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# The impact of COVID-19 on the education of disadvantaged children and the socio-economic consequences thereof

*Analytical report*

**E E N E E**

European Expert Network  
on Economics of Education



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# **The impact of COVID-19 on the education of disadvantaged children and the socio-economic consequences thereof**

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**ABOUT NESET**

NESET is an advisory network of experts working on the social dimension of education and training. The European Commission's Directorate-General for Education and Culture initiated the establishment of the network as the successor to NESET II (2015-2018), NESSE (2007-2010) and NESET (2011-2014). The Public Policy and Management Institute (PPMI) is responsible for the administration of the NESET network. For any inquiries, please contact us at: [info-neset@ppmi.lt](mailto:info-neset@ppmi.lt).

**ABOUT EENEE**

EENEE is an advisory network of experts working on economics of education and training. The establishment of the network was initiated by the European Commission's Directorate-General for Education and Culture and is funded by the Erasmus+ Programme. PPMI is responsible for the coordination of the EENEE network. More information on EENEE and its deliverables can be found on the network's website [www.eenee.eu](http://www.eenee.eu). For any inquiries, please contact us at: [eenee@ppmi.lt](mailto:eenee@ppmi.lt).

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## Executive summary

Full and partial school closures, as well as the introduction of full-time distance learning during the first year of the COVID-19 pandemic, were unforeseen and unexpected phenomena across Europe. Despite existing transformations towards digitalisation and the use of digital tools in education, the pandemic demonstrated that curricula, pedagogies, and the capacities of actors in education were insufficiently prepared for an abrupt and unplanned switch to entirely remote education.

The switch to online education affected children's learning processes differently, depending on their individual educational needs and vulnerabilities. The interplay between vulnerability and resilience during the COVID-19 school closures has influenced the extent to which the educational progress of disadvantaged children is disproportionately affected, compared with that of their peers.

### Aims

The aim of the report is to present the ways in which the first year of the COVID-19 pandemic affected learning progress among disadvantaged children in school education, and to determine how the conditions that arose have impacted learning loss, delay and inequality. The report presents recommendations for policymakers and stakeholders in education to mitigate the widening of learning inequalities in the post-COVID landscape, and to stimulate the learning progress of disadvantaged children.

In particular, the report focuses on three groups of disadvantaged children, namely: 1) children with special educational needs (SEN) and disabilities in mainstream education; 2) children from lower socio-economic backgrounds; and 3) children with a refugee or migrant background.

### Methodology

The report is based primarily on a review of secondary data. The authors began by gathering together the available literature on the impact of COVID-19 on disadvantaged groups of children in particular. In instances where such information was not yet available, the authors analysed the specific vulnerabilities of various groups of children, as well as analysing the impact school closures had on educational processes and the quality of education. They subsequently assessed how these changes in education affect the vulnerabilities that had been identified.

Initially, the research focused on the academic literature on educational progress and inequality in education, as well as on vulnerabilities and resilience in education. The authors then went on to explore reports and literature on the general effects of COVID-19 on education across Europe. In this regard, the report co-authored by Loes van der Graaf on 'Education and Youth in Post-COVID-19 Europe' (Van der Graaf, Siarova, Dunajeva, & Bankauskaite, 2021) served as a starting point. Lastly, where available, the authors used country-level reports, surveys, and related materials to gather the perspectives of teachers, school staff and other stakeholders.

In its analysis, the report focuses on the different (but often interlinked) consequences of the pandemic on education and progress in education, summarised using the term 'learning disruptions'. In this paper, learning disruptions may include (or be caused by):

- *Delays in learning*: This refers to the inability of children to reach the educational objectives of a year, due to reduced teaching and learning hours. This may be caused by slow and/or inefficient switches from face-to-face to distance education.



- *Learning loss*: The term 'learning loss' refers to any specific or general loss of knowledge and skills or to reversals in academic progress, most commonly due to extended gaps or discontinuities in a student's education.<sup>1</sup>
- *Learning inequality*: This refers to the lower achievement or lower levels of access to and participation in education by some groups of children in comparison to others.

## Effects of COVID-19 on educational progress of disadvantaged children

Different groups of learners were affected unequally by school closures. The resulting additional challenges to learning equality added to existing inequalities in education systems. The report approaches the distribution of the effects of school closures on the education of disadvantaged learners through the concepts of **vulnerability and resilience**. Both vulnerabilities and resilience are subdivided into personal (e.g. age, gender, ethnicity), contextual (e.g. the intended or unintended results of a policy), and situational (e.g. based on particular life events, such as the pandemic). The people concerned tend to be affected by a number of different factors and categories of vulnerability and/or resilience at the same time, exacerbating or mitigating their situation.

The vulnerability factors identified relate, for example, to limited or no access to digital devices and digital skills, a lack of study space, poor socioeconomic background and low levels of education among parents, being a migrant or refugee, having a learning disability, lack of parental engagement, parents working away from home, poor school performance during lockdown and others. Resilience factors include high levels of parental and student engagement, high performance at school and teacher qualification, as well as interventions by governments and NGOs, among others.

This study confirmed the strong interplay of factors in resilience and vulnerability in the context of COVID-19 school closures. No person is affected by only one factor or dimension of resilience or vulnerability, but rather by a particular constellation of personal, contextual and situational vulnerabilities or resilience factors. A number of the vulnerabilities and resilience factors identified – particularly those on a personal and contextual level – existed before COVID-19, but their impact on the education of the affected learners has been exacerbated by the pandemic. Situational vulnerabilities and resilience factors are a direct result of COVID-19 school closures, or responses to them; they may lead to new vulnerabilities or resilience factors, and some of them affect all learners in a similar way. The identification of vulnerabilities can enable measures aimed at reducing or mitigating certain factors in order to limit their negative effects on the education of disadvantaged learners. The identification of resilience factors can enable measures to capitalise on these.

The technological features and tools of existing education platforms can render them inaccessible for **children with disabilities and SEN in mainstream education**. Insufficient personal support was given to children with special needs by teachers during the pandemic, mostly due to their increased workload. Teachers felt that during the shift to online learning, the needs of children (emotional, social, and behavioural) were insufficiently met. Many studies have also indicated a decrease in the well-being of children with special needs and disabilities in mainstream education; for example, due to a lack of socialisation, as well as due to a lack of routine and structure.

While it is expected that face-to-face education will continue, the use of digital tools in the classroom will only expand. Therefore, stakeholders at EU and national level should consider carefully to what extent their digital education strategies and action plans consider and are inclusive of children with special needs.

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<sup>1</sup> Definition as used by <https://www.edglossary.org/>

The present study reveals the disproportionate risk of learning disruptions among **children from disadvantaged socio-economic backgrounds**. Their vulnerability relates to insufficient support at home (in terms of direct support for their learning, as well as insufficient learning resources or learning environment, and in relation to their parents' personal and academic backgrounds). These learning inequalities had already been recognised before the pandemic, and have subsequently increased.

Support for at-risk children during school closures cannot therefore stop at the provision of laptops or other ICT tools alone. Attention should be paid to a child's overall home situation and how this affects their learning; however, this places tremendous pressure on teachers, who are tasked with identifying a child's learning environment at home.

**Children with a migrant background** can suffer disadvantages in education due to language barriers and/or the socio-economic status of their parents. They often face difficulties in accessing online learning structures due to limited technological skills and/or access to technological devices and the internet. Refugees in reception centres and refugees on the move are severely affected by these barriers, as are many Roma learners. It is further noted that the virtual teaching tools available are not fully suited to non-native speakers and their parents. Refugee, migrant and ethnic minority parents often have limited capacities to support their children's education at home, especially during periods of home-schooling.

### **Socio-economic consequences of the gaps in learning progress**

In the longer term, gaps in learning progress can affect how children progress in their adult life, both economically (e.g. lower income) and socially (e.g. social exclusion). Several types of **economic losses** are associated with learning losses caused by the COVID-19 pandemic that have different time dimensions:

- A short-term loss measured in terms of the potential reduced annual earnings of one learner affected by school closures
- A long-term loss in terms of reduced economic benefits over the affected student's lifetime
- An aggregate long-term global loss relating to all students in the affected cohort

The estimated economic costs of COVID-19 are substantial, running to trillions of US dollars for a given country. Vulnerable groups – however these are defined – tend to bear a disproportionately higher economic loss relative to less vulnerable groups in the population.

Aside from the consequences of the increased learning gap on personal income and country-level economic growth, the experiences from school closures – including disproportionate learning disruptions for disadvantaged children – have created new social realities and caused various other challenges that impact their **quality of life** and affect **societal cohesion**. These social and economic consequences will become visible in the upcoming years, as the 'COVID-19 generation' complete their education. Lifelong learning opportunities will also play an important role here.

Various connections have been found between education, income and social mobility. Learning disruptions during the COVID-19 pandemic have had a number of effects on the future social mobility of disadvantaged children. First, their chances of breaking the poverty cycle and gaining a higher socio-economic status for themselves have declined. Second, their potentially lower educational outcomes may impact the outcomes of their children. Third, the continuation of intergenerational socio-economic disadvantage and low

achievement among disadvantaged children causes a stagnation, or even an increase, in the share of families living in a socio-economically disadvantaged position.

A person's ability to participate in society refers primarily to their participation in the core institutions of society (e.g. family institutions, political institutions, educational institutions and religious institutions). Various studies report clear links between higher levels of educational achievement and increased participation in volunteering, political activities, community welfare and community leadership. Learning disruption among disadvantaged children can therefore strongly affect their involvement in the community and in society overall. Their lower participation in elections, protests and social networks hinders them from having their voices and concerns heard.

Various earlier studies have found a causal relationship between higher levels of education and higher levels of self-reported health, as well as lower morbidity rates. Enhanced physical well-being among persons with higher levels of education relates also to the healthier lifestyles adopted by more educated persons, facilitated by access to better information on managing their health, greater proficiency at integrating information into lifestyle decisions, and greater resources to engage in health-promoting activities. Aside from the impact learning disruptions have on children's ability to achieve physical well-being, the strain on health systems may increase, with a disproportionate increase in the need for health care among children from vulnerable backgrounds. This also raises questions regarding the affordability of health care and social protection for marginalised families.

## **Mitigation measures**

Future strategies must be designed to enable equal and equitable educational chances for all learners, during both regular schooling times and during crises. Such strategies should apply a forward-looking approach, rather than reacting in an isolated way. To allow for immediate responses as well as long-term solutions, strategies should be implemented according to different time dimensions: immediate, short-term, and medium/long-term. At the same time, future strategies should be implemented at the various levels relevant to the crisis response.

At the level of education systems, national strategies should aim to create social equity and should be based on principles that diminish the overall educational inequalities that have been exacerbated during times of crisis. Recognising education as a human right, states must take structural and institutional measures to ensure equal access and quality of education for all learners. At the same time, the principle of substantive equality must be applied, which requires the different treatment of disadvantaged learners through measures that remove the barriers that prevent them from achieving equal opportunities and outcomes. This requires, among other measures, the creation of policies and programmes that allow access for all learners to distance learning resources, as well as providing them with support to engage in online learning. The absence or insufficient availability of such measures constituted a major factor in the vulnerability of disadvantaged learners during school closures.

Education systems should also apply the principles of holistic and inclusive education. Such approaches not only help to foster equity in education (e.g. by addressing all of the needs of learners – learning, social and emotional), but also allow societies to respond more effectively to crises and to reduce the risk of future crises. Since positive student engagement and feelings of self-worth were identified as being relevant resilience factors for learners, measures should be implemented that motivate learners to actively engage with learning processes, and which strengthen their self-confidence.

At the level of families, their core position in educational processes (especially during times when schools are closed) must be recognised and taken into account by any crisis-related education measures. It is necessary to empower parents to engage with the education of their children, even if their own educational level is not high. Programmes of parental guidance and support are necessary, particularly with regard to parents' digital literacy, access to tools and resources, language competences for non-native speakers, and general knowledge about the respective national education system and school processes.

At the level of collaborations, multi-agency partnerships are required at national as well as international level to respond to the immediate crisis, as well as develop long-term solutions. Partnerships at national level should include teachers, parents, learners and other relevant members of the educational community. Governments should further work in partnership with health and community organisations, social work agencies and other support services to generate joint solutions.

## Conclusions and recommendations

During COVID-19-related school closures, disadvantaged learners have been subject to various personal, contextual and situational vulnerabilities. These generally relate to the transfer of teaching responsibilities during the pandemic, from the school to the family. Often, an individual learner is subject to a combination of several vulnerabilities, e.g. being a migrant, having low socio-economic status. Such vulnerabilities had already led to inequalities in education and society before the school closures, but were exacerbated by the pandemic.

Prior research has made abundantly clear that education is directly connected to the quality of various dimensions of life. Lower levels of educational achievement are therefore directly linked to a variety of challenges to an individual's full participation in society. Learning loss, delays in learning and decreases in achievement caused by school closures are expected to have a long-term impact on the children affected by them, particularly if these gaps in learning cannot be mitigated.

To mitigate these disruptions and learning loss, as well as the long-term socio-economic consequences of the pandemic, governments and educational stakeholders should implement both short-term and long-term measures. In the **short and medium term**, the main priority is to address gaps in the learning progress of children from disadvantaged backgrounds. This includes the following necessary steps for policymakers and those involved in education management:

- Use national assessments and school-level assessments to measure the learning progress of all children, and compare such data with learning frameworks as well as with the achievements of previous classes that have completed the relevant grades.
- Consult with teachers, school staff and relevant stakeholder groups on the most suitable approaches for specific groups of children to catch up on their learning. The specific vulnerabilities and resilience factors of each group need to be taken into account in the design of these approaches.
- Design mechanisms to support teachers, parents and other stakeholders in providing individualised support to children who have suffered disproportionate disruption of their education progress.
- Create extensive 'lessons learned' sessions involving both policymakers and stakeholders, for the purposes of developing education risk plans and strategies that can provide holistic educational solutions in the event of possible future school closures.

- Implement holistic education models as a means of fostering equal opportunities and reducing existing inequalities in education, particularly to account for disproportionate disruptions in education during the COVID-19 pandemic.
- Implement digital skills training for educators, learners and parents on an ongoing basis to ensure they remain up to date and prepared for digital learning in the event of school closures. Particular attention should be given to enhancing the digital skills of children at risk, children with SEN and children with a migrant background, including their parents and caregivers.
- Target the non-school vulnerability factors revealed in this report, which negatively impact education (e.g. the living conditions of migrants, refugees, minorities and disadvantaged learners, exposure to violence etc.)
- Enhance cooperation between schools and the parents/caregivers of disadvantaged children, to ensure their involvement in the learning process and, subsequently, their ability to provide learning support to their children.

However, for disadvantaged children in later stages of education, fewer opportunities may be available to catch up with their peers. Mitigation measures in this regard require the following **long-term approaches**:

- Review current lifelong learning and adult learning strategies, taking into consideration the results of national and school-level assessments, as well as the socio-economic consequences of disrupted learning. Identify the main areas in which disadvantaged children are most likely to lag behind later in life, due to their lower educational achievements.
- Strengthen lifelong learning and adult learning offers to address these gaps over the coming decades. Careers counsellors and school staff should actively think ahead about how disadvantaged children can continue learning after graduation.
- Develop joint strategies with educators, companies and vocational training providers to facilitate the transition to tertiary education for young people in graduation classes who have been affected by interruptions in their education due to school closures.
- Analyse in greater detail the advantages, good practices and resilience factors, such as the development of independent learning strategies, intensified family time, different approaches for online learning and other strategies that have evolved during the school closures, and identify how these can be beneficial for learning during normal school times and for building increased resilience among children.
- Educators as well as governments should strengthen their focus on skills training and the recognition of skills and on short-term learning opportunities. The talents of children and young adults must be recognised beyond school-level achievements. Recognising talents and skills will also enhance students' self-esteem and subsequent emotional well-being.
- Foster collaboration at all levels – local, regional, national and international – concerning good practices and preparedness in relation to responses to changed conditions, as well as long-term strategies for inclusive learning and teaching.





It is important to note that while the main disruptions of education in Europe took place between March and May 2020, additional interruptions due to full or partial closures have continued to affect learning during the period of November 2020 – April 2021. Furthermore, it is unclear how the (sometimes lengthy) partial closures have affected learning.

Despite existing transformations towards digitalisation and the use of digital tools in education, the pandemic demonstrated that curricula, pedagogies and the capacities of educational actors were insufficiently prepared for an abrupt and unplanned switch to completely remote education. On average, only 58 % of EU citizens possessed basic digital skills in 2019 (ranging from 30 % of retired persons to 82 % of individuals aged 16-24), and significant differences in access to digital tools and the internet are visible both within countries and across the EU (European Commission, 2019). This demonstrates that many children faced significant barriers to having meaningful access to digital learning, for example due to the lack of ICT tools at home and parents' lack of ICT skills to provide effective support.

In addition, the switch to full-time or partial online education at different stages of the pandemic disproportionately affected the learning process for children from disadvantaged backgrounds due to their particular educational needs and vulnerabilities. (Carvalho & Hares, 2020). The most frequently reported exacerbation of inequality was in access by children from disadvantaged socio-economic backgrounds to the internet and digital tools that would enable them to participate in remote learning (Stelitano, et al., 2020).

However, educational inequalities during the COVID-19 pandemic go beyond mere access to the internet and computers. Parents from disadvantaged socio-economic backgrounds or with lower levels of educational attainment are likely to be less able to provide their children with effective learning support, compared with parents of higher socio-economic status. This is easily applied to migrant children as well, whose parents may have subject knowledge, but lack sufficient language skills to support their children with assignments provided in the language of schooling (Di Pietro, Biagi, Costa, Karpinski, & Mazza, 2020).

Among those students with access to the internet and computers, a survey in the UK found that about 75 % of teachers saw a lack of engagement (i.e. active participation) among vulnerable children as their main challenge (Julius & Sims, 2020). A similar survey in Ireland found that 32 % of children from vulnerable or disadvantaged communities were considered 'low-engaged', compared with 11 % of non-vulnerable students (Devit, Bray, Banks, & Chorcara, 2020). Overall, several authors have already warned that children from poorer families are more likely to drop out of education permanently during school closures (Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020).

UNICEF and the Global Education Partnership have reported that assistive technology and additional educational support can be provided to children with disabilities or special learning needs, even in mainstream education. However, they warn that these tools are often only available in schools and are therefore inaccessible to children during school closures (McClain-Nhlapo, 2020) (UNICEF, 2020). These children may also be more affected by the changes to routines and schedules caused by school closures. Initial reports and studies have found that many parents struggle to provide the same routine and structure at home, or to encourage their child to participate in virtual education sessions (Nelson, 2020).

Various attempts have been made by governments, schools and other institutions to keep disadvantaged children involved. A national teacher survey in the UK found that 96 % of school leaders try to keep disadvantaged children engaged through additional check-ins and communication. In addition, 75 % of schools were reported to have provided social

support to these children, often in collaboration with other agencies (Julius & Sims, 2020). Half of Dutch teachers who completed a national survey believed that the extent to which they could provide extra support to children with special needs had decreased during the COVID-19 crisis (AOB, 2020).

It is likely that current exacerbations of learning inequalities, delays in learning and possible learning loss among disadvantaged children will have long-term socio-economic consequences on both society and the economy, as well as on the individual opportunities of disadvantaged children. Therefore, mitigation efforts by governments and school staff are of great importance in minimising the disruption of learning progress caused by COVID-19.

## 1.2 Thematic focus and structure of the report

The present NESET-EENEE report analyses in detail how school closures during the first and second wave of the COVID-19 pandemic affected learning progress among disadvantaged children and adolescents who in school education, the ages of which differ among the EU countries (generally between the ages of 6 and 19).

In its analysis, the report focuses on the different (but often interlinked) consequences of the pandemic on education and progress in education, summarised using the term 'learning disruptions'. In this paper, learning disruptions may include (or be caused by):

- *Delays in learning*: This refers to the inability of children to reach the educational objectives of a year, due to reduced teaching and learning hours. This may be caused by slow and/or inefficient switches from face-to-face to distance education.
- *Learning loss*: The term 'learning loss' refers to any specific or general loss of knowledge and skills or to reversals in academic progress, most commonly due to extended gaps or discontinuities in a student's education.<sup>2</sup>
- *Learning inequality*: This refers to lower achievement or lower levels of access to and participation in education by some groups of children in comparison to others.

The report will also determine how conditions arising as a result of mitigation measures have impacted learning loss, delay and inequality among different groups of disadvantaged children and young people. In this regard, 'mitigation measures' include those measures taken by governments to enhance access to education for disadvantaged children during the pandemic (e.g. providing laptops) and to reduce learning disruptions.

Based on this analysis, the report reflects on the possible short-term and long-term social and economic consequences of the COVID-19 pandemic, in terms of school achievements and transitions, aspirations, early school leaving, possible losses of earnings and overall economic decline.

To analyse the impact that the COVID-19 pandemic has had on the education of disadvantaged children, the concepts of vulnerability and resilience will be applied (these will be explained in Chapter 2). The term 'disadvantaged children' will be applied broadly to cover groups of children such as at-risk children, low achievers, early school leavers, children in low-income households, children with special needs, and children from minority groups. In this report, particular attention will be paid to three distinct groups of disadvantaged children who have been affected by the switch to distance learning due to various pre-existing vulnerabilities.

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<sup>2</sup> Definition as used by <https://www.edglossary.org/>



Table 2. Categories of children who faced particular learning disruptions during the COVID-19 pandemic

Category	Particular vulnerabilities during COVID-19
<b>Children with special educational needs (SEN)</b>	The report will review how the COVID-19 pandemic has affected the learning progress of children with disabilities and special educational needs who are enrolled in mainstream education. This includes both children with a physical disability and children with learning disorders (e.g. dyslexia) or mental disorders (e.g. ADHD, autism spectrum conditions). Inclusive education for children with special needs includes their enrolment in mainstream education to the extent possible, while ensuring that adaptations are made to facilitate their individual needs. These include both special infrastructural facilities as well as individualised learning plans and learning support. During COVID-19-related school closures, children with special needs cannot access the special facilities present in schools, and teachers may not be able to provide the same level of individualised and personalised support.
<b>Children from at-risk households</b>	In this study, children at risk are defined as children from lower socio-economic backgrounds whose parents have limited financial and academic resources to support learning from home, as well as children from fragile family contexts where support and care for the child is limited.
<b>Refugee, migrant and ethnic minority children</b>	Migrant and minority children form an important group of at-risk children requiring separate consideration, as they may face both a lack of personalised educational support as well as the lack of a suitable learning environment at home (e.g. due to poverty and/or the linguistic capacities of their parents to support schooling in the language of the host country). The report will distinguish, where possible, between: <ul style="list-style-type: none"> <li>- Refugees and asylum seekers on the move</li> <li>- Refugees in countries of destination</li> <li>- Established migrants</li> <li>- Roma</li> </ul>

Interplay often exists between vulnerability and resilience factors, which may be dynamic, affecting different people in different ways, and may be cumulative. Understanding these factors and their interplay can enable the reduction of vulnerabilities and an increase in resilience during 'hazardous events'.

The interplay between vulnerability and resilience during the COVID-19 school closures influences the extent to which disadvantaged children will experience disproportionate disruption to their learning progress compared with their peers. Learning disruptions during school education will significantly impact the opportunities of children later in life, not only in terms of income, but also with regard to their overall socio-emotional development and position in society.

The report builds on a review of the available literature on the effects of the COVID-19 pandemic on disadvantaged children. As no extensive academic coverage of the topic yet exists, the authors have studied the evidence on educational developments during the COVID-19 pandemic in relation to the areas of vulnerability and risk to disadvantaged children, in order to draw conclusions as to how school closures have affected the learning progress of these children.

### 1.3 Education policy responses to mitigate disproportionate disruptions to learning

As noted above, the closure of school institutions and the switch to online learning were emergency measures, implemented without careful planning and modelling of their potential impact and consequences on learning. Even less *ex-ante* research was carried

out with regard to how distance learning as part of school education might affect disadvantaged children.

### 1.3.1 First-wave responses

Throughout the spring of 2020, a diverse set of measures were put in place by European governments, as well as by schools themselves, to respond to the needs and challenges that occurred because of school closures. The rationale for the decision to close schools was driven in its entirety by the need to mitigate the spread of COVID-19.

A major concern during the first wave of the pandemic was the lack of any time to conduct comprehensive *ex-ante* evaluations concerning how school closures would affect learning progress. Simultaneously, policymakers in many countries failed to actively include education stakeholders in the making of decisions regarding COVID-19 mitigation measures. As a consequence, policymakers lacked clear insight into the possible consequences of their policies (Van der Graaf, Siarova, Dunajeva, & Bankauskaite, 2021).

An international survey of school staff, policymakers and educational stakeholders conducted by the OECD and Harvard in March 2020, found that only slightly over 40 per cent of countries focused to a great extent on 'support to education of disadvantaged students'; less than 30 % focused to a great extent on 'support to education of students with special needs'; 25 % focused to a great extent on 'support to students whose parents have limited command of the language of instruction'; and less than 20 % on 'support to students at risk of violence at home' (Reimers & Schlechter, 2020). Attention to vulnerable children was therefore not perceived as a main priority or area of focus by most countries during the first wave of the pandemic.

The 2020 global UNESCO-UNICEF-World Bank Survey on National Education Responses to COVID-19 School Closures found that among 121 ministries, 53 % had implemented support to learners with disabilities, 40 % provided additional support to low-income households, 20 % designed learning materials in minority languages, and 16 % made special efforts to make learning more accessible for migrant children (UNESCO; UNICEF; World Bank, 2020). Therefore, various countries did make efforts to ensure the continuity of education for disadvantaged students.

Upon switching to online education, governments across Europe were quick to recognise that not all children had equal access to ICT tools and the internet, or possessed the ability to use them meaningfully for education. PISA 2018 results show that overall, between 85 % (Ireland) and 99 % (Denmark) of children have access to a computer for schoolwork. However, differences of up to 20 percentage points exist between children from advantaged and disadvantaged schools<sup>3</sup> (OECD, 2020a). One of the first actions taken by governments in spring 2020 to ensure continuity of learning for all children was the distribution of laptops and ICT tools to children from lower socio-economic backgrounds. Examples of the approaches taken by various governments are presented in Table 2.

*Table 3 Different governmental approaches to the distribution of ICT resources*

Country	Distribution of ICT tools
Austria	During the first lockdown, the government provided around 12,000 tablets and computers to students who did not have computers or laptops at home. Needs were assessed by the Ministry of Education, and the measure was aimed at students

<sup>3</sup> In this OECD study, a socio-economically disadvantaged school is defined as a school whose socio-economic profile (i.e. the average socio-economic status of the students in the school) is in the bottom quarter of the PISA index of economic, social and cultural status among all schools in the relevant country/economy

	attending federal schools. The Ministry also loaned necessary equipment to students in provincial schools from May onwards (Multinlude, 2020).
Croatia	The Ministry of Science and Education agreed that schools should provide internet access and necessary digital technology to poorer families who could not afford them. The Ministry dedicated four million kunas (half a million euro) to those schools that lacked sufficient equipment, so that they could buy and provide the necessary equipment to families in need (Cvrtila, 2020).
Czechia	The government dedicated CZK 1.3 billion (EUR 50 million) to public basic schools. Part of these funds were to be allocated to buying equipment for students who did not have the necessary technology at home (Eurydice, 2021). In addition, various NGOs collected and distributed digital technology tools to Roma families without computers, so that their children could continue their education online (Institute of Sociology of the Czech Academy of Sciences, 2020).
Greece	The Ministry of Education provided all schools with laptops and tablets, supported by private donations and European funds. Priority was given to children from low-income families, families with at least three children, students with special educational needs or high achievers (Cedefop, 2020).
Latvia	During the first lockdown, the largest internet provider in Latvia agreed to provide schools with unlimited internet access (Cedefop, 2020). The Ministry of Education also agreed with various mobile phone companies and retailers that they would provide internet access and supply digital devices to children in need (EU Agency for Fundamental Rights, 2020a).
Slovenia	During the first lockdown in Slovenia, various measures were put in place to support the most disadvantaged learners. For example, systems were implemented to allow people to donate their laptops and computers to those in need. The government initiated the project 'DIGI School', which collected 950 modems and 1,300 computers and distributed them to children who lacked these devices (EU Agency for Fundamental Rights, 2020b).

Although the provision of ICT tools and internet connections enhanced physical access to learning among disadvantaged children, it did not address other elements of vulnerability, such as a lack of parental support and suitable learning environments at home. In the OECD survey, 40 % of respondents considered support to parents and caregivers as 'critical', while another 40 % found it 'somewhat critical'. However, 45 % regarded ensuring support for parents to support student learning as very challenging (Reimers & Schlechter, 2020). Furthermore, 31 % perceived challenges in relation to the lack of availability of parents and caregivers for this purpose, while 32 % regarded it as a challenge to achieve adequate communication with parents to coordinate curriculum-aligned learning (Reimers & Schlechter, 2020). These findings show that governments lacked either the recognition of parental support as a priority, or lacked the ability to provide effective support to parents during distance learning. Similarly, a survey among teachers in the USA found that 11.4 % observed major limitations in communication with parents during spring 2020, with 61.4 % observing minor limitations (Hamilton, Kaufman, & Diliberti, 2020).

Compared with the distribution of laptops, the support provided to parents in disadvantaged families was more limited. In numerous countries, general support documents for parents were prepared on how to engage with their children's learning. These were mostly put together by NGOs. No structural (national-level) support was provided to disadvantaged families to create a suitable learning environment with sufficient parental support at home.

*Box 1. Support for parents of disadvantaged children*

In Ireland, the Ministry of Education provided numerous online resources to support parents during school closures. Documents were also distributed that were specifically dedicated to the parents

of children at risk of educational disadvantage and those with special educational needs.<sup>4</sup> In particular, the guidelines encouraged schools to co-ordinate the key messages for parents and guardians of children with SEN, and to ensure that the tone of these messages was supportive and showed understanding of the exceptional situation families found themselves in (Irish Department of Education, 2021).

In Portugal, some Learning Support Centres provided face-to-face and distance support in coordination with schools, to ensure the continuity of personalised support services (OECD, 2020e). Exceptional (financial) support was available for workers who needed to be absent from work due to the urgent need to assist a child under 12, or a child with a disability or chronic illness, regardless of age, as a result of school closures (Government of Portugal, 2020).

Aside from the ability of parents to support their children's learning, the pandemic also affected the extent to which teachers and school staff could continue to provide individualised learning support and inclusive education approaches.

Across Europe, many digital platforms used for mainstream education proved to be less suitable (or not suitable at all) for children with certain types of special educational needs or disabilities. Some examples can be found of government guidance regarding distance learning for children with disabilities in special education facilities; however, in most countries, limited additional support was provided in relation to children with special educational needs in mainstream education.

#### *Box 2 Guidance for children with disabilities or special needs in mainstream education*

In Estonia, 'Pathfinder Centers' provide free support to all schools and teachers in organising home schooling and distance learning for learners with disabilities. Pathfinder is an all-Estonian network that offers free study counselling to adults who support children in education – parents, teachers, support specialists, etc. (Rajaleidja)

The Greek government sent out various circulars on the education of children with disabilities, including detailed instructions on where to find accessible digital material, adapted according to various types of disability and educational needs.<sup>5</sup>

The tremendous pressure on teachers across Europe caused by the sudden switch to remote learning has been well documented. In addition to adopting new educational technologies to mitigate overall learning disruptions, teachers were tasked with ensuring that disadvantaged students did not fall behind or drop out completely. The increased workload imposed on teachers – including educating and providing feedback to students remotely, filling out administrative reports, and implementing guidelines and toolboxes for remote education provided by ministries – brought many in the profession to the brink of burnout (Barron, Cobo, Munoz-Najar, & Ciarrusta, 2021). Unfortunately, while the support given to teachers by governments may have been relevant in terms of content, the need to study these additional guidelines presented teachers with an additional workload, thus taking time away from providing individualised support to children.

### **1.3.2 Second-wave responses**

The first wave of the pandemic (spring 2020) witnessed the systematic, nationwide closure of education institutions across Europe. During the second wave, approaches across Europe differed with regard to school closures, partial or hybrid approaches, and length of such closures, as illustrated in Table 1 above. While school closures still occurred, the UNESCO

<sup>4</sup> See, for example, the website of the Irish government, Department of Education: <https://www.education.ie/en/Schools-Colleges/Information/continuity-of-schooling/continuity-of-schooling.html#parents>

<sup>5</sup> See, for example, the website of the project 'Development of Accessible Digital educational Material' here: <http://prosvasimo.iep.edu.gr/en/>

database 'Global Monitoring of school closures caused by COVID-19' shows that most countries aimed to keep schools open as long as possible.<sup>6</sup> By May 2021, half of EU countries had fully opened their schools, while the other half had introduced arrangements for partial opening (e.g. based on rotation and hybrid education).

The rationale for reopening comprised various arguments ranging from the need to mitigate learning disruption, to lockdown protests. Opinions about school closures varied. Some groups of people were concerned about the spread of COVID-19 in schools and the insufficiency of hygiene rules (e.g. in Germany), while in Italy, parents and children launched a large-scale protest in March 2021 against school closures (Reuters, 2021).

Initial research at national and cross-country levels throughout spring and summer 2020 helped to inform governments as to gaps in virtual learning infrastructure, gaps in teachers' competences to provide virtual education, and gaps in children's access to virtual education (OECD, 2020f). Based on its findings, some progress can be seen with regard to digital education policies and support during the second wave, although no comprehensive overview of national policies during spring 2021 has yet been compiled.

Education ministries in various European countries indicated in November 2020 that they were more prepared during the second wave of COVID-19, and were more able to efficiently switch to virtual education during the second phase of lockdown (Van der Graaf, Siarova, Dunajeva, & Bankauskaite, 2021). During this second phase of school closures, more children were provided with ICT tools to access the internet and governments introduced additional training for teachers to enhance their ICT competences (Van der Graaf, Siarova, Dunajeva, & Bankauskaite, 2021).

However, various challenges have remained as the pandemic and (partial) school closures linger on. For example, children's well-being and online safety have only recently started to emerge as topics on the policy agenda. Furthermore, EU Member States still lack comprehensive strategies – including approaches to consultations with stakeholders – with regard to the continuity and quality of education in times of crisis. Lastly, and most importantly for the current study, no conclusive strategies and approaches are yet in place to address the learning gaps exacerbated by the COVID-19 pandemic, which has disproportionately affected disadvantaged children (Van der Graaf, Siarova, Dunajeva, & Bankauskaite, 2021).

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<sup>6</sup> The UNESCO database 'Global Monitoring of school closures caused by COVID-19' can be found here: <http://COVID19.uis.unesco.org/global-monitoring-school-closures-COVID19/regional-dashboard/>

## 2. Vulnerabilities and resilience

### 2.1 Concepts of vulnerability and resilience

As observed by Zancajo (2020), the 'effects of school closures are distributed very unequally among social groups'. This chapter attempts to unpack the distribution of the effects of school closures on the education of disadvantaged learners through the concepts of vulnerability and resilience.

(Social) vulnerability is defined as the 'characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard' (Wisner, Blaikie, Cannon, & Davis, 2003), in this case, the outbreak of COVID-19. Vulnerabilities may be subdivided into various categories, the nature of which determines the capacity of an individual or policymakers to alleviate such vulnerabilities. These categories may include personal, contextual and situational vulnerabilities (Innes & Innes, 2013). Personal vulnerabilities may relate to an individual's age, gender, ethnicity, or having a disability. Contextual vulnerabilities may be the intended or unintended result of a policy, such as the closing of schools, and therefore a change in policy can significantly reduce this vulnerability. Situational vulnerabilities are those to which a person finds themselves subjected due to a particular life event. These may include illness; being on the move; or here, a pandemic.

In reality, these three categories both overlap and interact, and the people concerned tend to be affected by a number of different factors and categories of vulnerability at the same time, exacerbating their situation. Some vulnerabilities are fixed – mainly those on the personal level – but may be exacerbated or mitigated under certain conditions, while others, such as policies, may be changed. This implies this type of analysis is highly relevant to the policymaking context.

Resilience comprises 'positive protective factors or processes that lead to the successful adaptation of young people in spite of being affected by risk factors' (Kumpfer, 1999). More specifically, resilience can be described as 'the ability to overcome and adapt to adversity, trauma, tragedy, threats, or significant sources of stress'. It describes the 'positive social, emotional and cognitive outcomes of children and young people at risk of or experiencing adversity in their lives' (Cefai, Bartolo, Cavioni, & Downes, 2018).<sup>7</sup> Educational resilience is defined by Wang, Haertel, & Walberg (1994) as 'the heightened likelihood of success in school and other life accomplishments despite environmental adversities'. In this paper, resilience is understood as those factors that contribute to preventing learning disruptions during the COVID-19 pandemic and its related school closures.

Resilience factors include support networks (e.g. family, community), as well as conducive policies, interventions, programmes etc. These may be subdivided into the same categories as vulnerabilities (personal, contextual and situational). Hence, resilience may be based on personal characteristics or determined by personal circumstances. Such forms of personal resilience may be maintained or enhanced by external resilience factors such as supportive interventions by governments or NGOs, or compromised by external vulnerability factors such as poor school performance or a lack of parental engagement.

According to the human security approach, resilience must be built up in two dimensions: 1) protecting people from threats (in this case, learning loss or learning disruptions), which

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<sup>7</sup> 'Resiliences' in this analysis are mainly conceptualised as resilience factors and only partially as socio-emotional competence.



is usually the responsibility of governments and NGOs ('top-down'); and 2) empowering people so that they have the capacities and abilities to ensure their own security – in the present context, their learning progress ('bottom-up') (UN Human Security Unit, 2009).

Interplay often exists between vulnerability and resilience factors, which may be dynamic, affecting different people in different ways, as well as being cumulative (Healy, 2019). Some factors, such as personal characteristics and overall conditions, may remain static and constant over time; others, such as personal circumstances, policies or school practices, may be dynamic and subject to continuous change (Norris, Stevens, Pfefferbaum, Wyche, & Pfefferbaum, 2008). Understanding these factors and the interactions between them can enable the reduction vulnerabilities and an increase in resilience during 'hazardous events'. In the context of the COVID-19 pandemic and the related school closures and lockdowns, the identification of vulnerabilities can enable measures aimed at reducing or mitigating vulnerability factors in order to limit their negative effects on the education of disadvantaged learners. Identifying resilience factors can enable measures to capitalise upon them and enhance their potential to mitigate negative impacts on the education of disadvantaged learners.

This study has confirmed the strong interplay between resilience and vulnerability in the context of COVID-19 school closures. No individual is affected by only one factor or dimension of resilience or vulnerability, but rather by a particular constellation of personal, contextual and situational vulnerabilities. A number of the vulnerabilities and resilience factors identified, especially those on a personal and contextual level, existed before the outbreak of COVID-19 – but their impact on the education of affected learners has been exacerbated by the pandemic. In contrast, situational vulnerabilities and resilience factors are direct results of COVID-19 school closures, or responses to them. They may lead to new vulnerabilities or forms of resilience, and some of them affect all learners in a similar way.

The forthcoming sections analyse personal, contextual and situational vulnerabilities and resilience factors in detail, differentiated by their identified dimensions. The selection of vulnerability and resilience factors presented is not exhaustive, particularly with regard to general educational vulnerabilities and resilience factors during normal school times. Rather, the selection was informed by those factors of vulnerability and resilience that appeared to be particularly relevant in the reviewed literature describing and analysing educational factors during COVID-19 school closures and distance teaching.

## 2.2 The impact of the COVID-19 pandemic on vulnerabilities and resilience factors relating to the education of disadvantaged learners, at the level of personal characteristics and circumstances

Figure 1. Vulnerability factors relating to personal characteristics and circumstances

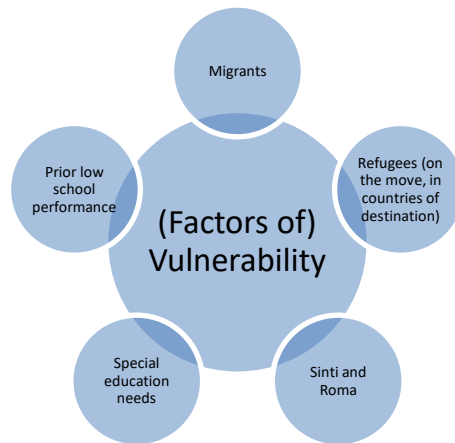
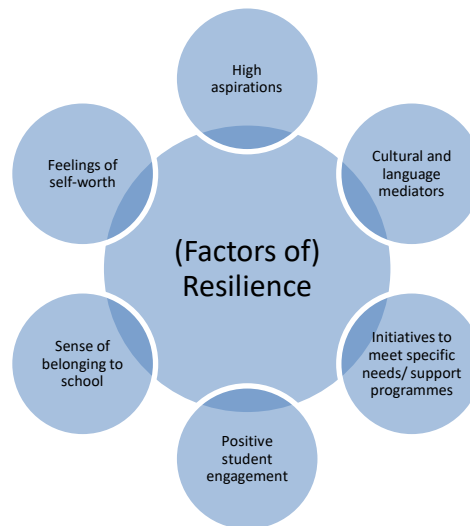


Figure 2. Resilience factors relating to personal characteristics and circumstances



### 2.2.1 Children with refugee, migrant or ethnic minority status

In 2020, 5.1 % of the EU population were non-EU citizens, 8.2 % were born outside the EU, and 0.6 % were refugees (European Commission, 2021). In 2019 – the year before the COVID-19 outbreak – 33,200 children were newly arrived in Europe, constituting a 7 % increase compared with 2018. Of these children, 9,000 were unaccompanied or separated, and 17,500 were undergoing resettlement procedures (UNHCR, UNICEF, & IOM, 2020). Shortcomings in data collection mean that the exact numbers of children and adolescents belonging or perceived as members of racial or ethnic minority groups are not known. The most sizeable communities in Europe are estimated to be 19 million European Muslims, eight million Black Europeans, and seven million Roma (ENAR, 2015).



Refugees, migrants and ethnic minorities were subject to collective conditions and challenges that impacted their educational development during COVID-19 school closures, and constituted factors of vulnerability. In addition, refugees, migrants and ethnic minorities were also subject to an increase in racist and xenophobic incidents linked to the COVID-19 outbreak. In many countries, xenophobic developments during the pandemic followed pre-existing patterns of discrimination, targeting migrants from areas with limited or no risk of COVID-19 infection or long-term residents (D'Ignoti, 2020). Children assumed to be of Asian origin faced harassment and discrimination. This is likely to have had an impact on their feelings of safety and emotional well-being (Guadagno, 2020).

Limited access to the internet and digital devices decisively reduced the ability of migrant and minority learners to participate in online teaching. Some completely dropped out of the educational process. While some teachers – especially those who were already attentive to the needs of such learners before the pandemic – made repeated efforts to maintain contact (e.g. through individualised support, phone calls and translating assistance), others did not. Some teachers were unable to devote additional time, resources, and energy to migrant learners because they felt overwhelmed by preparing courses and by the demands resulting from the rapid transition to distance teaching (Gornik, Dežan, Sedmak, & Medarić, 2020). Focusing on teaching content often led to pushing aside the psychological and emotional needs of migrant and minority learners. This resulted in some of these learners not being contacted by teachers, counsellors, or anyone employed by the school (Gornik, Dežan, Sedmak, & Medarić, 2020). Furthermore, migrant learners often spent less time on schoolwork (Bayrakdar & Guveli, 2020), (Eurochild, 2020).

Many of the existing measures that facilitate equal opportunities for migrant and minority children, such as additional language learning and migrant learning support, were discontinued during school closures. This placed these children at a significant disadvantage (Cerna, 2020; Gornik, Dežan, Sedmak, & Medarić, 2020). These courses, as well as the physical school setting, provide migrant learners with opportunities not only to learn the language but also to make new friends and settle into their new environment. Interruptions in these social spaces and language learning opportunities can have long-term impacts on migrants' educational outcomes. This is especially true when a lack of language skills negatively affects their educational aspirations or even contributes to their disengagement from the school system (Gornik, Dežan, Sedmak, & Medarić, 2020).

Equal opportunities, living and learning conditions, and learning outcomes of migrant children are largely dependent on their family context and the support they receive from their parents. This has been especially true in the context of COVID-19 school closures (Gornik, Dežan, Sedmak, & Medarić, 2020). Migrant, refugee and ethnic minority parents are overrepresented among key workers (e.g. health and care professions, the food industry, transport). This made it impossible for many of them to work from home during school closures, and hence they were not home for most of the day to support their children with schoolwork (Cerna, 2020; Guadagno, 2020). Migrant, refugee and minority parents also often have limited resources and limited abilities to support their children's learning, partly due to limited proficiency in the language of the host country, their own limited education and due to technological challenges (Cerna, 2020), as well as their limited knowledge of the host country's education system, curricula and teaching style. They may also lack sufficient information about school closures, online learning arrangements or other services due to their limited language skills (Cerna, 2020). These factors make it difficult for many of them to adequately support their children during periods of online teaching (Bayrakdar & Guveli, 2020).

Despite these challenges, many migrant parents have tried as far as possible to support their children's education during school closures. With reference to the limits of this

support, Gornik, Dežan, Sedmak and Medarić (2020) emphasise that the lack of equality in financial, cultural and social resources in the family context contributes negatively to equal opportunities, conditions and outcomes in the education of migrant learners.

However, some governments and civil society organisations (CSOs) have stepped in to support this group of learners – for instance, by providing computers, tables, internet access or teaching via television, phone or radio (Cerna, 2020). Translators and cultural mediators can also represent resilience factors in terms of bridging language gaps between migrant, refugee and minority parents and schools. Such intermediaries had been introduced in 19 out of 42 European education systems in 2019 (European Commission/EACEA/Eurydice, 2019), prior to the pandemic. During the subsequent school closures, some programmes targeted disadvantaged families, including those with a migrant background, to ensure that basic needs such as access to education were met (Alieva, 2021).

Furthermore, interventions that respond to social-emotional needs have proven highly effective for all learners, including children from ethnic and cultural minorities. They have a proven function as resilience factors by helping to reduce socio-economic inequality and promote equity, social inclusion and social justice (Cefai, Bartolo, Cavioni, & Downes, 2018). Some of these programmes were, however, interrupted during school closures.

In addition to these collective conditions, refugees on the move, refugees in host countries and Roma learners have also experienced certain specific circumstances, which are outlined below.

### ***Refugees, asylum seekers on the move***

Refugees and asylum seekers on the move are those on a journey from the countries from which they fled to those countries where they intend to seek refuge, both before and during the COVID-19 pandemic. New arrivals in Europe decreased with the outbreak of COVID-19, but numbers indicate the still-considerable size of the population on the move. Between January and June 2020, – the beginning and end of the first wave of the COVID-19 outbreak – 6,200 children arrived in Europe. Most of these (80 %) were registered in Germany (37 %), France (14 %), Greece and Spain (12 % each), and the United Kingdom (5 %). Of these children, 2,302 were unaccompanied or separated. During the same period, 5,800 children underwent resettlement procedures in Europe (UNICEF, 2021a). This trend continued in 2021, with 50,000 new arrivals between January and August, 25 % them being children (UNICEF, 2021b).

Refugees on the move are a particularly vulnerable group, as they have not yet arrived in their country of destination and are mostly not protected by any official system. Children in particular are vulnerable to abuse, gender-based violence and exploitation in countries of arrival, transit and destination (UNICEF, 2021b). Most children do not attend school during their journey. On average, by the time young refugees arrive in their country of destination in Europe, they have missed between 3 and 3.5 years of schooling; in many cases, even more. Due to asylum procedures, in most cases further time passes between their arrival and starting school (Tanczos & Koehler).

The COVID-19 pandemic has caused additional hardships for refugees on the move. Due to borders being closed, restricted transportation, lockdowns and so on, many people became stranded en route and were unable to continue their journeys as planned. Such migrants were unable to move around freely, and their asylum procedures were delayed (Mixed Migration Centre, 2021). While many obstacles already existed to migrants' access to education during their journey, these obstacles have been exacerbated during the pandemic. Those who have arrived during the pandemic are likely to remain in precarious conditions (and without school access) for extended periods of time due to limited

pathways to settlement in destination countries (UNICEF, 2021b). According to UNICEF (2021b), 'Capacities for reception, identification, protection and integration, particularly alternative care options for unaccompanied children, remain insufficient. Vulnerable children, young people and families are living in unsafe, overcrowded, precarious accommodations, and are unable to access protection, legal guardianship and basic services. Shifts in resource allocations and overstretched national capacities make it difficult to access quality, appropriate health, nutrition, protection and education services and basic supplies, requiring further investment in systems to respond to the specific needs of children, adolescent and families.'

According to a survey of refugees on the move in Africa and Asia by the Mixed Migration Centre, 47.8 % of children of primary school age received some kind of schooling before the outbreak of COVID-19, but only 8.3 % of children of secondary school age did so. Overall, 35.4 % of children received no schooling. During the pandemic (interview period: April 2020–January 2021), 14.6 % received some kind of partial schooling in person, while 14.5 % received full-time schooling in person; 26.2 % took part in distance learning; But 44.5 % received no schooling (Mixed Migration Centre, 2021). This shows that although the share of children not receiving schooling increased, this increase was not very large. The fact that around one-quarter of children on the move participated in distance learning indicates that distance learning may provide the potential to bridge the educational gap during migrants' journeys. However, it should be noted that the figures for children on the move who do not participate in any schooling are likely to be underestimated due to the fact that participation in the survey on which the figures are based, implies being connected with some structures. This excludes a number of children who are most likely not to attend school.

People on the move with children were also more likely to lose income due to the loss of their job, as well as requiring more support than those travelling without children. In addition, domestic violence increased and access to health services decreased among people on the move during the pandemic, placing children at higher risk. People on the move also felt higher levels of anxiety and worries, and were increasingly subject to racism and xenophobia (Mixed Migration Centre, 2021).

### ***Refugees in countries of destination***

Refugee learners are particularly vulnerable, suffering disadvantages due to their living conditions in host countries, as well as their lost education and adverse experiences prior to and during their flight (Rude, 2020). These latter factors not only result in gaps in education, but also emotional distress and trauma. The pandemic is likely to have exacerbated these emotional and mental conditions (Cerna, 2020).

During the COVID-19 pandemic, refugees' access to asylum procedures has been restricted. In Spain, unaccompanied minors who were studying lost their access to educational activities (Eurochild, 2020). Social support services were mostly unavailable. This situation caused additional stress and insecurity for refugee families.

### ***Housing conditions***

In host countries, refugee families mostly live under difficult and sometimes crowded housing conditions, resulting in limited study space. Children often lack a quiet space to study (OECD, 2020c; Primdahl, et al., 2021). This made learning for refugees particularly difficult during periods of distance teaching, increasing the likelihood of them losing motivation (OECD, 2020c).

Vulnerability factors among refugee learners living in first-reception camps were even more pronounced. Housing conditions in these camps are especially cramped and mostly precarious. In several EU countries, organisations have expressed concerns about health risks from overcrowding at refugee reception centres, where people lack the possibility of self-isolation and social distancing (Fundamental Rights Agency, 2020). Some reception centres in Germany experienced major outbreaks of COVID-19, and were thus placed under complete quarantine (Rude, 2020). In certain cases, quarantines (both for those who have been in contact with an infected person, and those directly infected) were excessively prolonged, leading to chain-quarantines of up to two months, such as that reported in one refugee reception centre in Germany (Fundamental Rights Agency, 2020). During this time, refugee learners were left without any access to education.

### *Access to and usability of online teaching methods*

Many refugee reception centres lack computers, desks and internet access. Most reception centres in Germany have WiFi hotspots, but these were often not accessible during lockdowns. Only 56 % of children in reception centres in Germany have access to the internet and 40 % have access to a computer, which in 86 % of such cases is shared (Rude, 2020). In Denmark, many learners in preparatory classes could not participate in online teaching due to a lack of computers, WiFi or credit on mobile phones (Primdahl, et al., 2021).

Teachers in Germany and Denmark experienced difficulties in reaching refugee learners during school closures. In Germany, refugee learners living in reception centres often were not reachable or had very unreliable internet access. Their educational success often depended on the individual engagement of teachers, which made such children very vulnerable (Rude, 2020). Teachers of preparatory classes in Denmark found it very difficult to keep in touch with their students during lockdown, and worried about their students' psychosocial well-being (Primdahl, et al., 2021).

Some refugee learners experienced challenges in using online school portals due to lockdown requirements. It also turned out that the online platforms used by most schools were not suited to the informal nature of educators' care practices or for variations in written and oral language competences that often exist in preparatory classes among learners from different regions. In addition, the care work carried out by teachers with regard to refugee learners was restricted by a lack of appropriate organisational and material resources (Primdahl, et al., 2021). Non-verbal communication, which takes place during physical teaching and is especially important for language learners, could not take place via the online portals that were in use. This also limited opportunities for social support, which had a negative impact on learners' well-being and motivation to carry out their schoolwork from home (Primdahl, et al., 2021).

### *Health and overall well-being*

Refugee learners were often especially affected by limited social contact during the COVID-19 pandemic, due to their lack of social networks in the host country. Being in quarantine can exacerbate feelings of isolation. Refugee learners are also more likely to have specific emotional and mental conditions, due to previous trauma and experiences of adversity (Cerna, 2020), as well as reduced care work by teachers and the unavailability of services (Primdahl, et al., 2021).

Lack of access to social services was particularly severe for refugees, whose access to asylum procedures was also restricted or delayed (Rude, 2020). In addition, they lacked information regarding COVID-19 (Fundamental Rights Agency, 2020). Coupled with insecurity as to their status and fears over deportations (which were not completely

suspended in several EU countries), these situations intensified emotional stress and may have led to the re-traumatisation of refugee learners. The Federal Working Group of Psycho-Social Support centres for Refugees and Victims of Torture reported a rise in cases of psychological distress. Those were explained by the limited psychological care and aggravated insecurity in quarantined accommodation centres (Fundamental Rights Agency, 2020).

These vulnerability factors exacerbated existing inequalities in the education system and in society in general (Rude, 2020; Primdahl, et al., 2021; Cerna, 2020). Learning opportunities for refugee children were reduced (OECD, 2020b), as was their participation in the social life of the school. This may have diminished their sense of belonging to the school and to society as a whole, resulting in the risk of re-igniting feelings of distress and re-traumatisation (Cerna, 2020).

### ***Sinti and Roma students***

Roma and Sinti children and adolescents are among the groups most impacted by the COVID-19 crisis. Even during periods of normal schooling, the educational performance and well-being of these children often remain far behind those of most of the student population, including other marginalised minority groups (Rutigliano, 2020). They are often subject of segregated education, and this trend is rising. Between 2011 and 2016, the proportion of Roma children who are subject to segregated education increased from 10 % to 15 % (Fundamental Rights Agency, 2019).

In general, Sinti and Roma learners live under difficult housing conditions in which they often do not have a quiet place to study, or face technological barriers and have limited access to resources (OECD, 2020c). Across Europe, some such children live in slums or other over-crowded areas where they sometimes lack running water and often share facilities with others. One-third of Roma live in housing with no running water, and one-fifth experience discrimination when using public transport (Fundamental Rights Agency, 2019). Roma children are on average twice as likely as non-Roma to live in extreme poverty. Access to education and health care is often difficult, even during periods of normal schooling. At the same time, the school represents a point of reference for Roma families where they can access knowledge, administrative support and nutritious meals (OECD, 2020c).

With the physical closure of schools, the risk of Roma learners falling further behind increased (Rutigliano, 2020). Among others factors, this was because their access to online teaching was very limited (OECD, 2020c). Furthermore, Roma parents often work in the informal sector (Rutigliano, 2020), which made it more difficult for them to support their children. They were also more likely to lose their source of income during the pandemic, resulting in financial challenges for the family. These vulnerability factors meant that the learning opportunities of Sinti and Roma children were reduced during COVID-19 school closures, and they were more likely to lose motivation (OECD, 2020c).

Some governments and organisations have supported Roma learners and their communities – for instance, by informing them in Romani about the crisis and what measures to adopt (Slovakia); putting evictions from informal settlements on hold (France); and providing communities with running water, food and medication in collaboration with municipalities (Portugal, Italy and Serbia). Several governments and school districts have tried to reach Roma learners during school closures, and UNICEF has been working with ministries to develop initiatives aimed at reaching Roma communities where children have no access to quality health services or technology (Rutigliano, 2020).



## 2.2.2 Children with special educational needs in mainstream education

Across Europe, different approaches have been employed to ensure education for children with special educational needs. In Italy, Norway and Scotland, over 90 % of children with SEN are integrated in mainstream education. In Denmark and Finland, around 50 % are educated in special classes within mainstream schools. Belgium (Flanders) provides special, separate schools for children with SEN (European Commission, 2018). Learners with SEN are generally vulnerable. The COVID-19 crisis has affected various aspects of education for children with disabilities and special needs.

### *Individualised learning support*

First, the provision of individualised support already presented a challenge in pre-COVID-19 times, but the closure of schools has placed additional strain on both teachers and parents to maintain access to quality education for children with disabilities or special needs.

For example, a recent survey of teachers in the Netherlands found that the majority of teachers in special education and secondary education believed their ability to give personalised attention to students had decreased. This indicates that children in the Netherlands who need extra support have been most affected by school closures (AOB, 2020). This finding is supported by a survey among educators in the USA, in which 33.7 % said they had experienced major limitations and 50.9 % minor limitations in providing equitable education for all students (Hamilton, Kaufman, & Diliberti, 2020). In a similar vein, a study in the UK found that some parents of children with disabilities or SEN felt that their children's needs were insufficiently supported, due to a lack of tailored support (Asbury, Fox, Deniz, Code, & Toseeb, 2021).

Likewise, a survey among educators in Scotland in 2020 found that 50 % of teachers did not believe that the needs of children in their class with additional support needs were being met, compared with just 11 % who believed that their needs were met. The needs that teachers felt most challenged in addressing included emotional needs (67 %); social needs (60.6 %); and behavioural needs (37.8 %) (Education Institute of Scotland, 2020). One teacher stated in the survey that:

*'Very dyslexic pupils who need a greater amount of support to access written instructions have struggled greatly to engage particularly where this is combined with social family issues. Children with ADHD have struggled with the amount of screen time as this can lead to heightened behaviours.'* (Education Institute of Scotland, 2020)

The introduction of distance learning and reduced individual support from teachers has placed increased pressure on the families of children with special needs to provide specialised support to facilitate their learning. Such support may include continuous supervision in the execution of tasks and establishment of education routines (Plena Inclusion, 2020). Children with disabilities struggle more often to adjust to learning from home. They do not always understand that distance learning requires similar efforts, and that assessments are just as important as they were during face-to-face education. In addition, children with intellectual disabilities may face greater challenges to autonomous learning, particularly if they usually have a support person present in the classroom (Inclusion Europe, 2020).

Furthermore, the parents of learners with SEN often reported feeling unprepared or unable to support their children during distance learning (Nusser, 2021). Some suffered from exhaustion and high levels of burnout (Calvano, et al., 2021). Among those who relied on

social or educational support services, the burden became even greater when those services were inaccessible during school closures (Alieva, 2021). These factors are likely to have negatively impacted the capacity of such parents to support their children's learning. Clearly, insufficient individualised support increased the vulnerability of children with SEN.

### *Availability of learning resources at home*

Aside from support for learning from home, children with disabilities or SEN may not have enjoyed equal access during the pandemic to digital learning materials, either due to a physical lack of ICT tools or internet access and/or the unsuitable nature of the materials themselves. Various layers of access must be considered in this regard.

Like those of other vulnerable children, there is evidence that the families of disabled children have less access to the internet and ICT tools (Phoenix, 2020). Where children possess the minimum necessary ICT tools and internet access, they may not be able to use them to the same extent as their peers. Inclusion Europe warns that many students with intellectual disabilities have not been exposed to new technologies (Inclusion Europe, 2020). Spanish group Plena Inclusion and the EU Alliance for Investing in Children noted that many online platforms and resources are inaccessible to children with disabilities, because their design does not take into account the needs of persons with intellectual or developmental disabilities (Plena Inclusion, 2020) (EU Alliance for Investing in Children, 2020). Furthermore, online learning can be exceptionally difficult for children with attention deficit disorders (Inclusion Europe, 2020).

Lastly, children with special needs or disabilities may require additional technological resources that may not be available at home or in the context of the COVID-19 pandemic. Examples include accessible materials, talking calculators, text magnifiers, modified keyboards, audio books and other devices, as well as additional support from teachers to participate in learning (UNICEF, n.d.). Aside from specially adapted resources, UNICEF found that children with disabilities worldwide are 57 % less likely to possess children's books and 32 % less likely either to read or be read to (UNICEF, 2020).

All these findings show that the COVID-19 pandemic has disproportionately affected children with SEN, making them more vulnerable. It is also highly likely to have exacerbated the learning gap between children with and without special needs.

### *Mental health and well-being*

Educational routine, interaction with peers and participation in school activities are crucial to the wellbeing, social skills, and overall socialisation of children with disabilities and special needs. Various small-scale, studies have been conducted among parents and teachers with regard to the effects of school closures on children's well-being. One such study, for example, indicates that the disruption of education has sometimes exacerbated behavioural problems (Lee, 2020).

Lack of structure and routine is mentioned by several authors as a key challenge in relation to children's mental health and subsequent learning. It affects the social and emotional development of disabled children, exacerbating their mental health problems (Patel, 2020) (Inclusion Europe, 2020).

However, the social aspect of schooling is of equal importance. Children with learning disabilities benefit from being in a group of peers, as well as from social interaction, which cannot be replaced by online lessons (Inclusion Europe, 2020). The loss of social contact due to school closures has also been found to affect the well-being of children with autism

(Pellicano, et al., 2020). Parents of children with special needs in the UK mentioned a pressing need for certain children to see familiar faces, such as those of their teacher or teaching assistant (Asbury, Fox, Deniz, Code, & Toseeb, 2021).

In terms of socialisation, children with special needs and disabilities are more often victims of school violence or bullying. For example, Plena Inclusion in Spain found that 24 % of students with intellectual disabilities and 34 % of students with autism spectrum conditions suffered bullying (Plena Inclusion, 2020). These children were also particularly affected by forced isolation during the pandemic (Mariani, 2020). Due to not all parents making use of the available technological resources for parental control, and the COVID-19 pandemic leading to an increase in the amount of time children spent using the internet and social networks, situations of abuse (e.g. cyberbullying) are likely to have increased, and may take place unnoticed and uncontrolled (Plena Inclusion, 2020).

A further factor contributing to reduced learning opportunities for children with SEN during school closures was the fact that, in many contexts, their needs often appeared 'invisible' in terms of policy priorities, and were hence not considered in policy action plans (OECD, 2020b).

Certain initiatives have, however, attempted to address the needs of this group of learners, representing a factor of resilience that may have mitigated vulnerabilities in some contexts (Mariani, 2020).

### **2.2.3 Age**

Being a young child in need of care was a vulnerability factor in situations where parents were unable to work from home and had to leave the child unattended during school closures (see 2.4.1 on parental working patterns). Young children up to 10 years old are highly dependent on parental support, and are less likely to adapt to online learning if resources are lacking at home (Blasko & Schnepf, 2020).

### **2.2.4 Students' perceptions, engagement and performance patterns**

Low educational performance prior to COVID-19 school closures is a vulnerability factor that generally predicts a pattern of further reduced performance during and after the school closures (Engzell, Frey, & Verhagen, 2020). At the same time, positive student engagement (Bergdahl & Nouri, 2020), as well as a sense of belonging to the school and feelings of self-worth represent resilience factors (OECD, 2020b) that may have had the potential to mitigate vulnerabilities in certain dimensions.

There are some indications that distance learning may have fostered independent learning strategies, mainly among secondary school children. In some countries, secondary school children often studied independently during school closures (Alieva, 2021). This was partly due to parents feeling unable to help with schoolwork, which was the case for 25 % of students in the Netherlands (Bol, 2020). Hence, the development of improved independent learning strategies may positively impact children's, overall learning processes.

### **2.2.5 Gender**

Links between gender and school performance do not allow any general conclusions with regard to vulnerabilities or resilience factors. Across the EU, there are some indications of lower performance among boys in comparison to girls. Boys also make up a larger share of early school leavers (Staring, Donlevy, Day, Georgallis, & Broughton, 2021).



A study on the impact of the pandemic on third-country nationals in Spain found that the participation of boys in online learning was more disrupted due to their higher consumption of video games, running out of data and not attending online classes. Continuity of participation was greater among girls (Carrasco & Pibernat, 2020). At the same time, certain risk factors were identified in relation to girls, both during and after the pandemic. These include an increased risk of exploitation of girls and young women, and the risk of teenage pregnancies (UNESCO, 2020). These risks may have endangered the return to school after COVID-19 school closures for some girls and young women.

Hence, both girls and boys have been exposed to gender-specific factors of resilience and vulnerability. The manifestation of these factors is mostly context-specific, however, and does not allow any generalisations.

### 2.3 The impact of COVID-19 on vulnerabilities and resilience factors relating to the education of disadvantaged learners at a contextual level

Figure 3. Vulnerability factors relating to the contextual level

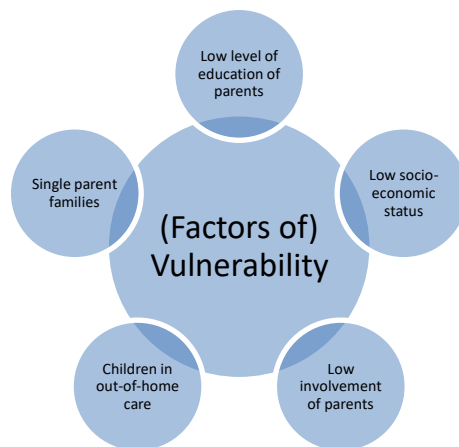
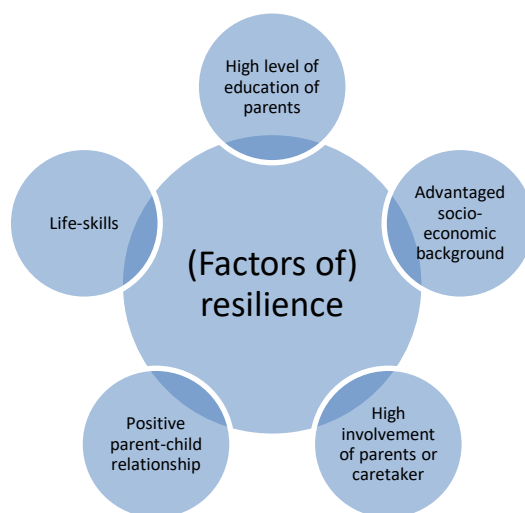


Figure 4. Resilience factors relating to the conceptual level



### 2.3.1 Parents' level of education

A low level of education among parents is one of the most pronounced vulnerability factors identified for learners during the COVID-19 school closures (Maldonado & De Witte, 2020; Bayrakdar & Guveli, 2020). Children of less educated parents often had less access to resources such as computers (Eurochild, 2020), the internet, reading materials or books (which are an important factor in the achievement gap), and a quiet place to study. Across Europe, between 10 % and 24 % of children who have parents with a low level of education lacked access to reading materials during the pandemic, which could not be compensated by school libraries during school closures. Furthermore, in most European countries, with the exception of Italy, Czechia, Slovenia, Portugal, Ireland, Spain and Malta, the children of less educated parents are less likely to have their own room (Blasko & Schnepf, 2020).

Less educated parents were often unprepared for distance and home schooling (UNESCO, 2020), as they had only a limited understanding of the school materials, lacked technical skills (Eurochild, 2020) and did not feel sufficiently competent to support their children's learning (Bol, 2020; Bayrakdar & Guveli, 2020; Cullinane & Montacute, 2020). Furthermore, the types of jobs held by most less-educated parents did not allow them to telework during school closures (Darvas, 2020).

Some 28 % of children whose parents had a low level of education lacked at least two of the following resources: their own room, reading opportunities, internet access, and parental involvement comparable to the 10 % of children with higher-educated parents (Blasko & Schnepf, 2020). This is likely to have led to learning disruptions (Maldonado & De Witte, 2020). Research in Czechia by Brom et al. (2020) found that parents without a university degree coped less well with the challenges of school closures – due, for example, to their lack of ICT devices, time and knowledge to support their children's learning. Engzell, Frey and Verhagen (2021) found that children in the Netherlands from families with low levels of educational attainment suffered 40 % higher learning losses than the average student (Engzell, Frey, & Verhagen, Learning loss due to school closures during the COVID-19 pandemic, 2021). In Flanders, Belgium, Maldonado and De Witte (2020) found that children whose mothers had low levels of educational attainment were more affected by COVID-19-induced learning losses than their peers.

On a positive note, Bol (2020) found that parents with lower educational attainment reported more positive perceptions of school contact, communication and teachers' homework checks. These results could suggest that during the COVID-19 pandemic, schools have prioritised outreach to disadvantaged families (Bol, 2020).

At the same time, a higher level of education among parents (e.g. university degrees) (Bonal & Gonzáles, 2020) is a resilience factor at the contextual level, as it affects the context in which children grow up. The children of more highly educated parents have access to more resources, and highly educated parents are usually more involved in activities that positively influence children's learning outcomes (Blasko & Schnepf, 2020). They have skills, resources and knowledge to support their children's formal and informal learning. These include teaching them individually as well as enabling outdoor activities (Bonal & Gonzáles, 2020). During the COVID-19 school closures, such parents have been more likely to telework. Some hired private tutors (Bayrakdar & Guveli, 2020) and perceived themselves as more capable of dealing with the challenges of home learning (Bol, 2020). Parents with higher educational backgrounds more often helped their children with learning from home, and also felt more confident about supporting their child with challenges relating to distance learning (Zancajo, 2020). As a result of such activities, the children of more highly educated parents have been able to compensate for the negative effects of school closures, and may even have made greater progress (Andrew, et al.,

2020; Bayrakdar & Guveli, 2020) as individualised teaching may be more effective than classes at school.

Given these vulnerabilities and resilience factors, it is expected that educational inequalities (the 'achievement gap') between the children of parents with lower and higher levels of education will increase. However, certain effects are so far unclear: while more highly educated parents were more likely to work from home during the pandemic, they may have struggled to balance work with their children's home-schooling needs. This may have limited their capacity to support their children's learning. Less educated parents were more likely to work at their workplace or face losing their job; therefore, they may have struggled to find time to look after their children or faced financial worries (Blasko & Schnepf, 2020). In some cases, however, less educated parents may have had more time at home to spend with their children (outside their working hours, they are less likely to be required to manage work-related issues, as people who work from home often have to). In fact, evidence from the Progress in International Reading Literacy Study (PIRLS) data shows that less educated parents get more involved in their children's homework than more highly educated parents (Blasko & Schnepf, 2020). Due to the resilience factor of 'high parental involvement', this may mitigate the vulnerability posed by low levels of parental education.

### 2.3.2 Socio-economic status

A family's low socio-economic status, determined by indicators such as low family income (Andrew, et al., 2020; Bonal & Gonzáles, 2020); poverty; and receiving social benefits (Maldonado & De Witte, 2020) and/or free school meals (Bayrakdar & Guveli, 2020) is another one of the most pronounced vulnerability factors for learners identified during COVID-19 school closures. According to Eurostat, an average of 22.5 % of people under the age of 18 across the EU Member States in 2019 were at risk of poverty or social exclusion. This figure ranged from 11.7 % in Slovenia to 35.8 % in Romania. The highest risk of poverty or social exclusion in the EU-27 (40.3 %) was recorded among single persons with dependent children.<sup>8</sup>

#### *Learning progress*

In for Flanders, Belgium, Maldonado and De Witte (2020) found that children who are the recipients of social benefits have been more affected by COVID-19-induced learning losses than their peers (Maldonado & De Witte, 2020). In the UK, the Education Endowment Foundation (2020) predicts that the attainment gap between pupils eligible for free school meals (FSM) and their better-off peers will increase by 36 % (Education Endowment Foundation, 2020).

Another study in the UK found that children from disadvantaged backgrounds could lose 31 % of a standard deviation in their performance, compared with 24 % among more advantaged children. In secondary education, these numbers amount to 28 % for disadvantaged and 14 % for advantaged children (Pensiero, Kelly & Bokhove, 2020). The learning gap between economically disadvantaged and more advantaged children is thus more likely to widen during the earlier years of education, when children are less able to study autonomously using digital tools, and require greater parental support.

#### *Availability of learning resources*

Children from families with low socio-economic status had less access during the pandemic to resources (Zancajo, 2020) such as digital devices including a computer, laptop, tablet

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<sup>8</sup> Gathered from Eurostat, accessible via: [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Children\\_at\\_risk\\_of\\_poverty\\_or\\_social\\_exclusion](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Children_at_risk_of_poverty_or_social_exclusion)

or printer, and reading materials/books, as well as to individualised learning (Andrew, et al., 2020; Bonal & Gonzáles, 2020). A study carried out in 21 European countries found that during the first wave of COVID-19, in half of these countries, fourth-grade children from low-income families were far less likely to have access to internet, reading materials and a quiet learning space (European Commission, 2020). According to a similar study by Blasko and Schnepf (2020), children from low-income families were half as likely to have access to the internet compared with their peers of higher socio-economic status. Research in Finland during the COVID-19 pandemic found that twice as many children from poorer families (15 %) reported a disruption to their studies as a result of online education, compared with wealthier children (8 %) (Save the Children, 2020). Similarly, in Spain, approximately 5-9 % of all schoolchildren have no access to ICT devices, rising to 20 % among the lowest-income quintile (Save the Children, 2020). The shift to distance learning increased the importance of ICT tools and the internet in ensuring continuity of education. The lack of such tools during lockdowns therefore significantly affected access to education among at-risk children.

Aside from ICT devices, children from low-income families lack various other resources possessed by children from more advantaged backgrounds. A UK study by Andrew et al. (2020) found that children from disadvantaged socio-economic backgrounds less often had access to private tutoring and individual support from teachers, compared with socially advantaged children (Andrew, et al., 2020). During school closures, Andrew et.al. (2020) found that learning time, learning space at home, and the availability of resources provided by schools, all correlated positively with family income. Cullinane and Montacute (2020) also found that children from lower-income families participated less often in online learning and spent less time learning at home compared with their more advantaged peers (Cullinane & Montacute, 2020). Studies by Bayrakdar & Guveli (2020) and Eurochild (2020) confirmed the finding that children from low-income families spent less time on schoolwork during school closures. In some cases, their nutrition was compromised due to missing out on school meals (UNESCO, 2020) (Eurochild, 2020). This demonstrates the less disrupted learning during lockdown of more advantaged children, compared with those from lower-income families.

Levels of parental support for learning are also lower or less beneficial among children from lower-income families. Parents with low socio-economic status often faced challenges in supporting their children's learning, due to their limited material resources and low self-perceived competences (Zancajo, 2020; Alieva, 2021). A study in Catalonia, for example, identified less family support for children among low-income families compared with children from the most advantaged backgrounds (Bonal & Gonzáles, 2020).

Conversely, a socio-economically advantaged family background, determined by a higher family income, is a factor for resilience. Children with higher socio-economic backgrounds had greater access to resources (OECD, 2020c) and individualised activities; they had more study space at home (Andrew, et al., 2020) and often spent more time on schoolwork. Only up to 6 per cent of advantaged learners in Europe lacked access to reading materials during school closures (Blasko & Schnepf, 2020).

Parents with higher socio-economic backgrounds often provided greater support to their children's education (OECD, 2020c). Some hired private tutors (Andrew, et al., 2020). Such interventions may compensate for the negative impact of school closures. Hence, educational inequalities determined by socio-economic status (the 'achievement gap') are likely to have increased as a result of COVID-19 school closures.

### **2.3.3 The involvement of parents**

Lower involvement on the part of parents in the education of their children is clearly a

vulnerability factor, as demonstrated in the previous chapters. This factor is independent of the level of education and the socio-economic status of the family, and is strongly related to the low educational performance of the child (Blasko & Schnepf, 2020). Conversely, ample evidence exists that active parental engagement fosters children’s learning and overall development (Alieva, 2021; Bayrakdar & Guveli, 2020).

Findings on the positive effects of parental involvement on the educational achievements of learners (Bayrakdar & Guveli, 2020) suggest that the social-economic status of a family may not be a fixed determinant of children’s educational outcomes. When parents are involved in their children’s educational development, they can positively impact educational outcomes, regardless of their socio-economic status. In the context of school closures, this may mean that previously less involved parents, who may have perceived themselves as not being competent enough to support their children, may have used the period of home schooling to gain a greater understanding of the schooling requirements as well as the learning habits and needs of their children. This understanding may have enabled and empowered them to provide more targeted support to their children, during and after school closures.

The intense period of home schooling may also have been a catalyst for more positive parent-child relationships. This effect has been observed in the case of caregivers (Montserrat, Garcia-Molsosa, Llosada-Gistau, & Sitjes-Figueras, 2021). Furthermore, spending more time at home may have enabled children to gain valuable life skills that are not part of the immediate curriculum. Both factors have the potential to have positively impacted children’s educational development.

### **2.3.4 Living arrangements**

#### *Single-parent family*

Living in a single parent family makes children vulnerable when the parent has limited time and resources to support the home learning of their children during the pandemic. The children of single parents spent less time on schoolwork during school closures (Bayrakdar & Guveli, 2020), and their families may have suffered economic losses, hardship and loneliness (Benzeval, Bollinger, Burton, Crossley, & Lynn, 2020), which have additionally impeded the parent’s ability to support their children’s education.

#### *Not living with family*

Children living in out-of-home-care lacked outside contact – not only access to school, but also to their own families, outside facilities and sports. This impacted their learning and emotional well-being. The staff of care facilities lacked equipment as well as digital and teaching skills, and in some cases guidelines. Hence, learners received insufficient support for their education, disputes erupted in some cases, and their mental health suffered (Eurochild, 2020).

However, there are indications that the engagement of caregivers and a positive learning environment may have mitigated some of these vulnerabilities. A study conducted in Catalonia, Spain, found that personal relationships between children in out-of-home care and their caregivers had improved during the pandemic. Furthermore, children in out-of-home care perceived that their school grades had improved. These findings suggest that caregivers may have dedicated more time and attention to children, and the children felt under less pressure from the school and were better able to regulate their pace of learning (Montserrat, Garcia-Molsosa, Llosada-Gistau, & Sitjes-Figueras, 2021).

## 2.4 The impact of COVID-19 on the vulnerabilities and resilience factors relating to the education of disadvantaged learners at the level of situational factors and responses specific to COVID-19 lockdowns

Figure 5. Vulnerability factors relating to the situational level and COVID-19 responses

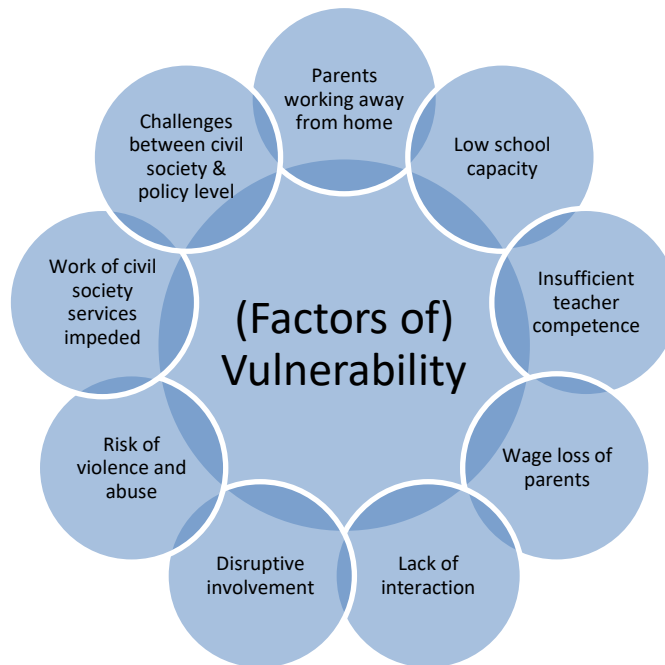
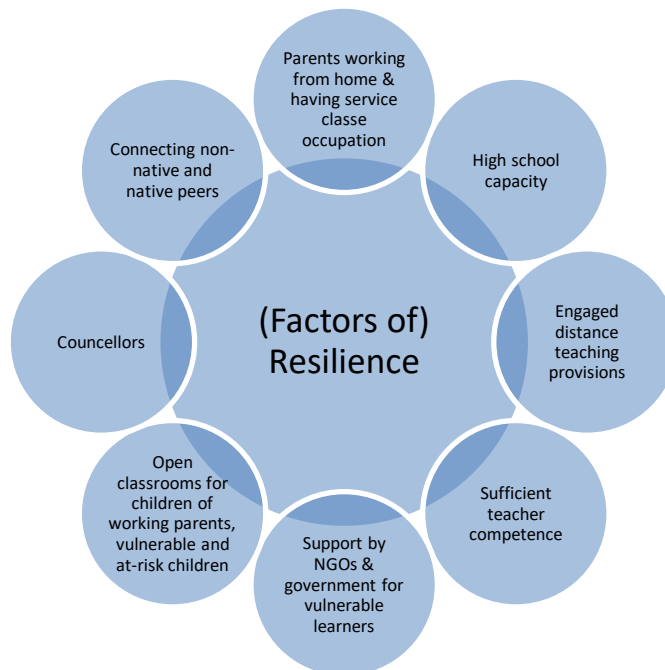


Figure 6. Resilience factors relating to the situational level and COVID-19 responses





### 2.4.1 Parental working patterns

Being left alone at home during COVID-19 school closures by parents who work away from home represents a vulnerability factor for children in need of care. In such cases, most children spent less time on schoolwork. As a result, aside from learning disruptions, the influence of peer pressure may have increased and there was an increased chance of risky behaviours such as substance abuse (UNESCO, 2020).

At the same time, parents working from home and having a service-class occupation represents a resilience factor for children. The children of such parents generally spent more time on schoolwork and offline lessons, and received more hours of support from their parents (Pensiero, Kelly, & Bokhove, 2020).

### 2.4.2 School capacity and distance teaching provisions

During school closures, 'low school capacity' meant that schools possessed insufficient technical capacity for web-based formats, they lacked a strategy to transition from face-to-face to online teaching, or that existing strategies were out of date (Bergdahl & Nouri, 2020). As a result, such schools delivered less effective teaching during school closures.

Conversely, high school capacity is a resilience factor for learners. Schools with high capacity provided teachers with proper organisational and professional support during school closures (Obrad, 2020) and possessed sufficient computer technology (König, Jäger-Biela, & Glutsch, 2020) and support within the school. These resources led to more effective teaching.

Moreover, dedicated distance teaching provisions – both online and offline – featuring a high level of school involvement together with regular homework checks, contributed to learners' resilience. Learners at schools with engaged distance teaching provisions were more motivated with regard to schoolwork, and spent more time on schoolwork (Bayrakdar & Guveli, 2020). Some schools, such as certain schools in the Netherlands, deliberately intensified contact with at-risk families (e.g. through phone calls and visits at the door) (Bol, 2020).

Interestingly, schools' distance teaching provisions can explain some of the greatest variations in children's home learning. These had the potential to limit or mitigate learning disruptions and to moderate the disparities generated by parental and ethnic backgrounds during COVID-19 school closures (Bayrakdar & Guveli, 2020).

### 2.4.3 Teacher capacity

Insufficient teacher competences and education, as determined by low self-perceived competences, being early in one's teaching career (König, Jäger-Biela, & Glutsch, 2020), job constraints, stress (Obrad, 2020; Mariani, 2020) or confusion (UNESCO, 2020) contribute to vulnerability among learners. Teachers with insufficient capacity found it difficult to maintain social contact with students, provide quality online lessons, introduce new learning content, provide task differentiation and feedback, conduct online assessments (König, Jäger-Biela, & Glutsch, 2020), and to manage new technologies (e.g. Zoom and Moodle) (Bojovic, Bojovic, Vujosevic, & Suh, 2020). Such lack of capacity led to less effective teaching during school closures.

On the other hand, teachers with sufficient competences and education empowered children's resilience during school closures. Such teachers displayed greater self-efficacy and made more use of online tutorials (König, Jäger-Biela, & Glutsch, 2020); their teaching during school closures was more effective.

## 2.4.4 The context of lockdown

### *Lack of interaction*

The lack of social and physical interaction during school closures, including the sense of belonging, participation, empathy, involvement and friendship that characterise school life, constitutes a further vulnerability factor for learners that is often overshadowed by other elements that are considered more relevant. The lack of such interactions puts psychosocial and social aspects of children's development at risk, and may have led to an increase in depression and social isolation (UNESCO, 2020; Mariani, 2020).

Some initiatives have aimed to mitigate this risk by making counsellors or psychologists available for online or in-person consultations, e.g. in Finland (Cerna, 2020) in several European countries, by keeping schools open for vulnerable learners (OECD, 2020b); and by virtually connecting non-native peers with native peers to ensure opportunities for interaction in the national language, e.g. in Italy (SIRIUS, 2020).

### *Disruptive involvement*

While parental involvement in education generally supports learners' educational development, in certain situations, the involvement of parents can be disruptive. There is a risk that some parents might interfere in their children's education in a negative way during home schooling. This may have involved situations of intrusiveness (Mariani, 2020) or over-involvement. Such interference may have compromised the authority and self-confidence of learners, which could have made them more vulnerable.

### *Risk of violence and abuse*

Various recent studies have found that the COVID-19 pandemic has altered family dynamics and routines, putting already-vulnerable children at increased risk of abuse and neglect. Research from the UK found that school closures due to the health crisis increased the risk of domestic violence against children. Schools, as well as external social networks, serve as safety nets for the purpose of reporting and coping with violence (Cluver, et al., 2020). Similarly, a study in the US found that the largest share of reports of violence against children come from educational personnel (around 20 per cent in 2018) (De Cao & Sandner, 2020). School closures therefore enable violence to take place outside the sight and protection of school staff.

During lockdown, when families were at home together for long periods of time, possibly in limited housing space, or when children were left unattended, they may have been exposed to violence or exploitation (UNESCO, 2020). Girls in particular were at risk of sexual exploitation and early pregnancy, which could put their return to school at risk (UNHCR & IOM, 2020). Other consequences of child violence are found to be sexually transmitted diseases, unwanted pregnancies and substance abuse, all of which hinder children's educational progress (Norman, et al., 2012).

Beyond this higher risk, several initial studies across Europe already found evidence of an increase in child abuse. Country reports submitted to Eurochild by Bulgaria, Cyprus, Czechia, Estonia, France, Greece, Italy, Latvia, Portugal and Slovenia indicate that increased family pressure due to COVID-19 has led to an increase in domestic violence (Eurochild, 2020). Similarly, a resolution of the European Parliament states that "more children than before are falling victim to violence, abuse and exploitation during the ongoing health crisis".<sup>9</sup> The direct consequences of such abuse for children include lower

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<sup>9</sup> European Parliament resolution of 11 March 2021 on children's rights in view of the EU Strategy on the rights of the child (2021/2523(RSP))



educational outcomes, as well as poorer health and a higher likelihood of criminal involvement (Currie & Widom, 2010; Currie & Tekin, 2012). The increase in abuse during school closures can subsequently affect the learning progress or even drop-out rates among children after the schools reopen (see, for example, Chitiyo & Pietrantonio, 2019). To mitigate this risk, schools in several European countries remained open for learners who were exposed to violent settings or at risk of violence (OECD, 2020b).

#### **2.4.5 Responses by government and civil society**

In most national contexts, the work of civil society services has been impeded by lockdowns. CSOs received reduced funding, despite the growing need for their services. Civil society actors faced challenges in delivering services to vulnerable students in certain countries such as Serbia. Moreover, civil society was often not involved in decision making on lockdown and school closure provisions at either the national or the local level (Eurochild, 2020). This increased the vulnerability of learners, who were left without access to special services. Referrals and outreach to children in vulnerable situations by teachers or social workers were impeded. This led to a lack of support, as well as issues going undetected (Eurochild, 2020).

At the same time, NGOs and government services in certain regions provided services to vulnerable students by providing technical devices and internet access, organising teaching via television, phones or radio (OECD, 2020b), or providing direct help with online learning (Eurochild, 2020; Alieva, 2021). One example is in Spain, where the information portal 'I learn at home' ('Aprendo en Casa') was set up to provide information for teachers, students and parents (Alieva, 2021). Nevertheless, this support was mostly on a case-by-case basis and did not reach all learners. In addition, so far there is a lack of evaluation-based evidence to determine how helpful such interventions were for students and parents (Alieva, 2021).

In some contexts, schools were given permission to keep several classrooms open for children whose parents were employed in essential services and were working extra hours during the pandemic, e.g. in France, the Netherlands and the UK (OECD, 2020c). This increased the resilience of learners who benefited from such measures.

## 3. Socio-economic consequences of gaps in learning progress and increased inequalities

### 3.1 Introduction

It is well accepted in both the literature and in society that higher educational achievement increases a person's chances in the labour market, and subsequently their economic status. However, educational achievement also affects the development of children and young people in many other areas of their life. Edgerton, Roberts, & Below (2012) found correlations between education and income, self-efficacy, social support network, mortality risk, perceived health status, emotional well-being, community engagement, and intimate relations. Education has thus been found to affect multiple indicators measuring an individual's overall quality of life.

UNESCO stated in 2000 that "*all children, young people and adults have the human right to benefit from an education that will meet their basic learning needs in the best and fullest sense of the term, an education that includes learning to know, to do, to live together and to be. It is an education geared to tapping each individual's talents and potential, and developing learners' personalities, so that they can improve their lives and transform their societies*" (UNESCO, 2000). As such, education is expected to train people for a variety of tasks and challenges involved in life, to contribute to social cohesion, and to improve their personal well-being.

The effects of the COVID-19 pandemic are, and will continue to be, observable on several dimensions. In terms of the dimension of scale, the individual effects of the pandemic have implications for communities and for society as a whole, e.g. with regard to social and economic development. In terms of the dimension of place, short-term effects are mainly expected to manifest themselves in localised, socially disadvantaged areas; in the long term, effects are expected at regional and national levels (Zancajo, 2020).

### 3.2 Economic consequences of learning disruptions

It has been well documented even before the onset of COVID-19 that school closures result in economic loss. A pandemic that causes school closures allows us to study their effect on a range of socio-economic outcomes, including reduced educational attainment. The same applies *inter alia* to a catastrophic earthquake, military conflict, or teachers' strikes.

Using international data, (Lavy, 2015) found that a reduction in teaching time (e.g. due to school closures) has a negative impact on student achievement. For example, following a teachers' strike in Belgium, Belot & Webbink (2010) report 'learning losses' (in this case, learning loss refers to 'lower performance on achievement tests'), increased repetition of grades, and lower educational attainment. As shown in Table 4, the economic cost of past shocks that included school closures has been considerable, and so is lost learning. Jonas (2013) estimates that in the case of previous flu pandemics (1918, 1968) school closures account for approximately half of total economic losses. In Germany and Austria, Ichino & Winter-Ebner (2004) report earnings losses of between 2.5 and 5.1 per cent due to school closures during World War II, while Islam, Ouch, Smyth & Wang (2016) report an even higher estimate of 8.6 % for the Cambodian civil war.

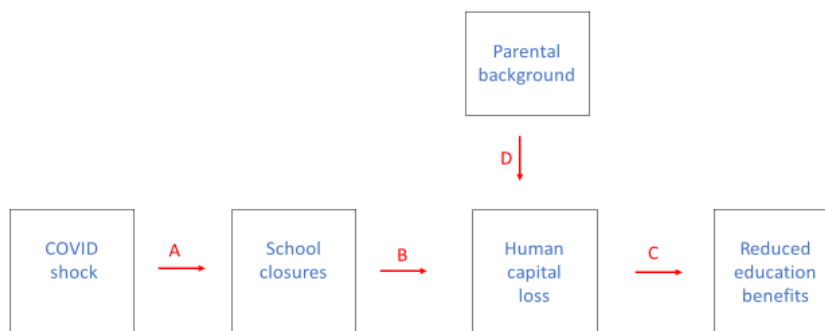
Table 4. Historical impact of school closures due to pandemics, war and teachers' strike

Country	Event	Economic loss	Source	Notes
<b>Denmark</b>	1918 flu	2 months' lost education	(Schwandt, 2017)	
<b>Global</b>	1918 flu	4.8% of GDP	(Jonas, 2013)	School closures may account for half of the total loss.
<b>Global</b>	1968 flu	0.7% of GDP	(Jonas, 2013)	School closures may account for half of the total loss.
<b>Global</b>	1997 bird flu	0.1% to 0.7% of GDP	(Burns, Mensbrugge, & Timmer, 2006)	Not school-specific.
<b>Global</b>	1997 bird flu	\$330 billion	(Sidorenko & McKibbin, 2006)	No reference to schools.
<b>Asia</b>	1958 flu	3.1% of GDP	(Jonas, 2013)	School closures may account for half of the total loss.
<b>57 countries</b>	623 epidemics	Reduced school completion: 2.1 to 2.6 percentage points	(Fabrizio, Gomes, Meyimdju, & Tavares, 2021)	
<b>Guinea, Liberia, and Sierra Leone</b>	2014 Ebola	\$1.6 billion	(World Bank, 2015)	Not school-specific.
<b>Belgium, France, the Netherlands and the UK</b>	2003 SARS	0.5% to 2.0% of GDP	(Keogh-Brown, Smith, Edmunds, & Beutels, 2010)	Effect of school closures.
<b>Germany</b>	World War II	5.1% lower earnings	(Ichino & Winter-Ebner, 2004)	Effect of school closures.
<b>Austria</b>	World War II	2.5% lower earnings	(Ichino & Winter-Ebner, 2004)	Effect of school closures.
<b>Canada</b>	Teachers' strike, 10 days	0.29SD learning loss	(Baker, 2013)	
<b>Cambodia</b>	Civil war	8.6% lower earnings	(Islam, Ouch, Smyth, & Wang, 2016)	Only reports learning loss.
<b>Peru</b>	Civil war	5% lower earnings	(Galdo, 2013)	Effect of early childhood exposure to violence
<b>Sierra Leone, Liberia</b>	2014 Ebola	12% of GDP	(Fan, Jamison, & Summers, 2018)	Not schools-specific.
<b>Senegal</b>	10 epidemics	Earnings loss of 18% to 85%	(Fabrizio et al, 2021)	Loss refers to non-completion of primary or secondary education.

The COVID-19 pandemic sparked a flood of papers in the literature assessing its economic impact. In this section, we review the concepts and methods used to estimate the cost of the pandemic.

The path that leads from COVID-19 to its consequences is very complex, spanning many disciplines including medicine, sociology, psychology, pedagogy and economics. Figure 8 illustrates how school closures can lead to economic loss in society, and serves as a roadmap in reviewing the literature. It also points to the data necessary to assess the impact of the COVID-19 pandemic. Educational benefits refer to a wide range of socio-economic indicators such as mortality, health, income and social participation.

Figure 7. From COVID-19 to economic loss



The first effect of the COVID-19 pandemic is school closures (arrow A). In order to quantify the economic impact of these, data are needed on the length of school closures. Next, we need a link between school closures and the formation of human capital (arrow B). All of the studies assessing the economic impact of COVID-19 are based on human capital theory, as formulated by Schultz (1961) and (Becker, 1975). This theory treats education as an investment. Schools cost resources, such as buildings and teachers' salaries. But such costs may be recovered in the future in the form of the increased earnings and productivity of graduates.

Human capital loss can take two forms:

- Reduced educational attainment, e.g. through early school leaving
- Reduced learning, e.g. lower academic achievement

Data are needed on how the school closures affects education outcomes. The complicating factor is that school performance is also determined by a student's socio-economic background, e.g. students from wealthier families could mitigate learning disruption due to COVID-19 through home tutoring (link D in Figure 7).

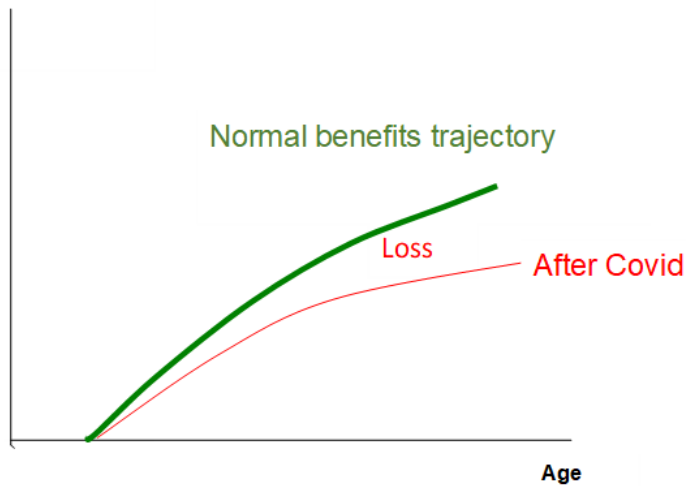
Economic loss resulting from COVID-19 is typically measured using income. To assess this, we need a link between school performance and economic outcomes (arrow C). In this case, the link is the private rate of return on education investment, another necessary datum for assessing the economic cost of COVID-19.

Human capital theory predicts that school closures will reduce the lifetime earnings or productivity of graduates (Figure 8). School closures result in reduced lifetime benefits (Figure 8). School closures due to the virus result in reduced investment in human capital,

hence diminished economic returns in the future. The rate of return provides the empirical link between school closures and what is described in many studies as economic loss.

Figure 8. School closures result in reduced lifetime benefits

Benefits



Another empirical matter concerns the ways in which vulnerable groups are affected. Disaggregating the student body into those who are vulnerable and those who are not is another daunting data task.

### 3.2.1 Economic loss caused by COVID-19 school closures

Several papers have documented significant learning and educational attainment losses because due to COVID-19 (Table 5). This learning loss is commonly reported in terms of standard deviations (SD). For example, the PISA score by construction has a mean of 500 and a standard deviation of 100. So, a 0.20SD loss means 20 PISA points of lost learning.

Table 5. Learning loss due to COVID-19 school closures

Country	Schools closed (months)	Learning loss	Source
Belgium	3	0.29SD	(Maldonado & De Witte, 2020)
Netherlands	2	0.08SD	(Engzell, Frey, & Verhagen, Learning inequality during the COVID-19 pandemic, 2020)
Sweden	3	0.06SD	(Burgess & Sievertsen, 2020)
United States	6	Up to 68%	(Kuhfeld, et al., 2020)
World (174 countries)	5	17 PISA points	(Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020)

Burgess & Sievertsen (2020) report significant negative effects of school closures on student achievement in PISA countries. A reduction of three to four hours per week in teaching results in a 10 % standard deviation loss in student achievement. It has been estimated that a six-month school closure in the United States would increase secondary

school dropouts by 4.1 % (Fuchs-Schündeln, Krueger, Ludwig, & Popova, 2020). On a global scale, school closures could mean a loss of up to 1.1 years of schooling (Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020).

In a review of studies from Germany, Belgium, the Netherlands, Switzerland, the USA and Australia published between March 2020 and March 2021, Donnelly & Patrinos (2021) found learning losses in comparison to student achievement before the virus outbreak. Several studies have indicated that distance learning does not fully substitute for in-person classes. Parental involvement in school homework may reduce the negative impacts of school closures, but cannot fully offset them (Fuchs-Schündeln, Krueger, Ludwig, & Popova, 2020). Using PISA data, Agasisti, Gil-Izquierdo & Won Han (2020) found that the use of computers for schoolwork at home had a negative effect on student academic achievement. In Switzerland, primary school children learned more than twice as much by attending school in person rather than from a distance (Tomasik, Helbling, & Moser, 2020).

The authors of the literature reviewed below have used variations of the following formula to estimate economic loss due to COVID-19, along with wide-ranging assumptions as to the parameters used.

*Figure 9. Arriving at the economic cost*

$$\boxed{\text{Loss}} = \boxed{\text{Present value of the lifetime loss of earnings by one affected student}} \times \boxed{\text{Number of students}}$$

First, the length of school closures should be considered. The papers in this literature review were written between spring 2020 and spring 2021, at a time when the duration of closures remained unknown. Most studies assumed closures of between 3 to 6 months. Next, the link between reduced school time and reduced earnings later in life should be estimated. Based on Psacharopoulos & Patrinos (2018), many studies have used a private rate of return on one year of schooling of around 10 per cent.

To estimating the current value, most studies assumed a working life of 45 years, and a discount rate of 3 %. Not all authors estimated the current value of the economic loss. In many instances, it was unclear what assumptions were used to arrive at the estimates.

In presenting the highlights of the literature review, a remark is in order regarding the reported size of the economic loss. Several types of losses are associated with COVID, each of which has a different time dimension:

- A short-term loss measured in terms of potential reduced annual earnings of one student affected by school closures
- A long-term loss in terms of reduced economic benefits over the affected student's lifetime
- An aggregate long-term global loss relating to all students in the affected cohort

In Table 6, the number of \$ signs indicates the increase in the size of the loss as we move from the individual student to the lifetime loss of the cohort of students affected by COVID-19, which we refer to as 'global'. Whereas the loss on the part of the individual student runs into thousands of US dollars, the global loss could run into trillions.

Table 6. Size of earning loss (not to scale)

Time dimension	Loss for one affected student	Global loss for all students in the affected cohort
Annual	\$	\$\$
Lifetime	\$\$\$	\$\$\$\$\$\$

Table 7 below presents the estimated global loss due to COVID-19 in a number of countries, as well as in a typical country in a given country group. All studies agree that global economic losses will be significant, running into trillions of US dollars. These are purely forward-looking simulations, based on rough estimates of how much schooling is lost due to the COVID-19 pandemic, as well as its effects on learning and on subsequent economic and labour market performance.

Table 7. The estimated economic impact of COVID-19-related school closures

Country	Schools closed (months)	Economic loss, global *	Source
<b>57 high-income countries</b>	5	\$4.8 trillion	(Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020)
<b>69 high-income countries</b>	4	\$ 5 trillion	Psacharopoulos et al. (2021)
<b>68 Asian countries</b>	6	\$1.3 trillion	Asian Development Bank (2021)
<b>174 countries</b>	5	\$10 trillion	(Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020)
<b>205 countries</b>	4	\$15.3 trillion	Psacharopoulos et al. (2021)
<b>Argentina</b>	6	\$1.3 trillion	Hanushek and Woessmann (2020)
<b>Australia</b>	6	\$1.7 trillion	Hanushek and Woessmann (2020)
<b>Brazil</b>	6	\$4.2 trillion	Hanushek and Woessmann (2020)
<b>Canada</b>	6	\$2.5 trillion	Hanushek and Woessmann (2020)
<b>China</b>	6	\$30.1 trillion	Hanushek and Woessmann (2020)
<b>France</b>	6	\$4.2 trillion	Hanushek and Woessmann (2020)
<b>Germany</b>	6	\$6.1 trillion	Hanushek and Woessmann (2020)
<b>Ghana</b>	9	\$2.6 billion	Quartey et al. (2020)
<b>India</b>	6	\$12.6 trillion	Hanushek and Woessmann (2020)
<b>Indonesia</b>	6	\$4.3 trillion	Hanushek and Woessmann (2020)
<b>Italy</b>	6	\$3.5 trillion	Hanushek and Woessmann (2020)
<b>Japan</b>	6	\$7.1 trillion	Hanushek and Woessmann (2020)
<b>Malawi</b>	9	\$5.2 billion	National Planning Commission (2020)
<b>Mexico</b>	6	\$3.4 trillion	Hanushek and Woessmann (2020)
<b>Norway</b>	3	\$9.0 billion	Andresen et al. (2020)
<b>Russia</b>	6	\$5.4 trillion	Hanushek and Woessmann (2020)
<b>Russia</b>	6	\$5.4 trillion	Hanushek and Woessmann (2020)



<b>Saudi Arabia</b>	6	\$2.2 trillion	Hanushek and Woessmann (2020)
<b>South Africa</b>	6	\$1.1 trillion	Hanushek and Woessmann (2020)
<b>South Korea</b>	6	\$3.0 trillion	Hanushek and Woessmann (2020)
<b>Turkey</b>	6	\$3.2 trillion	Hanushek and Woessmann (2020)
<b>United Kingdom</b>	6	\$4.2 trillion	Hanushek and Woessmann (2020)
<b>United States</b>	6	\$28 trillion	Hanushek and Woessmann (2020)

Some studies have reported the annual earnings loss associated with COVID-19 in terms of reduced earnings or as a percentage of current GDP. It has been found that the pandemic reduced annual earnings by 1.9 % in the United States (Fuchs-Schündeln, Krueger, Ludwig, & Popova, 2020); 3 % in the United Kingdom (DELVE Initiative, 2020); 8.3 % in Australia (Foster, 2020); and 4 % in 32 high-income countries (Hanushek & Woessmann, 2020). The present value of one affected student lifetime earnings loss has been estimated at GBP 40,000 in the UK (Adams, 2020); USD 21,372 in 69 high-income countries (Psacharopoulos, Collis, Patrinos, & Vegas, 2021); and USD 15,960 in 174 countries (Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020). It has been estimated that in France the annual economic loss of the primary school cohort affected by the virus is EUR 800 million (Di Pietro, Biagi, Costa, Karpinski, & Mazza, 2020). In Asia, the Asian Development Bank (2021) has reported a 2.4 % fall in future annual earnings, and a present value of losses equal to 5.4 % of the region's GDP. Other studies have reported the loss as 9 % of the current year's GDP in 69 high-income countries (Psacharopoulos, Collis, Patrinos, & Vegas, 2021), and 5 % in 174 countries worldwide (Azevedo, Hasan, Goldemberg, Iqbal, & Geven, 2020). Cutler & Summers (2020) report USD 7.6 trillion in lost GDP in the United States, and USD 16 trillion if health losses are included.

There is, however, another potential economic loss due to COVID-19. This is the lower lifetime earnings of early school leavers, which has been estimated at 23.9 % (Psacharopoulos, 2007). Azevedo et.al. (2020) report that COVID-19 will cause an additional 10.7 million children to drop out of school early, leading to a global increase of 4 % the in out-of-school children.

### 3.2.2 Concluding remarks

All of the papers reviewed above were written while COVID-19 was still active. Great uncertainty remains as to the duration of the pandemic, as well as the effectiveness of the vaccines after more than a year. Notwithstanding these limitations, tentative conclusions may be drawn. First, the estimated economic cost of COVID-19 is substantial, and a significant part of this stems from the pandemic's impacts on education. Second, distance learning can mitigate but not fully substitute for in-class teaching. And finally, at the level of the individual, the cost of the pandemic is distributed unevenly, with vulnerable populations bearing a disproportionately higher economic loss relative to less vulnerable groups in the population.

With regard to education policy, this review wishes to sound a note of caution. The economic cost of the pandemic is long-term, referring to the lifetime earnings profile of the affected student cohort. Such long-term attributions might be disregarded by politicians who are more concerned with short-term expediency.

On the hotly debated decision as to whether or not to keep schools open or closed during the pandemic, there is no clear answer. Economic loss cannot easily be compared to the loss of human life. What is clear, however, is that vulnerable groups in the population should be targeted for assistance in accessing distance learning.

### 3.3 Social consequences of school closures

Aside from the consequences of the increased learning gap on personal income and country-level economic growth, experiences from school closures, including the disproportionate learning disruptions felt by disadvantaged children, have created new social realities, and given rise to various other challenges that impact quality of life and affect societal cohesion. These consequences will become visible in the coming years as the 'COVID-19 generation' complete their education.

#### 3.3.1 Social mobility

The formal education system plays a crucial role in the positioning of a person in society. Educational credentials are linked to job opportunities, as well as positioning a person within the social strata of society. Education can therefore create opportunities for children from disadvantaged backgrounds to break the cycle of disadvantage in their families and move up the social ladder (Hout & DiPrete, 2006).

Learning disruptions during the COVID-19 pandemic could have several effects on the social mobility of disadvantaged children. First, their chances of breaking the poverty cycle and gaining a higher socio-economic status for themselves decline. Second, their potentially lower educational outcomes may impact the outcomes of their children (continuing the intergenerational cycle of low achievement). Third, the continuation of intergenerational socio-economic disadvantage and low achievement among disadvantaged children causes a stagnation or even increase in the share of families living in a socio-economically disadvantaged position in a given country in the coming years. This could coincide with a starker inequality between families living in poverty and those who are better off, as the children of the latter will have suffered less as a result of learning disruptions.

Various connections have been found between education, income and social mobility. In countries with higher income inequality, fewer opportunities for social mobility are found.<sup>10</sup> Therefore, potential increases in inequality could generate longer-term effects on opportunities for social mobility in Europe.

On the other hand, in certain individual cases, the reverse could occur. Where parents are involved in the educational development of their children, they can positively impact educational outcomes, regardless of their socio-economic status, education or migration status. The context of the COVID-19 pandemic could also contribute to some improved parent-child relationships and the better development of life skills among these children (see details in 2.3.3).

#### 3.3.2 Participation in society

An individual's ability to participate in society consists primarily of their participation in the core institutions of society (e.g. family institutions, political institutions, educational institutions and religious institutions). This includes numerous elements such as democratic participation (e.g. voting), the transmission of societal and democratic values and knowledge, support to the community (e.g. volunteering), and engagement in social networks and friendships. Pascarella & Terenzini (2005) reported clear links between higher levels of educational achievement and increased participation in volunteering, political activities, community welfare and community leadership. Education was also found

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<sup>10</sup> <https://milesorak.files.wordpress.com/2012/01/inequality-from-generation-to-generation-the-united-states-in-comparison-v3.pdf>

to correlate with higher levels of involvement in public protest, social movements and community groups among more highly educated individuals, as well as higher voter turnout (Campbell, 2006).

Connected to this is the issue of literacy. According to the Survey of Adult Skills under the OECD Programme for the International Assessment of Adult Competencies (PIAAC), large gaps in literacy exist between adults who have achieved higher levels of education and those with lower educational achievements (Caturianas, Uzpelkiene, & Migliarini, 2017). A lower level of literacy may also cause lower levels of participation in society, due to limited understanding and skills to understand political processes, both as a voter and as a candidate (iKNOWpolitics, 2009).

Learning disruption among disadvantaged children could, therefore, strongly affect their involvement in the community and society overall. Lower levels of participation in elections, protests and social networks could hinder them in the future from having their voices and concerns heard. A great concern is that the coming decades could witness a decline in the representation of minority or disadvantaged groups in the public domain, further deteriorating their disadvantaged position. In addition, lower levels of participation in community events hinders their sense of belonging and the establishment of meaningful relations, affecting their overall well-being. The unequal representation of certain groups could also have a negative effect on the social cohesion of societies.

### **3.3.3 Health and well-being**

Various previous studies have found a causal relationship between higher levels of education and higher self-reported health rates and lower morbidity rates (Badley, Canizares, Perruccio, Hogg-Johnson, & Gignac, 2015). In 1995, Bound, Schoenbaum, & Waidmann (1995) demonstrated correlations between higher levels of education and lower levels of severe chronic pain, hearing and visual problems, arthritis, or other functional limitations on daily activities. Pascarella & Terenzini (2005) found lower incidences of cancer and coronary heart disease among persons who had graduated from college.

Greater physical well-being among persons with higher levels of education is also related to the healthier lifestyles adopted by more highly educated persons, facilitated by access to better information on managing one's health, greater proficiency at integrating information into lifestyle decisions, and greater resources to facilitate health-promoting activities (Ross & Wu, 1995; Mirowsky & Ross, 1999). In fact, every extra year of study translated to 17 additional minutes of exercise per day (Kenkel, 1991). Hence, health, education and social-economic status are strongly interlinked.

Lower levels of educational attainment due to educational disruptions can therefore influence the health status of a child later in life. Aside from reducing the chances of children achieving physical well-being, the strain on health systems may increase, with a disproportionate increase in health care being required by children from vulnerable backgrounds. However, this also raises the question of the affordability of health care and social protection for marginalised families.

Correlations have also been found between educational achievement and mental well-being. A person's self-esteem and self-efficacy are, to a large extent, linked to educational achievement (and the related job earnings), and contribute to a person's emotional resilience (Hammond 2004). Other skills learned in school, such as communication skills and problem solving, also contribute to resilience. Various authors have found clear links between socio-economic status (particularly education) and coping mechanisms (e.g. McLeod & Kessler, 1990; Ranchor, Bouma, & Sanderman, 1996). There are indications that school closures have negatively impacted the mental well-being of disadvantaged

learners. This is due to social isolation, exposure to adverse conditions at home, and a lack of responses by civil society organisations, among other factors. Due to their particular needs remaining unmet, refugee learners (Cerna, 2020) and learners with special education needs (Lee, 2020) were particularly affected by the pandemic's negative impacts on mental well-being. This implies an increased need for interventions and support after schools open back up to mitigate the long-term social and emotional challenges faced by disadvantaged learners and by educators (Mariani, 2020).

## 4. Mitigation strategies

School closures during the COVID-19 pandemic were not only an interruption of regular schooling processes, but they also represented a point in time at which policy makers and practitioners began to reconsider and reimagine traditional formats of teaching and training, especially with regard to the use of technology for education. This was confirmed by the public consultation on the European Commission's Digital Education Action Plan, in which 95 % of respondents said they saw the crisis as a turning point for the way in which technology is used in education and training (European Commission, 2021). The experiences of learners, teachers and educational institutions during the time of school closures provide valuable lessons that should inform the future design of and progress in online teaching (Zancajo, 2020).

The previous chapters have indicated the vulnerabilities and expected consequences of delayed learning progress that has resulted from school closures. Future strategies must be designed to enable equal and equitable educational chances for all learners, both during periods of regular schooling and during crises. To achieve this, SIRIUS (2020) argues for 'forward-looking responses, rather than isolated reacting'.

This section suggests strategies that can be implemented with respect to the post-COVID-19 context as well as potential future school closures. They reflect on the various levels relevant to the crisis response: education systems and policies, families, and collaborations.

### 4.1 Education systems and policies

Any national strategy should lead to social equity and be based on principles that diminish overall educational inequalities that are exacerbated during times of crisis; this means they should: 1) be based on the principle of education being a human right (Gornik, Dežan, Sedmak, & Medarić, 2020); and 2) apply a holistic (Cerna, 2020) and inclusive approach to education (SIRIUS, 2020).

#### 4.1.1 Education as a human right

On the basis of education being a human right, states must take structural and institutional measures to ensure both equal access for all learners and the quality of education (Gornik, Dežan, Sedmak, & Medarić, 2020). During periods of regular schooling as well as during crises, all learners (including migrants and other disadvantaged groups) must be treated according to the principle of formal equality, meaning that all children have equal rights and should be treated equally. At the same time, the principle of substantive equality must be applied, which requires different treatment of migrants and other disadvantaged learners through measures and policies designed to 'remove barriers that prevent them from achieving equal opportunities and outcomes both at the educational level and in the society' (Gornik, Dežan, Sedmak, & Medarić, 2020).

This includes removing barriers to accessing education, such as limitations on access for refugees in first-reception centres or learners with SEN, as well as addressing the structural conditions that create vulnerability and inequality. Guadagno (2020) argues that 'crisis response measures cannot effectively include migrants unless they proactively address underlying conditions of vulnerability linked with migratory status and immigration policies, migrants' socio-economic situation, and xenophobia'. Migrant-inclusive risk management approaches should be adopted that also respond to the unequal provision of health care to migrants.

*Box 3. Good practice: migrants treated as citizens*

Portugal granted temporary residency rights to all immigrants and asylum seekers who applied for residency in the country before the country's state of emergency for COVID-19 was announced on 18 March 2020. This status comes with access to the national health service, bank accounts, and work and rental contracts (Pearcy, 2020).

Guadagno (2020) suggests that during and after the crisis, provisions to minimise virus transmission, as well as the expansion of health care coverage, should be coupled with inclusive welfare systems, intercultural communication, and the reform of immigration regimes. Acknowledging that migrants have been over-represented among frontline workers during the crisis also requires the recognition that threatening the living conditions of migrants in receiving countries poses systemic risks. To avoid a re-creation of risk conditions after the crisis, long-term solutions must be found to address the social, economic and political marginalisation of migrants (Guadagno, 2020).

Other vulnerability factors are linked to socio-economic background, family background, and learning needs. The corresponding barriers should be replaced by structures to support the systematic provision of educational and other services to refugees and other disadvantaged learners, e.g. through the extension of the duty of schooling to young people in first-reception centres (Rude, 2020); through the provision of inclusive education settings for learners with special needs; and through support for low-income families. These structural conditions must be addressed by immediate crisis response measures, as well as by long-term policies.

A major part of the vulnerabilities identified during school closures relate to limited access to resources such as computers, the internet and reading materials, as well as the unavailability of a quiet place to study. All of these hindered access to education during school closures for the learners concerned. Hence, structures must be created through policies and programmes that allow all learners to access these core resources during future crises, and provide them with support to engage in online learning (Zancajo, 2020), (Bayrakdar & Guveli, 2020). Gornik, Dežan, Sedmak & Medarić (2020) suggest that assessment criteria should be designed to determine 'readiness for distance learning' for learners. These should include the availability of a computer, high-speed internet, and a quiet workspace. The digital literacy of learners and parents should also be assessed. Digital literacy courses should be provided for learners and parents, particularly the parents of young children (SIRIUS, 2020), and programmes should be implemented that enable access to computers and the internet for all learners (Bayrakdar & Guveli, 2020). The Digital Education Action Plan can be mobilised for this purpose (SIRIUS, 2020). Such programmes should also include the provision of internet and study places in housing facilities for minorities, such as refugees as well as Sinti and Roma.

During school closures, limited physical access to educational services should continue, to enable access for learners who cannot attend online teaching from their homes (OECD, 2020b), or for whom the home environment is not supportive.

*Box 4. Good practice: open schools for vulnerable learners*

In Norway, schools remained open for disadvantaged learners, such as those with special education needs, learners with parents working in essential jobs or who could not be at home for other reasons, such as violent settings (OECD, 2020b). Such an approach was also implemented by various other EU countries. Most federal states in Germany applied a similar approach to Norway. In Portugal, several hundred schools stayed open for learners whose parents worked in essential services. Food support was also provided to learners from disadvantaged economic backgrounds (OECD, 2020b).



Another set of vulnerabilities relates to the capacity and competences of schools and teachers, which are core conditions for the provision of quality education. At the same time, high school capacity and engaged distance teaching provisions were identified as of resilience factors that explain the greatest variations between children's home learning, and which have the potential to moderate disparities generated by parental and ethnic backgrounds. Hence, strengthening the capacities of schools and teachers is an essential means to mitigate vulnerabilities and reduce inequalities. Policies and programmes are therefore required that improve the capacities of teachers and schools, guarantee appropriate working conditions for teachers, and improve the online provision of teaching by schools through training programmes, institutional support and material resources for teachers and educators (Zancajo, 2020), (SIRIUS, 2020), (Bayrakdar & Guveli, 2020). Social media competences should be included in professional development for school social support workers and teachers (SIRIUS, 2020). To improve equipment in schools, the Digital Education Action Plan could be mobilised to fund hardware for schools in need (SIRIUS, 2020).

*Box 5. Good practice: fostering the digital skills of educators by offering digital resources*

The pedagogical module 'European Culture and Citizenship' by the Federation for Education in Europe (FEDE) has been made freely accessible. This aims to develop competences for a culture of democracy. The module makes it possible to support schools that do not have the abilities or materials necessary to develop online training. The validation of the competences of this module has also been digitised (Council of Europe, 2021a).

The development of schools should further respond to the changed requirements of migration societies. Migration pedagogies and trauma-sensitive training (Rude, 2020) as well as intercultural education (Gornik, Dežan, Sedmak, & Medarić, 2020) should be implemented as a response to ethnic diversity. Such measures will enable schools to capitalise upon the resilience factors identified above, including high school capacity, teacher competence, and engaged distance teaching provisions.

*Box 6. Good practice: smooth transition to digital education during the pandemic*

"When schools in Estonia switched to the remote-learning system on 16 March 2020, the number of users of e-learning platforms increased tenfold. The smooth transfer was ensured by regular use of national electronic homework diaries/communication points eSchool and Studium by all schools. Investment for good internet connection, development of electronic study materials and development of teachers' digital skills benefited the situation. Over the past years, the schools have been able to apply for funds to develop the areas where their school needs most support – from obtaining computers and training teachers to composing strategic plans for IT developments" (PRAXIS, in: (SIRIUS, 2020).

Civil society organisations and NGOs have carried out invaluable work during school closures; their initiatives to target the specific needs and disadvantaged learners have been identified as relevant resilience factors. Their work should be supported by governments, and provisions should be made for them to continue their work during lockdowns, with appropriate safety provisions. Due to their important role, they should be involved in national policy making in order to coordinate efforts.



#### *Box 7. Good practice: laptops for disadvantaged learners*

The Minderheden Forum in Belgium, HumanAid in Vilnius, Lithuania, and multiple other NGOs and migrant-led organisations have provided laptops and digital devices to migrant students who did not have them (SIRIUS, 2020).

Various international organisations and non-governmental organisations (NGOs), such as Save the Children in Spain, created and made resources available online to support parents during school closures. These resources include recommendations and guidelines, explanatory videos providing advice on promoting children's emotional well-being and their participation at home and in society at large, as well as playing creative games (OECD, 2020b).

### **4.1.2 Principles of holistic and inclusive education**

Opportunities should be provided for inclusive policymaking (SIRIUS, 2020). Guadagno (2020) points out that 'only inclusive approaches help protect and promote everybody's rights, health and well-being'; they allow societies to respond more effectively to the crisis and reduce the risk of future crises. Education policies should further follow a holistic approach that addresses the learning, social and emotional needs of learners (Cerna, 2019).

Emotional and mental conditions, including trauma, are identified as relevant vulnerability factors, especially during school closures. At the same time, the emotional dimension is often insufficiently addressed by educational approaches. Provisions need to be made to address the emotional and mental conditions of learners during periods of regular schooling, as well as the particular needs that arise during school closures.

To foster an inclusive education approach, the application of Individualised Education Plans should be mainstreamed and expanded (SIRIUS, 2020; Gornik, Dežan, Sedmak, & Medarić, 2020) – for example, to develop approaches based around the specific needs of migrant learners, such as their learning needs or needs as non-native language speakers. SIRIUS (2020) suggests that these plans should include provisions regarding the communication between teachers, families and students during school closures, to ensure regular check-in and support. Plans could also include an assessment of families' readiness for virtual learning, e.g. the availability of a computer, TV, the internet and a quiet place to study.

#### *Box 8. Good practice: learning content and information in different languages*

The platform Schouldoheem<sup>11</sup> has been set up in Luxembourg to provide learning content and information in several languages to schools, teachers and learners. Another website, Kannerdoheem.lu<sup>12</sup> offers entertainment activities in various languages during the period of confinement, aimed at children of all ages (Council of Europe, 2021b).

Through the National Institute of Indigenous Languages, part of the Ministry of Culture, the Government of Mexico not only shared information and prevention advice during the pandemic, but also shared learning materials in Spanish and indigenous languages. By the beginning of April 2020, 61 interpreters and translators were available, as well as nearly 140 learning tools (audio, video, maps, etc.) in Spanish and most of the indigenous languages spoken in the country (OECD, 2020b).

<sup>11</sup> <https://schouldoheem.lu/en>

<sup>12</sup> <https://kannerdoheem.lu/lu/>

Furthermore, all materials relating to school processes should be provided in the languages of migrant learners (Gornik, Dežan, Sedmak, & Medarić, 2020), and multilingual resources should be available to learners (OECD, 2020b).

Resources should be designed to mitigate the difficulties faced by students with SEN. This could include the provision of subtitles for pre-recorded classroom videos, and remote live captioning (for hearing-impaired students); digital textbooks or different software (for dyslexic students); educational learning materials for parents and communities (for autistic students); and the use of teaching assistants to support individual students with their lessons (Cerna, 2020).

*Box 9. Good practice: resources for different learning needs*

In the UK, the government has been providing resources for use by learners with SEN and their families<sup>13</sup>. In addition, the organisations Dyslexia Assist<sup>14</sup> and the National Autistic Society have developed and shared materials for children and adults who are affected by these two types of SEN (OECD, 2020b).

During school closures, a whole-school approach should be fostered online (SIRIUS, 2020). Virtual games and chats, reading buddies via online resources, as well as schools providing internet hotspots and engaging with learners, families or guardians, could provide a means of maintaining learners' sense of belonging to a school (Cerna, 2020). This sense of belonging was identified as a relevant resilience factor, enabling social contacts during school closures and beyond. Such activities also foster emotional well-being in times of crisis and are part of a virtual whole-school approach.

*Box 10. Good practice: activating peer networks for non-native speakers*

Terremondo, a SIRIUS member from Italy, virtually connected non-native peers with native-speaking peers during school closures to ensure that they had greater opportunities to interact socially in the native language (SIRIUS, 2020).

After-crisis measures should be put in place to provide resources, remedial programmes and policies aimed at compensating for the learning disruption experienced by disadvantaged learners (Reimers & Schlechter, 2020). Such measure should also focus on minimising educational inequalities, e.g. through low or zero weights in the assessment of young students (Blasko & Schnepf, 2020). When schools open back up, the pupil premium could be increased to help schools provide additional support for disadvantaged students. Catch-up sessions for this group of learners could be organised before other pupils return (Montacute, 2020), and bridging or accelerated education programmes could be implemented to help refugees and other vulnerable learners to catch up on education (Cerna, 2020).

Relevant resilience factors that were identified include positive student engagement and feelings of self-worth on the part of learners. Measures should be implemented that motivate learners to actively engage with learning processes, and which strengthen their self-confidence.

## 4.2 Families' involvement in education

<sup>13</sup> For more information, see: <https://www.gov.uk/guidance/get-help-with-remote-education#special-educational-needs-and-disabilities-send>

<sup>14</sup> <https://dyslexia-assist.org.uk/for-parents/>

The core position of families in education processes, especially during periods of school closure, must be recognised and taken into account by any crisis-related education measures. The core vulnerabilities of disadvantaged learners during school closures involve insufficient support from parents, and the (self-perceived) insufficient capacity of parents to support their children. At the same time, parental involvement is a relevant resilience factor, regardless of the parents' own educational background.

However, Alieva (2021) warns against the automatic assumption that parents with low socio-economic status, a migrant background or who are single parents, are lacking in skills, experience and interest in their children's educational progress. Instead, these should be understood as a result of obstacles that such parents face. These obstacles include parents' working schedules, their own negative experiences with school, as well as a lack of knowledge about the education system and their expected role in the education of their children. Hence, corresponding measures should focus on removing these obstacles. It is necessary to empower parents to engage with the education of their children, even if their own level of education is not high. Programmes of parental guidance and support are necessary (Bayrakdar & Guveli, 2020; Reimers & Schlechter, 2020; Alieva, 2021), especially with regard to parents' digital literacy, access to tools and resources, language competences for non-native speakers, and general knowledge about the respective national education system and school processes. Furthermore, programmes for working parents should provide targeted support for their children.

*Box 11. Good practice: online resources for parents*

In Ireland, the Ministry of Education provided multiple online resources to support parents during school closures. These included guidance on the continuity of schooling for parents of children in primary schools, as well as materials for parents of children at risk of educational disadvantage or who had children with special learning needs (OECD, 2020b).

### 4.3 Collaboration

Multi-agency partnerships are required at both national and international level to respond to the immediate crisis, as well as to develop long-term solutions. Partnerships at national level should include teachers, parents, learners and other relevant members of the educational community (Gornik, Dežan, Sedmak, & Medarić, 2020). Governments should further work in partnership with health and community organisations, social work agencies and other support services (Cerna, 2020) towards joint solutions. As an immediate response to the crisis, Reimers & Schlechter (2020) suggest the establishment of an education task force representing various constituents in the education system or school network. Diverse perspectives should be sought (e.g. from various departments, teacher education, information technology, teacher representatives, parent representatives, students, representatives of industry) to inform the work of the task force.

Partnerships should also be established to share experiences and good practices. Reimers & Schlechter (2020) suggest that schools should 'identify other school networks or systems and create forms of regular communications with them to share information about needs and approaches to solve them, and to learn from them as a way to foster rapid improvement in delivering education in the new modalities'.

At EU/international level, EU Member States need to become more active in coordinating between themselves and exchanging good practices (Radosavljevic, 2020).

## 5. Conclusions and recommendations

### 5.1 Conclusions

Prior research has made abundantly clear that education has a direct connection to the quality of various dimensions of life. Lower educational achievement is therefore directly linked to a variety of challenges to an individual's full participation in society. Learning loss, delays in learning and lower levels of achievement caused by school closures are expected to have a long-term impact on those children affected by them, particularly if the gaps in learning cannot be mitigated.

The COVID-19 pandemic has had two main effects on equity in education: it has highlighted existing flaws in education systems, and presented additional challenges to learning equality. As a consequence of both of these factors, children from disadvantaged backgrounds have experienced more significant learning disruption during COVID-related school closures and on their return to school.

At all three levels –personal, contextual and situational– this study has identified both vulnerabilities and resilience. During COVID-19-related school closures, disadvantaged learners have been subject to various vulnerabilities, often relating to the transfer of teaching responsibilities from the school to the family. An individual learner may also be subject to a combination of multiple vulnerabilities, e.g. being a migrant, having low socio-economic status. Such vulnerabilities already led to inequalities in education and society before the pandemic, but were exacerbated during the school closures.

At the same time, school closures have brought to the fore new vulnerabilities (e.g. children being left alone by working parents) as well as new resilience factors (e.g. a school's engaged distance teaching provisions), which were of no relevance before COVID-19 school closures.

The interaction between vulnerabilities and resilience factors is complex, and may have differing effects depending on the individual context. For example, parents working from home during their children's online schooling generally acts as a resilience factor, as it allows parents to support their children with their learning. However, such a situation can turn into a vulnerability when parents become overwhelmed by the struggle to balance work and support of their children at the same time.

Indeed, the pandemic has demonstrated the multitude of factors that influence learning progress. However, policy responses did not grasp this immediately, and initial mitigation measures targeting disadvantaged children predominantly focused on the issue of access. A likely cause of this one-dimensional approach is the lack of opportunity (and time) on the part of policymakers to conduct assessments and *ex-ante* evaluations of the impact of school closures on disadvantaged learners and on overall learning progress.

This lack of holistic policy approaches for education during the pandemic means that the gap in learning progress between advantaged and disadvantaged children has grown, and may not be closed for the current generation (especially those who are further along in their educational trajectory). The learning gap could subsequently translate into increased inequality among young adults in terms of income, social status, mental and physical health, and political participation. Combined, these factors could diminish much of the progress that has so far been made in creating more equal societies.

This increase in inequality will leave its mark not only on individual adults, but also on society overall. Fewer children will be able to break the cycle of poverty, their reliance on

social support measures and health services may even increase. Divisions between social classes may be exacerbated, leading to a decrease in contact and understanding between people from different social strata. This reduction in understanding, as well as the reduced political participation of disadvantaged groups, could result in less consideration being given in decision-making processes to the needs and circumstances of disadvantaged people. Lifelong learning and alternative learning pathways are now of even greater importance, to ensure that disadvantaged children do not lose their opportunities for a good quality of life.

This report has identified mitigation strategies at the level of education systems and policies, the involvement of families in education, and collaborations. It has also established that national education strategies should be based on the principle of education being a human right. First and foremost, this means that equal access to education must be provided for all learners. Education systems should also apply a holistic and inclusive approach that targets all of the diverse needs of learners. Furthermore, parents must be supported and guided in the crucial role they play in their children's educational development. Lastly, it is necessary to establish multi-agency partnerships at both national and international levels to respond to the pandemic situation and develop long-term solutions. These partnerships should include all of the relevant stakeholders involved in education.

## 5.2 General recommendations

Based on the findings of this report, the following recommendations have been developed. In the **short and medium term**, the main priority is to address gaps in the learning progress of children from disadvantaged backgrounds. This includes the following necessary steps for policymakers and those involved in education management:

- Use national assessments and school-level assessments to measure the learning progress of all children, and compare such data to learning frameworks as well as to the achievements of previous classes that have completed the respective grades. Use background information about children to compare achievement between different groups of children, and assess whether inequality in performance has grown among specific groups.
- Consult with teachers, school staff and relevant stakeholder groups, including self-representative groups of different types of disadvantaged learners on the most suitable approaches to enable specific groups of children to catch up on their learning (e.g. through additional classes, additional individualised support, additional mental health and care provision, etc.). The specific vulnerabilities and resilience factors for each group need to be taken into account in the design of these approaches.
- Design support mechanisms for teachers, parents and other stakeholders to enable them to provide individualised support for children who have suffered from disproportionate disruption to their education progress. Ensure the availability of sufficient resources at school level (through the consultations mentioned above) and at home, to facilitate this support. Ensure continuous support for parents to engage with their children's education at home.
- Create extensive lessons-learned sessions for education ministries and stakeholders, with the purpose of developing education risk plans and strategies that can provide holistic educational solutions in case of possible future school closures. Such strategies should include educational measures, but also measures aimed at securing suitable home learning contexts, taking into account the overall impacts of lockdowns.

- Implement holistic education models as a means of fostering equal opportunities and reducing existing inequalities in education, in particular to account for disproportional disruptions to education during the COVID-19 pandemic.
- Implement digital skills training for educators, learners and parents (e.g. through schools) on an ongoing basis, to ensure that they remain up to date and prepared for digital learning in the event of future school closures. At the same time, also integrate digital education solutions during normal periods of schooling to ensure familiarity with such tools and to capitalise on the advantages of digital learning. Particular attention should be paid to enhancing the digital skills of children at risk, children with SEN and children with migrant backgrounds, as well as those of their parents and caregivers.
- Target those non-school vulnerability factors revealed in this report that negatively impact education, e.g. the living conditions of migrants, refugees, minorities and disadvantaged learners; exposure to violence, etc.
- Enhance cooperation between schools and the parents/caregivers of disadvantaged children, to ensure their involvement in the learning process and, subsequently, their ability to provide learning support to their children.

However, fewer opportunities may be available for disadvantaged children in the later stages of education to catch up with their peers. Measures to mitigate this risk require the following **long-term** approaches, involving both education policymakers and other stakeholders involved in social policy and employment:

- Review current lifelong learning and adult learning strategies, taking into account the results of national and school-level assessments, as well as the socio-economic consequences of disrupted learning described in Chapter 4.3.
- Identify the main areas in which disadvantaged children are most likely to lag behind later in life (also mentioned in Chapter 4.3) as a result of their lower educational achievements. This may differ between countries.
- Strengthen lifelong learning and adult learning offers to address these gaps over the coming decades. Career counsellors and school staff should actively think ahead as to how disadvantaged children can continue learning upon graduation, connect with adult and non-formal educators, and seek learning opportunities that match their talents.
- Develop joint strategies with educators, businesses and vocational training providers to facilitate the transition to tertiary education for those young people in graduation classes who have been affected by interruptions in education due to school closures.
- Analyse advantages, good practices and resilience factors in greater detail. These may include the development of independent learning strategies, intensified family time, different approaches of online learning and other strategies that have evolved during the school closures. Identify how these strategies may be beneficial for learning during normal periods of schooling, and how they may help to build increased resilience among children.
- Educators, as well as governments, should increase their focus on skills training and the recognition of skills, as well as short-term learning opportunities. The talents of children and young adults must be recognised beyond school-level achievement to ensure that they possess the credentials to find employment in an area relevant to their interests and talents. Recognition of talents and skills will also enhance self-esteem and subsequent emotional well-being.
- Foster collaboration at all levels – local, regional, national, and international – concerning good practices during and preparedness for responses to changed conditions, as well as long-term strategies for inclusive learning and teaching.



**Further research** is necessary to understand the teaching and learning processes that have developed during COVID-19-related school closures, as well as their implications for vulnerable learners:

- Research must investigate the effects of learning disruptions (Zancajo, 2020), particularly among vulnerable learners (e.g. those with special education needs, as well as migrant and refugee learners), and must identify ways to compensate these losses.
- Research must further strive to achieve an in-depth understanding of learning processes and how resources interact with the amount of time spent on schoolwork. Future research should identify learning gaps during the years to come, and compare learning gaps among those learners who attended schools that were closed and those whose schools remained open (Bayrakdar & Guveli, 2020).
- The potential of virtual learning must be studied, particularly in terms of enabling access to and equal participation in education for vulnerable learners. Models must be developed that capitalise on such potential.
- Potential uses of virtual learning to meet the needs of populations on the move must also be studied. The findings should provide the basis for collective international efforts to provide education independent of residency.
- Research must be carried out into the potential of virtual learning to meet the needs of learners with special learning needs or other conditions that inhibit their participation in regular schooling. The findings should inform targeted strategies that enable inclusive learning for these groups.
- Evaluations must be carried out on the new and innovative strategies implemented by schools and education systems as lessons learned from the COVID-19-related school closures. These should include their overall impact and their potential to provide equal opportunities for vulnerable learners. International exchange of findings and experience about respective models must be initiated.

### 5.3 Group-specific recommendations

The following sections discuss in further detail the recommendations of the report as they relate to the three specific categories of disadvantaged children.

#### 5.3.1 Children with special educational needs and children with disabilities in mainstream education

In addition to the general recommendations above, the following measures should be carried out in the **short term**:

- Teachers should carefully monitor children's attitudes and learning progress. If necessary, children and their parents should be referred to additional support systems within or outside the school. This requires the increased collaboration of schools with parents, as well as the enhanced integration of schools into municipality-level social support and health services.
- Teachers, as well as government officials responsible for education design, should evaluate the current tools used in schools to ensure they are accessible for all children with SEN taking part in mainstream education.

In the **longer term**:

- EU and national-level stakeholders should carefully consider to what extent their digital education strategies and action plans take into account and are inclusive of children with SEN. This refers not only to highly specialised tools for children in special education, but also to the content and technology of future platforms and tools used in mainstream education.



- Strategies for and approaches to digitalised education should ensure that personal contact between teacher and student is not reduced as a result. A strong focus should remain on the emotional, social, and behavioural skills taught in schools, as well as the emotional, social, and behavioural needs of the children.

### 5.3.2 Children from at-risk households

In the **short-term**, this report recommends that:

- Teachers and school staff (and municipal workers, if relevant) identify children who have dropped out of school, or have demonstrated lower participation during online classes. Individualised plans should be prepared (together with parents, caregivers, social workers, and other relevant support services if needed) for their reintegration into education.
- Teachers and school staff (as well as municipal workers, if relevant) should identify the particular challenges faced by at-risk children during the pandemic that have hindered their learning progress. Together with the relevant support services, solutions should be identified that will enable children to catch up with their learning in suitable learning environments with sufficient resources.
- Governments should make resources available for schools to ensure that the school staff can provide the support listed above.

In the **longer term**:

- Policymakers should prepare strategies and allocate resources to address the challenges faced by at-risk children during distance learning, to ensure their families and learning environments are prepared for a post-pandemic learning context that may include increased reliance on digital tools.
- Education stakeholders and policymakers should increase the number of alternative education pathways, short-term courses and other adult or non-formal education programmes on offer, particularly for those children who irreversibly left the education system during the pandemic. Education providers should actively reach out to this target group.
- Enhance access to ICT devices among adults, so that children who have dropped out of education or suffered learning disruption can continue their learning as adults (e.g. through online courses). Promote lifelong learning and offer education programmes among at-risk adults and families, and in communities in lower socio-economic status neighbourhoods.

### 5.3.3 Refugee, migrant and ethnic minority children

In addition to the general recommendations above, in the **short term**:

- National education systems should ensure systemic equity for migrant, refugee and minority learners. This includes equal access to education for all learners, independent of their residence status, as well as the combating of discrimination in all fields of life. Teachers, school staff and other service providers should identify migrant children whose learning has been disproportionately disrupted, and prepare individualised plans to enable them to catch up with their learning (in cooperation and close engagement with parents and caregivers).
- Equal access to digital tools and internet should be guaranteed for migrant, refugee and minority learners, e.g. by establishing internet and computer rooms in refugee reception centres.

- The specific learning gaps of migrant, refugee and minority learners (e.g. language), as well as subject gaps, should be assessed. Tutors and special learning programmes should be put in place for children to overcome their gaps.
- The psychological effects of the pandemic on this group of learners (e.g. re-traumatisation) should be addressed through specialised training and therapy programmes.

In the **long term**:

- Alternative pathways should be created to enable learners who have lost time in education or dropped out during school closures to enter vocational or adult learning courses, e.g. through practical learning approaches in cooperation with companies and other labour-market stakeholders.
- Multilingual teaching strategies should become an essential part of the curriculum to ensure equal access to education and information for children and their parents who speak languages other than the language of instruction. Teacher training programmes and capacity building should prepare teachers to teach in diverse and multilingual classrooms, and to respond to the specific needs of migrant, refugee and minority children.
- Lifelong learning should be promoted, and education opportunities should be enhanced for adults and families in migrant communities, e.g. through youth and community centres. Families should be made aware of the potential of digital learning, as well as the challenges involved, and parents' capacity to support their children's education should be strengthened, particularly with regard to digital learning tools.
- Assessments should be made regarding the effectiveness of interventions by NGOs and governments to support migrant, refugee and ethnic minority learners, as well as the approaches made by educators, such as personalised teaching strategies and outreach to families. Consideration should be given to adopting good practices into regular education programmes. This should also include the assessment of education strategies for refugees on the move. Sustainable structures should be put in place to enable the continuity and connectedness of education for these groups of learners.

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## Annex 1. Factors of vulnerability and resilience affecting the education of disadvantaged learners

Table 8. Factors of vulnerability and resilience at the level of personal characteristics and circumstances

Dimension	Vulnerability	Description	Overlap	Description	Resilience
Migrant/minority background	Migrants/ethnic minorities	Migrants: limited access to internet and computers; language Parental effects: key workers; limited resources and ability to support children; language and technology barriers	Vulnerabilities outweigh resilience		High aspirations; cultural and language mediators; support programmes
	Refugees	Language barriers; limited parental support and material resources; technological barriers; poor housing; disruption of service referrals; lack of social networks; isolation; emotional and mental conditions			Cultural and language mediators; support programmes
	Refugees in first reception camps	Difficult housing conditions; insufficient social protection and social services; technological barriers, quarantine, language barriers, limited social contact, isolation, emotional and mental conditions			
	Sinti and Roma	Difficult housing conditions; technological barriers; limited resources			
Education needs	Special education needs/disabilities	Technological barriers; 'invisible' to political priorities		May mitigate isolation	Some initiatives to meet the specific needs
Age	Young age of children	High dependence on parental support; less likely to adapt if lacking home resources			



Student's engagement, perceptions, performance	Prior low performance at school			Positive student engagement; sense of belonging to school; feelings of self-worth
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Table 9. Factors of vulnerability and resilience at a contextual level

Dimension	Vulnerability	Description	Overlap	Description	Resilience
Education of parents	Low level of education of parent	Less access to resources (computers, internet, reading materials/books); parental effects: lack of skills for home schooling; lack of technical skills; low self-perceived competences	Overall educational inequalities/achievement gap will increase	Access to resources; parental effects: have skills, resources and knowledge; support children's learning; high self-perceived competences; may hire tutor; more able to telework	High level of education of parent(s); support programmes
Socio-economic status	Low socio-economic status	Less access to resources and individualised learning; spend less time on schoolwork; less study space; nutrition compromised; parental effects: lack of material resources; less support to children; low self-perceived competences	Overall educational inequalities/achievement gap will increase	Access to resources and individualised activities; spend more time on schoolwork; more study space; parental effects: more support for children	Advantaged socio-economic status, support programmes
Parental involvement	Low involvement of parents	Parental effects: low involvement in education of children independent of own education and income			High parental involvement; positive parent-child relationship
Living arrangements	Children in out-of-home care	Lack of outside contact; staff lack digital and teaching skills and equipment		Improved relationship with caregivers; better perceived grades	Caregivers' engagement; positive learning environment
	Single parent families	Parental effects: Limited time, support and resources to foster home learning			

Table 10. Situational factors of vulnerability and resilience and responses specific to COVID-19 lockdowns

Dimension	Vulnerability	Description	Overlap	Description	Resilience
Parental working pattern	Parents working away from home, leaving children who require care home alone	Less time spent on schoolwork		Spend more time on schoolwork; more hours of offline lessons; parental effect: more hours of support to children	Parents working from home and having a service class occupation
School capacity and distance teaching provisions	Low school capacity	Insufficient technical capacity for web-based formats; lack of strategy to transition from face-to-face to online teaching; strategies out of date	Schools' distance teaching provisions explain largest part of variations in children's home learning; potential to moderate disparities generated by parental and ethnic backgrounds	Provide teachers with proper organisational and professional support, sufficient computer technology and support at school	High school capacity
				Schools' online and offline distance teaching and homework checking	Engaged distance teaching provisions
Teacher capacity	Insufficient teacher competence and education	Difficult to maintain social contact with students, providing quality online lessons, introducing learning content, providing task differentiation and feedback, conducting online assessments, managing new technologies			Sufficient teacher competence and education
Family income development	Wage loss of parents	Young people may have to contribute to economically distressed families' income, endangering their return and remaining at school, risk of rise in dropout rates			
Lock-down context	Lack of interaction	Impacts on sense of belonging, participation, empathy, involvement, friendship, putting psychosocial and social aspects at risk, increase in depression and social isolation		May mitigate lack of interaction and psychological issues; enables interaction in national language	Open schools for vulnerable children; counsellors; connecting non-native and native peers

	Privacy issues	Parents may interfere in education in a negative way, leading to situations of intrusiveness			
	Risk of violence	Increased exposure to violence and (sexual) exploitation			Open schools for at-risk children
<b>Responses by government and civil society</b>	Work of civil society services impeded by lockdown	Lockdown impeded referrals to reach children in vulnerable situations, leading to lack of support, issues went undetected		Provision by NGOs of technical devices and internet to the most vulnerable students; organisation of teaching through TV, phones or radio; NGOs help with online learning	Support for vulnerable students from NGOs and governments
	Challenges between civil society and policy level	Challenges from civil society actors in some countries, civil society not involved in decision making			
				Schools had permission to keep several classrooms open for children whose parents work in essential services and were working extra hours	Open classrooms for children of working parents

Note: Tables 8 and 9 include vulnerability factors that also apply to the regular school context. These factors exacerbated vulnerabilities and resilience during the COVID-19 school closures. Vulnerability and resilience factors that are particularly relevant to the context of the COVID-19 school closures are marked in blue.

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