre-date the period under review and, where appropriate, these are cited in the narrative. There is also additional literature relating to the methodology, general conceptual issues and analysis, and these are also cited where appropriate.
- *Report production*—Themes from the datasets were synthesised into a coherent narrative to address the research question.
- *Ongoing follow-up and dialogue with knowledge users*. This step was followed through via the peer-review process of this chapter.

4 Results and Discussion

Reading the articles generated by the searches led to the development of some overall impressions of the impacts of the COVID-19 pandemic on young children's learning in ECEC contexts and on the implementation of SDG 4. These impressions were grouped into four themes: school closure; education and technology; impact on SDG 4; and, direct and indirect impacts on young children. These themes are supported by direct references to specific research and are described in more detail in the sections below. It is important to note the absence of research, or perhaps the limitation, that was related to the COVID-19 pandemic but not situated in relation to SDG 4 and the ECEC context. Hence, this chapter aims to fill this gap.

4.1 School Closure

Education is key to ensure good health, economic growth, and protection of the planet (UNESCO 2020e; United Nations 2015). Education can play a critical role in keeping children healthy and safe, while ensuring learning and wellbeing. For many children, school is often much more than a place for learning. In a context for human interaction, school is a safety net, a place for health and nutrition, and the provider of essential health services which save lives (UNICEF 2020b), particularly in the early years. Yet, like other sectors of the economy, ECEC programmes are being heavily impacted by the COVID-19 outbreak.

In response to the coronavirus pandemic, school closure has been implemented in 187 countries worldwide, currently affecting 1.5 billion children (UNESCO 2020g; United Nations 2020) and nearly 743 million girls (Giannini 2020). This unprecedented action was taken in an attempt to control the spread of the virus, affecting almost 91% of the world's student population (Armitage and Nellums 2020; OECD 2020). The evidence for the effectiveness of school closure as part of a physical distancing measure during an outbreak is based on evidence and assumptions from past influenza outbreaks. This action is based on the assumption that transmission

of the virus tends to be driven by children, and it is believed that school closure may help reduce social contacts between children, thus also reducing the rapid transmission of the virus. In fact, studies show compelling evidence that early school closure during an influenza outbreak reduced transmission of the virus and indicated a reduction in the outbreak peak (Viner et al. 2020). With that said, lessons learnt from past epidemics of coronavirus outbreaks, such as SARS in China in 2002, Ebola in West Africa in 2014 and MERS in 2015, while they provide limited information about the effectiveness of school closure and physical distancing measures, and transmission of the virus (Viner et al. 2020), can help shed light on the current crisis. Taking the Ebola outbreak as an example, which affected 5 million children by school closure, evidence suggests that poverty increased significantly, the youngest were the most vulnerable during the crisis, and children were more prone to experience violence, abuse and neglect as families struggled to cope with stress, anxiety and unease (Giannini 2020). Overall, past epidemics also show the impact on any already scarce resources and services (Devercelli 2020). Therefore, during the COVID-19 crisis, promoting education for holistic child development is even more important.

While the effectiveness of school closure in preventing the spread of COVID-19 is somewhat unclear as transmission dynamics appear to be different than influenza, one thing is clear—the economic costs and the potential harm of school closure cannot be underestimated (Viner et al. 2020). When schools get disrupted, they carry high social and economic costs for all, but vulnerable and marginalised children and children living in low-income countries are the worst hit (UNESCO 2020c). School closure impedes learning and deepens inequities, disproportionately affecting disadvantaged children the most (Armitage and Nellums 2020; UNESCO 2020a, f). In such circumstances, the potential loss of human capital are hard to imagine, let alone comprehend.

During school closure, the world's most vulnerable children are missing out on more than just education. Many are missing out on social contact too, which is so essential for their learning and development (UNESCO 2020a), particularly in the early years. Schools provide safeguarding and supervision of vulnerable children, and school closure exacerbates the economic burden of working parents and older, and vulnerable, relatives who care for young children (Armitage and Nellums 2020). This situation presents many challenges for parents who cannot go to work to care for their children. In this context, the most vulnerable, marginalised and fragile populations are being left behind even during the pandemic, especially in areas where high conflict increases the already existing educational exclusion and inequalities, and the deepening of new inequalities and exclusions which threaten social cohesion (UNESCO 2020e).

Furthermore, school closure could lead to an increase in drop-out rates, child labour, violence against children, teen pregnancies, and exacerbate already existing socio-economic disparities, which will most likely negatively impact girls more than boys, especially those living in economically-disadvantaged areas, thus increasing gender disparities in education (Armitage and Nellums 2020; Giannini 2020; UNESCO 2020c). The current pandemic, and the unexpected closure of schools for an unexpected duration, have created lots of interruptions in opportunities for

growth, development and learning, especially for underprivileged learners who tend to have less opportunities for learning beyond the school context (UNESCO 2020a). Together, these issues will further hinder the implementation of SDG 4, pushing it further out of reach for the most vulnerable children (UNESCO 2020c).

The negative impact of COVID-19 is likely to be felt for years to come (UNESCO 2020b). However, the world seems to be paying more attention to the health of the global population than children's education, leading to loss of learning time, which could in turn impact children's learning, financial and career potentials in the future (UNESCO 2020c). This situation calls for governments worldwide to make education a priority, starting in ECEC, in an attempt to help mitigate the impact of COVID-19 on children's educational achievements during the necessary physical distancing periods, particularly by having clear plans to preprioritise curricular goals and define what should be learned during these periods of physical distancing (Reimers and Schleicher 2020). The wellbeing of children and educators, and the need for meaningful relationships between educators and children to contribute towards learning need to be prioritised during these unprecedented times (Reimers and Schleicher 2020). Additionally, support for teachers during the crisis is essential to ensure adequate political commitment and investment in education during the recovery phase (Gianini 2020; UNESCO 2020g). To this end, education must prioritise inclusion and equity; a transformation for quality, relevance and impact across the SDGs; better data and intermediate benchmarks to inform action; increased funding for equitable and resilient public education systems; and, strengthened partnership between stakeholders (UNESCO 2020e).

4.2 Education and Technology

As the world grapples with the pandemic, the education sector is experiencing a global social experiment with the new ways of teaching and learning for children, even in the early years. Led by the constraints imposed on the delivery of education programmes by the lockdown, physical distancing and school closure, the use of online teaching and learning has certainly accelerated the process of uptake of online education technologies by educational institutions worldwide. Indeed, in response to this situation, several educators have also discovered how to efficiently use new technologies in the early years. Currently, distance learning systems are being used by many education providers to ensure the continuation of education programmes and to limit the loss of learning opportunities in most countries (Martin et al. 2020; UNESCO 2020c, f). This has dramatically altered the educational landscape over the course of a few weeks for many children, educators and parents. With this new wave of online teaching being implemented, access to digital technology is crucial to ensure that young children have equal opportunities to learn despite the current dire circumstance.

Transition to distance teaching and learning may be easy for some but challenging and frustrating for others (UNESCO 2020a). It certainly has increased inequalities

among children (Armitage and Nellums 2020) because not all children start out digitally equal. For example, while children living in most Western countries and those hailing from high socio-economic backgrounds, who have many resources available to them, are taking the current emergency in their stride, other less well-resourced peers, are not. For some children, online learning is possible because they have easy access to the internet and electronic devices at home. For others, living in disadvantaged communities however, it is not because they do not have internet access at home or some socio-economic factors, such as family poverty and deliterious living conditions, limit access to technology needed for learning. Additionally, children living in large families, sharing limited space and limited digital devices may get left behind too. Coupled with already existing stress within families, like for example families facing domestic violence or sudden unemployment and anxiety, successful educational outcomes for vulnerable children are slim to none. Overall, it seems that the pandemic has also exposed additional socio-economic inequality in terms of accessibility to online education, thus increasing the digital divide and the attainment gap from an early age.

This unprecedented situation poses difficulties in the acquisition of early literacy too. Considering that many young children experience immersion in digital technologies from a young age, educators and parents need to help them build their digital 'funds of knowledge' (Moll et al. 1992), and provide them with opportunities to engage with the technological, social and cultural demands of the knowledge economy (Nutbrown 2018), away from the classroom setting. Perhaps what is most worrying is the fact that while the use of remote learning may benefit children in acquiring numeracy and literacy skills from home during times of crises, the issue of building close and supportive relationships via human interaction and play, the building blocks of early child development, remains unresolved. As a result, young children still miss out on building meaningful relationships with people outside the family context. Therefore, young children are disproportionately at risk and their needs and development must be prioritised because severe lifelong impacts resulting from deprivations in the early years can hinder their development. Most importantly, education authorities need to act quickly to lessen the impacts caused by the sudden onset of the pandemic and the unplanned introduction of online teaching and learning. Certainly, underinvesting in ECEC now, will have lifelong consequences for children and long-lasting negative impacts on the world's economic and human capital.

Parental involvement in young children's education enhances academic success and wellbeing later on in life (OECD 2011). In the context of school closure and the subsequent take on of remote teaching and learning, parents are key sources of education provisions and motivators for children's engagement, as well as facilitators of children's learning (OECD 2020). However, many parents are either unprepared for homeschooling or distance learning (UNESCO 2020a), and/or do not afford to stay home to teach and/or support their children. This is especially true for parents with limited education and financial resources, illiterate parents, or parents who cannot afford to stay home despite the current emergency. In the absences of alternative options, working parents struggle to find care for their children. Working parents are

more likely to miss work in order to care for their children, which negatively impacts the economic outcomes of families and the productivity of countries too. Professionals, like health-care workers with children, struggle with finding appropriate childcare at times when they are needed the most. Such high economic pressures tend to encourage abuse. Consequently, increased exposure to violence is likely to ensue and young children are the ones who tend to suffer the most in such circumstances (UNESCO 2020a).

The pandemic has certainly necessitated the accelerated development of skills sets that were previously underused and potentially undervalued in an ECEC setting. Nevertheless, this situation has also created enormous technical and human challenges for many, the outcome of which is pressure and uncertainty for children, parents and educators alike (UNESCO 2020a) because many adults, including educators, lack effective training in using these new platforms. The pandemic exposed the lack of preparedness by many educational institutions to rise up to the challenge, in terms of both infrastructure and human capital. While many educators have taken on the challenge of online teaching, others are still uncertain of what is expected of them in times of crises. Others might find it difficult to learn how to use technology overnight and adapt content and delivery to an online environment. Even in the best circumstances, young children, parents and educators are struggling to cope with the situation and the new demands imposed upon them unexpectedly. Even worse, the OECD (2020) estimates that in the absence of a vaccine, it might be increasingly difficult for schools to go back to normal any time soon. In this context, remote teaching and learning is likely to remain in the future and online teaching seems to be the way forward, especially if the pandemic goes on for longer than expected. Consequently, an investment in remote teaching platform infrastructure and teacher training are a must. Educators need to develop their expertise in using ICT for teaching and learning, and make use of digital training opportunities and resources, as well as collaborative (possibly virtual) professional learning opportunities (OECD 2020). In this regard, there is urgent need for equity measures, supporting educators, children and parents during this time since learning inequalities are more likely to deepen the education crisis, particularly in the ECEC context.

Assuming children will not go back to school anytime soon, special interventions are required to help many catch up with their missed opportunities for learning. To mitigate these educational inequalities and the negative effects, ECEC programmes must provide resources to target young children who are especially hard hit. One way of doing this could be to mail material to parents, relax curriculum content and allow for the introduction of alternative educational activities, such as outdoor free play, physical activity or music, to mention but a few activities which could possibly be organised by parents in collaboration with educators. Another possibility is for resources to be shared among a much larger number of children, and the flexibility of being able to follow classes at any time even if without the possibility of real-time interaction afforded by real-life classroom situations.

4.3 *Impact on SDG4*

In July 2019, the High-level Political Forum (HLPF) reviewed the progress towards SDG 4 and concluded that it was already behind in being achieved by 2030 (Sharma et al. 2019). Later, in December 2019, UNESCO (2020d, p. 11) confirmed that many of the targets of SDG 4 are hard to reach by 2030 and indeed ‘we are far from reaching our promise to “leave no one behind.”’ With children not able to go to school, SDG 4 is falling behind more than ever. Indeed, lockdowns and school closure have disrupted the progress towards SDG 4, and have added more strain to its achievement, making it even harder to reach by 2030 (UNESCO 2020d; United Nations 2020).

The intersection of SDG 4 and ECEC has never been clearer. However, the pandemic will certainly have a major impact on the global economy resulting in a drop in government revenues. The resulting economic slowdown will have implications on the finances and resources of global education systems in the future (UNESCO 2020c). This economic downturn will make it more difficult to achieve the progress towards SDG 4 and any progress made before the pandemic may even be reversed. Now, more than ever, progress towards SDG 4 requires international cooperation. Consequently, Governments all over the world must take action to intensify efforts to accelerate access to ECEC for all. Since it is unclear for how long school closure will last, there is also an urgent need to identify a safe return to school for children and a safe return to work for parents. In turn, this calls for education authorities to anticipate challenges and ways to address them for the benefit of all involved (OECD 2020).

Nothing is certain right now and the aftermath of the pandemic could accentuate the serious risks affecting the development trajectories of millions of young children today, while majorly hindering the progress towards achieving the targets of SDG 4 even more. Since so much is still unknown about COVID-19, it is hard to predict the future. What is certain though is that there is trauma during the pandemic. When the pandemic ends, trauma will probably kick in even more. One consequence of trauma is toxic stress, or the body’s physiological response to stress, which happens when individuals, including children, feel they cannot manage the stress, or feel unsafe and out of control. To help young children deal with toxic stress and enhance their wellbeing, adults must provide a sense of safety in children by caring for them and develop interventions to improve their optimal cognitive and socio-emotional development. To better understand the effects of the pandemic and the multiple environmental risk factors on children’s cognitive and socio-emotional development, a holistic, multidisciplinary, and multilevel approach that encompasses the complex interactions between biological, physical, and psychosocial factors impacting children’s developmental outcomes is needed. Such an understanding will make room for more effective educational interventions with special focus on relationships, mental health, wellbeing and socio-emotional learning. While the COVID-19 crisis threatens to stall, or reverse, progress towards SDG 4, it also offers opportunities to teach us how to behave responsibly and protect everyone else. With the appropriate support, children will come out of the pandemic quite strong, not only in terms of learning

but also in terms of relationships, a move in the right direction for the achievement of SDG 4, if used wisely. Surely, in this regard, the pandemic provides an opportunity to redesign ECEC programs towards safeguarding the planet, more than human species and humanity.

4.4 Direct and Indirect Impacts on Young Children

While children seem to have been mildly affected by the direct health effects of the virus during this pandemic, their right to a voice and their wellbeing have both been negatively impacted (United Nations 2020), seriously undermining the United Nations Convention for the Rights of the Child (United Nations 1989). Undoubtedly, children all over the world will not be impacted equally by the pandemic (United Nations 2020). As COVID-19 unleashes its wrath across countries, killing thousands of people, the voices of other casualties of this disease also often go unheard— young children, particularly the vulnerable and disadvantaged. Disadvantaged and vulnerable children are more likely to be negatively affected in several ways by this crisis. Indeed, the pandemic has a myriad of direct, indirect and long-lasting health, social, and educational consequences for young children and families living in poor socio-economic neighbourhoods and facing an insecure future due to the huge economic implications (Rosenthal et al. 2020). Other issues, such as the infection with the virus itself, and the socio-economic outcomes during and post-COVID-19, will also have long-lasting impacts on children (United Nations 2020). Therefore, the coronavirus global outbreak is not only a global health crisis and a human crisis but also a children’s rights issue. This is especially so since young children’s voices seem to have been absent from discourse related to the COVID-19 outbreak research so far.

The significance of the physical environment on children’s cognitive and socio-emotional development across the lifespan, from the prenatal period through adulthood, has been well-documented (Ferguson et al. 2013). Since young children depend on their parents or caregivers for emotional and physiological regulation, who act as a protection from adverse exposures and stress potential (Black and Merseth 2018), nurturing environments, which include proper nutrition, health, safety and responsive caring adults, are essential to ensure optimal and holistic child development (OECD 2019; Ponguta et al. 2018). In the absence of nurturing and supportive environments, for example during the current pandemic, young children tend to have more self-regulation and anxiety issues, putting them at risk of not reaching their full developmental potential (Black and Merseth 2018; Ferguson et al. 2013; Rosenthal et al. 2020).

As a result of the negative impact of the pandemic on the global economy, parents or caregivers may lose their jobs, making children more prone experience violence, stress and abuse (Armitage and Nellums 2020). As parents struggle with unemployment and the economic downturn, child poverty is likely to increase (Martin et al. 2020) and parents are more likely to struggle with difficult child behaviour. Poverty

is frequently associated with multiple environmental risks (Black and Merseth 2018; Ferguson et al. 2013; Rosenthal et al 2020). Poverty can also lead to homelessness, both of which prevent many children from reaching their developmental potential, and in this regard COVID-19 has added another barrier to child development. Homelessness and poverty make self-isolation and physical distancing during the pandemic more challenging, thus exacerbating inequalities and in access to education, health care and other essential services.

Since families spend more time together at home due to restrictions imposed by physical distancing measures, the economic uncertainty, parental conflicts and domestic abuse are likely to increase. Unfortunately, research indicates a correlation between the number of exposures to adversities during early childhood and the rates of lifelong adverse consequences (Black and Merseth 2018; Reimers and Schleicher 2020; Shonkoff et al. 2012). Furthermore, during the COVID-19 crisis, many support services will experience significant disruptions and will be delivered remotely most of the time. Given the fewer availability of essential services, vulnerable children who spend a lot of time in abusive households are more likely to experience abuse and neglect. Consequently, the developmental gaps are likely to widen especially for economically-disadvantaged children. With these caveats in mind, the evidence to date documents adverse impacts of individual environmental risk factors on children's cognitive development (Black and Merseth 2018; Ferguson et al. 2013), which are likely to be amplified for vulnerable children during the pandemic, thus having implications for their development and educational outcomes.

5 Conclusion

While the full repercussions of the pandemic are yet to be seen, much remains unknown at this stage in terms of the duration of the crisis, the challenges countries will face in the aftermath of COVID-19 (UNESCO 2020c). In this context however, it is difficult to predict what the ECEC and the SDG 4 landscape will look like in the aftermath of the pandemic, in part because of the possibility of a second wave (or more) in the future, which might prolong the need for physical distancing measures, thus prolonging children's time away from school. Given the unexpected and unprecedented obstacles and challenges caused by the pandemic, it is important to understand how best to support young children as they take their place in the world as confident and competent learners during times of global crises.

The impact of emergency remote learning on children cannot be discounted, especially since it hit vulnerable children the hardest. The rapid move towards the digitisation of education, while essential and inevitable, is influenced by costs of infrastructure, which could be a huge burden on some countries and families, and the level of preparedness of educators and parents in assisting young children to access these resources. Possibly, this will increase the learning crisis, which will be further amplified because of inequalities in access to education and technology (UNESCO 2020c), thus increasing inequalities. Unless offered the right support, vulnerable

children will suffer the most and this will have long-term implications for their future.

Nevertheless, the COVID-19 crisis has the potential to provide lessons that if taken advantage of can be turned into new opportunities for learning in ECEC and possibly enable the successful implementation of SDG 4 by improving the educational outcomes of many young children worldwide. For this to happen, many ECEC pedagogies will have to be rethought, redesigned and repositioned in new and creative ways. Clearly, this requires a rethink children's engagement and motivation, possibly by including more focus on children's wellbeing.

The pandemic has accelerated new opportunities for research. Young children's lives have changed because of the COVID-19 outbreak, yet their voices about the pandemic remain unheard. In light of this new reality, research needs to capture young children's voices through the pandemic. To do this, researchers need to engage in collaborative consultation with young children about key issues during the pandemic affecting them and how growing up in a pandemic affects them. More than ever, policymakers need to recognise children's voices when redesigning new ways of teaching and learning in ECEC that contribute, and are responsive, to young children's development and wellbeing. Otherwise, ECEC will continue to increase disparities in educational access and outcomes, and limit the progress towards SDG 4, often to the detriment of those who are most vulnerable in times of crises.

Finally, it remains to be seen whether the ECEC sector keeps up with the sustained efforts to build on the strengths and opportunities presented by the challenges of this pandemic. Certainly, this is an opportunity not to be missed.

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