DEVELOPMENT ANALYTICS
Tools for Evidence Based Policy Making

unicef
for every child

Documentation of Education Response in Türkiye during the COVID-19 Pandemic and its Effect on Children's Access to and Retention in Education

January 2023

Cover Photo: © UNICEF/UN0466327

Documentation of Education Response in Türkiye during the COVID-19 Pandemic and its Effect on Children's Access to and Retention in Education

ACKNOWLEDGEMENTS

This study was commissioned by the UNICEF Türkiye Country Office under the project titled: “Documentation of Education Response in Türkiye during the Covid-19 Pandemic and its Effect on Children's Access to and Retention in Education”. The analysis and writing for the report were carried out in the period October 2021 - May 2022. The report was prepared by a team at Development Analytics comprised of Dr Meltem Aran, Dr Pınar Kolancalı, Nazlı Aktakke, Zehra Sena Kibar, Hazal Çolak, Yali Hajhassan and Dr Yasemin Kisbu (Peer reviewer). The research team would like to thank Francesco Calcagno, Burcu Tamgaç Mörel and Emre Üçkardeşler for leading on and facilitating the delivery of the project and Rasika Sridhar Sethi, Lang Ma, Lauren Klein, Yasemin Kızıloğlu, and Rizwanullah Khan for providing helpful comments on the inception report and report drafts throughout the project.

Cover Photo: © UNICEF/UN048825/Ergen
For further information, please contact: UNICEF Türkiye, Education Section
Email: ankara@unicef.org
UNICEF Türkiye Country Office Yıldız Kule Is Merkezi Turan Gunes Blv.No: 106 Floor: 7, Ankara, Türkiye
T: +90 312 454 1000F: +90 312 496 1461

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF FIGURES

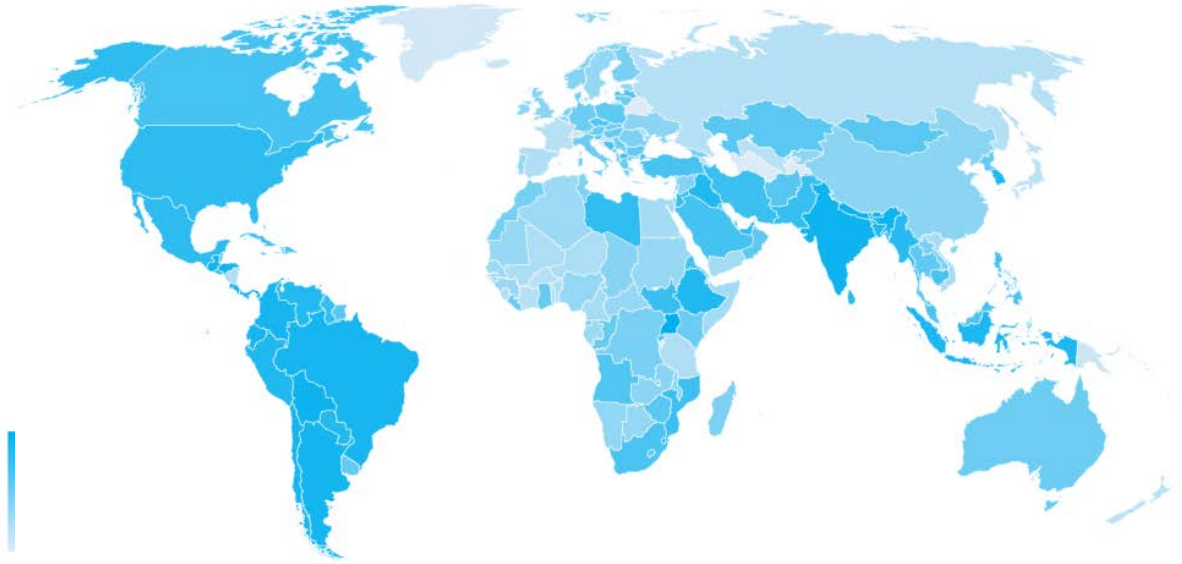
LIST OF TABLES

INTRODUCTION

The COVID-19 pandemic has significantly affected children's educational outcomes. To contain the spread of the virus, the schools were closed in countries around the world starting in February 2020 and between February 2020 and August 2021 schools were fully closed for 121 days and partially closed for 103 days on average.[1] Due to the disruptions in face-to-face education, UNESCO estimates that almost 100 million children would fall below the proficiency threshold in reading due to loss of contact time at school.[2] It is further estimated that this generation of students could lose $17 trillion in lifetime earnings due to learning losses, making 14% of global GDP today.[3] Learning poverty in low and middle-income countries is also estimated to rise to 70%, up from its pre-pandemic level of 53%.[4] Findings from emerging learning assessments show that children are experiencing considerable learning losses in countries including Brazil, South Africa and Russia.[5] The impact of the pandemic has also not been equal due to existing inequalities for children in terms of household socioeconomic status and learning environment within the household as well as different responses adopted by governments in terms of school closures and distance learning measures.[6]

Figure 1 Among 210 countries, Türkiye is in the top 30% of countries with the longest duration of school closures between March 2020 and August 2021

Number of days schools were fully or partially closed in 2020 and 2021, between March 2020 and August 2021



Duration of full partial closures from Mar 20 - Aug 21 (number of days)

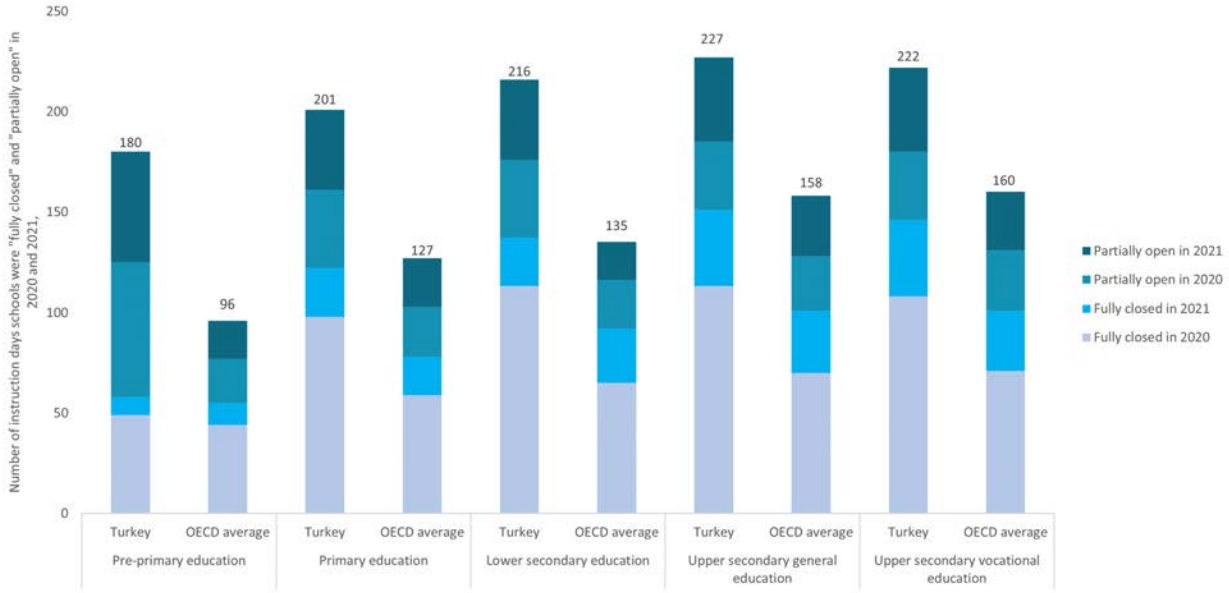
Source: UNESCO. (2022). UNESCO global dataset on the duration of school closures. Accessed from: https://en.unesco.org/covid19/educationresponse. The dataset reports the period of school closures in weeks. This was reported in days in the graphic above, as multiplied by the number of weekdays.

[1] The World Bank, UNESCO and UNICEF (2021). The State of the Global Education Crisis: A Path to Recovery. Washington D.C., Paris, New York: The World Bank, UNESCO, and UNICEF.
[2] UNESCO Institute for Statistics. (2021). Pandemic-related disruptions to schooling and impacts on learning proficiency indicators: A focus on early grades. Montreal: UNESCO-UIS.
[3] The World Bank, UNESCO and UNICEF (2021). The State of the Global Education Crisis: A Path to Recovery. Washington D.C., Paris, New York: The World Bank, UNESCO, and UNICEF.
[4] Ibid.
[5] Ibid.
[6] Azevedo, J. P., Gutierrez, M., Hoyos, R. D., & Saavedra, J. (2022). The Unequal Impacts of COVID-19 on Student Learning. In Primary and Secondary Education During Covid-19 (pp. 421-459). Springer, Cham.

In Türkiye, schools were closed on March 16, 2020, and with partial openings occasionally occurring for all grades or for certain grades, they have remained largely closed to face-to-face education for the second half of the 2019-2020 academic year as well as through much of the 2020-2021 academic year.[7] Among 210 countries, Türkiye is in the top 30% of countries with the longest duration of school closures (See **Figure 1**). There have been differences with regard to school closure policies for different education levels (See **Annex 1**). In this respect, pre-primary education was the education level that remained open to face-to-face education for the longest time, followed by primary education. Focusing on OECD countries, the number of instruction days schools were "fully closed" or "partially open" was higher (between 62 and 84 days longer) in Türkiye compared to OECD averages for all education levels.[8] Overall, 48.1% to 60.7% of the two-year period (2019-2020 and 2020-2021 school years) was spent either partially or fully closed, depending on the education level.[9] The disruption in face-to-face education ended with the first semester of the 2021-2022 academic year, starting from which face-to-face education has continued without any interruptions for all school levels.[10]

Figure 2 Number of instruction days schools were "fully closed" or "partially open" was much higher in Türkiye compared to OECD averages

Number of instruction days schools were "fully closed" and "partially open" in 2020 and 2021, between 1 January 2020 and 20 May 2021



Source: OECD. (2021). The State of Global Education. Paris: OECD

[7] According to data from Oxford Government Response Tracker. https://ourworldindata.org/covid-school-workplace-closures
[8] OECD. (2021). The State of Global Education: 18 Months into the Pandemic, OECD Publishing, Paris, https://doi.org/10.1787/1a23bb23-en.
[9] 2019-2020 school year was planned as 178 days.
(Source: https://muglaarge.meb.gov.tr/meb_iys_dosyalar/2019_09/04153114_MUYLA_YL_MYLLY_EYYTYM_MUDURLUYU_2019-2020_EYYTYM_OYRETYM_YILI_CALIYMA_TAKVYMY.pdf)
2020-21 school year included a total of 196 days. Source: Graph 1 in ERG. (2021). Öğrenciler ve Eğitime Erişim Eğitim İzleme Raporu 2021. Istanbul: ERG
[10] TEDMEM. (2022). 2021 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 8). Ankara: TEDMEM

As a policy response, during the pandemic, Türkiye implemented a distance learning system through the EBA Online Platform (Education Information Network/Eğitim Bilişim Ağı) and EBA TV.[11] EBA is an online educational platform providing learning materials, classes, and activities for children across K-12 education including pre-school level education. EBA TV was developed as an extension to this platform to stream pre-recorded classes for children across the country.[12] As of June 18, 2021, EBA online platform had 14.1 million active students and 1.2 million active teachers.[13]

Given this background, this study aims (i) to estimate the impact of the COVID pandemic on children's education outcomes and identify risk groups and (ii) to understand and document the policies implemented so far, the challenges faced by children, teachers and schools during the extended period of school closures in Türkiye. The study uses a mixed-methods approach to review and analyse the existing data and documents while also collecting primary qualitative data from stakeholders and experts. The methodological tools that have been used for the study are (i) Desk review, (ii) Quantitative Data Analysis (Analysis of DHS 2018 and PISA 2018 datasets) and (iii) Qualitative Data Collection and Analysis through Key Informant Interviews (KIIs) with Stakeholders. In the absence of primary data collected on the current situation of children's learning outcomes, dropout rates or engagement in child labour, simulations and estimations on these indicators using existing household level datasets and identifying the characteristics of children who are most at risk are presented in order to highlight the degree of the problem and the child groups that are likely to be most affected.

[11] ERG. (2020). Öğrenciler ve Eğitime Erişim Eğitim İzleme Raporu 2020. Istanbul: ERG

[12] Hurriyet. (2020, March 22). Turkey begins TV-based distance learning for school students due to pandemic. Hurriyet. Retrieved from: https://www.hurriyetdailynews.com/turkey-begins-tv-based-distance-learning-for-school-students-due-to-pandemic-153169

[13] MEB. (2021, October 27). Sayilarla uzaktan egitim. MEB. Retrived from: http://yegitek.meb.gov.tr/www/sayilarla-uzaktan-egitim/icerik/3225

CHAPTER ONE

1. Problems During School Closures

Challenges Faced by Children and Households

Access to the internet, digital devices, and educational platforms were the primary barriers to children's retention in education during the COVID-19 pandemic in Türkiye. By the end of the academic year in 2020, only 26% of students could access EBA for more than an hour a week.[14] According to a study conducted by Eğitim-Sen in April 2021, access to online education remained limited among students even a year after the start of the pandemic.[15] According to the online survey results collected from 3,743 teachers across different grades from early childhood education to high school, 71 per cent of the teachers reported that 'at most half of the class was attending the online classes. Teachers also reported "students not having the adequate infrastructure to be able to attend online classes" and "children not being able to learn properly during online courses" were the most pressing problems related to online education.[16] Evidence on the educational experiences of children and families has shown that children who had to partially or fully discontinue their education during the pandemic experienced problems with access to the internet or digital devices. A survey study by the Ministry of National Education has shown that approximately 13% of students participating in the study (N= 41,430) could not attend any classes during the pandemic.[17] 1.5% of these students reported not having access to a TV or the internet, whereas 7% of these students reported not being able to attend classes due to a lack of internet access.[18] Many informants underlined that access to EBA classes was not equal to engagement in learning. According to an interview with a member of the teachers' union, an unpublished survey with 2,038 teachers seems to confirm this.[19] Almost all the teachers (97%) participating in this survey shared the opinion that their students regressed during the pandemic, and 93% of these teachers agreed that it was not possible to compensate for the learning losses during the reopening of schools.

While the opening of EBA support centres was useful, there might have been gaps

[14] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG
[15] Eğitim Sen. (2021). Eğitim-Sen Uzaktan Eğitime Yakından Bakıyor. Ankara: Türkiye.
[16] Ibid.
[17] İra, N., Yıldız, M., Yıldız, G., Yalçınkaya-Önder, E., & Aksu , A. (2021). Access to information technology of households and secondary school students in Turkey. Information Development, 02666669211008949.
[18] İra, N., Yıldız, M., Yıldız, G., Yalçınkaya-Önder, E., & Aksu, A. (2021). Access to information technology of households and secondary school students in Turkey. Information Development, 02666669211008949.
[19] KII3

in informing the public about them. According to a study conducted by four national NGOs (Başak Kültür Sanat Vakfı (BSV), Sulukule Gönüllüleri Derneği (SGD), Tarlabaşı Toplum Merkezi (TTM) ve Small Projects Istanbul) located in Istanbul, with 86 children and 71 caregivers during January-April 2021, almost none of the caregivers or children knew about EBA support centres.[20] This finding also emerged in a recent study carried out by UNICEF Türkiye through conducting of surveys of 1,139 Syrian children and 322 Turkish children in the 10-17 years old age group.[21] According to the survey findings, 41% of the Turkish children and 68% of refugee children were unaware of the EBA Support Centres.

A large proportion of households in Türkiye were unprepared for online education. A recent survey by TURKSTAT underlines the important gaps in children's computer use and internet access through a fixed broadband connection in households.[22] According to the results of TURKSTAT's Survey on Information and Communication Technology (ICT) Usage in Households and by Individuals, 2021, the proportion of households with internet access is at 92.0%, a slight increase from the rate in 2020, which was 90.7%.[23] However, 61.9% of households used fixed broadband connection (ADSL, cable, optic fibre, etc.), while 88.5% of the households had mobile broadband connection to access the internet. TURKSTAT also conducted a special module with children along with this survey, to understand their usage of information and communication technology. According to the results of this survey, 82.7% of children aged 6-15 years old reported using the internet.[24] 64.4% of children in this age group used mobile phone/smartphone while 55.6% of children used computers (desktop/laptop/tablet). These findings are in line with the devices used by students when accessing EBA. The user statistics published by the Ministry of National Education have shown that the majority of the students accessed EBA via mobile devices (60%), whereas the proportion of students using a computer to access the platform was only 31%.[25] Another survey study of 2,794 10-17 year-old Turkish and Syrian children residing in Istanbul and Gaziantep has shown that many children could not access EBA due to not having digital devices at home (27.7%) or families did not have enough digital devices to support all the children within the household (35.5%).[26] Interviews with stakeholders also revealed that families struggled with providing digital devices to their children. Limited financial resources of families and multiple school-aged children living in the same household were linked to problems with access to digital devices during the pandemic. An interviewee underlined that the digital device supplies provided by the government and other local organisations only reached a small portion of

[20] SGD, TTM, BSV, & SPI. (2021). Covid-19 Sürecinde İstanbul'un Farklı Yerlerinde Çocukların Haklarına Erişimi- Eğitim Hakkı Yetişkinler için İzleme Raporu.
[21] UNICEF. (2022). Back to Learning Study 2021: Access to Education and Learning During COVID-19. Findings Report. Ankara: UNICEF.
[22] TUIK. (2021). Press release on Survey on Information and Communication Technology (ICT) Usage in Households and by Individuals, 2021. Accessed through: https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2021-37437 and TUIK. (2021). Press release on Survey on Information and Communication Technology Usage by Children, 2021. Accessed through: https://data.tuik.gov.tr/Bulten/Index?p=Survey-on-Information-and-Communication-Technology-Usage-by-Children-2021-41132&dil=2
[23] TUIK. (2021). Press release on Survey on Information and Communication Technology (ICT) Usage in Households and by Individuals, 2021. Accessed through: https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2021-37437
[24] TUIK. (2021). Press release on Survey on Information and Communication Technology Usage by Children, 2021. Accessed through: https://data.tuik.gov.tr/Bulten/Index?p=Survey-on-Information-and-Communication-Technology-Usage-by-Children-2021-41132&dil=2
[25] MEB. (2021). Sayılarla Uzaktan Eğitim [Infographic]. MEB. https://yegitek.meb.gov.tr/www/sayilarla-uzaktan-egitim/icerik/3225
[26] UNICEF. (2022). Back to Learning Study 2021: Access to Education and Learning During COVID-19. Findings Report. Ankara: UNICEF.

families in need. Other interviews also confirmed that the emergency responses to these issues were not enough to compensate for the needs of many disadvantaged families in Türkiye.[27] Another problem experienced by families was with navigating EBA. Informants underlined that parents' digital illiteracy was a barrier to their children's access to online education during the pandemic. According to NGO informant experiences with local families, many parents struggled to guide their children's use of EBA during the pandemic.[28] This finding was also seen in a study conducted by Derin Yoksulluk Ağı during July-September 2020, among 103 households that DYA supported.[29] According to the report, there were problems with access to EBA TV, for which the parents did not know how to set in their TV.

Educational disadvantages experienced by children in rural and disadvantaged areas in Türkiye were exacerbated during the pandemic. The local statistics of access to the internet at home show larger variations for the most underprivileged regions in Türkiye. For instance, 75.5% of the households in Southeast Türkiye did not own fixed broadband connection at the beginning of the pandemic (in 2020), while this rate was 49.2% for the country overall, while access to the internet via a mobile supplier was similar to the rest of the country (85.4% in Southeast Türkiye vs 86.9% in Türkiye, in 2020).[30] These numbers also reflect on students' access to online education in different parts of Türkiye. A survey study of 155 children from Diyarbakir has shown that 72% of children reported having difficulties in continuing their education during the pandemic due to a lack of digital devices. 16.1% of children participating in this study had to discontinue their education fully, and 19.4% of children were forced into labour during the pandemic.[31] The aforementioned survey study of Turkish and Syrian children has also captured the issues around access. The main reasons behind the challenges experienced by Syrian children were lack of digital devices at home (57.8%), not having internet access (45.1%), or not having enough devices for all children (32.5%).[32] A local report from a province of Gaziantep has shown that the active use of EBA varied from 0% to 97% across the students enrolled in schools in the region.[33] Many teachers and school principals from schools located in rural areas of the region referred to problems with their students' access to the internet and digital devices.[34] A mixed-methods study involving 2,398 parents, teachers, and local authorities (2,009 of those are local authorities) on the educational experiences of families in rural Türkiye reported that 45.5% of the villages in Türkiye experienced problems with online education during the pandemic.[35] The report shows that 26.5% of the villages participating in the survey reported having frequent power-cuts due to

[27] KII3, KII12
[28] KII5, KII11
[29] Göçmen, E., Kalender, G., Foggo, H., Yüksel, S., Şener, Ş., & Duman, Ş. (2020). Pandemi Döneminde Derin Yoksulluk ve Haklara Erişim Araştırması. İstanbul: Türkiye
[30] TUIK (2021). İstatistiki Bölge Birimleri Sınıflaması 1.Düzey'e göre evden genişbant bağlantı ile İnternet erişimi olan hanelerin oranı, 2011-2021. Accessed from: https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2021-37437#:~:text=Geni%C5%9Fbant%20ile%20%C4%B0nternete%20eri%C5%9Fim%20sa%C4%9Flayan%20hanelerin%20oran%C4%B1%202021%20y%C4%B1l%C4%B1nda%20%92,ba%C4%9Flant%C4%B1%20ile%20%C4%B0nternete%20eri%C5%9Fim%20sa%C4%9Flad%C4%B1.
[31] Yalçın, A. ve Korkmaz, N. (2021). "Çalışmalıyım, çünkü para lazım" pandemide artan çocuk işçiliği araştırma raporu Diyarbakır örneği. Rengarenk Umutlar Derneği.
[32] UNICEF. (2022). Back to Learning Study 2021: Access to Education and Learning During COVID-19. Findings Report. Ankara: UNICEF.
[33] MEB. (2020). Covid-19 Pandemisi ile Mücadele Süreci Milli Eğitim Müdürlüğü Raporu. MEB. Gaziantep: Türkiye
[34] Ibid.
[35] KODA. (2021). Köy Halkının Gözünden Pandemide Köylerin Ve Köy Okullarinin Durumu. Istanbul: KODA

infrastructural problems exacerbated by weather conditions.[36] More than a quarter of the local authorities (28.6%) described the pandemic as a difficult period based on health (38.4%) and education-related (31.7%) problems experienced by their village members.[37] Infrastructure problems were not the only issue in children's access to education in rural areas. A stakeholder mentioned that low educational aspirations of parents also had a negative effect on children's continuity in education.[38] In some extreme cases, teachers witnessed families using the printed learning materials as kindling at home.[39]

School education during the pandemic was also severely disrupted for refugee children due to issues with access to the internet and digital devices, as well as other problems. Evidence from various resources has shown that most refugee children had difficulty accessing education during the pandemic. According to a survey of 1,020 refugee families, 21% of children in education had to discontinue their school education due to a lack of resources. Primary barriers to refugee children's access to education were identified as either having no access to the internet (22%) or TV (12%); unavailability of equipment for all children in a family (17%); language barriers experienced by parents and children (13%), and problems with using the various educational platforms.[40] For instance, a study demonstrated that some refugee children did not have access to EBA TV due to not having a Turkish TV satellite at home.[41] In a face-to-face interview study with 100 refugee families in Izmir, parents of children whose education was disrupted due to the pandemic (35%) referred to technical issues and language barriers in explaining the reasons for their children's school withdrawal.[42] Another survey study including 1,133 refugee parents of 0-17-year-old children in Türkiye has shown that a majority of children experienced problems with participating in online classes due to a lack of digital resources (69%).[43] As a result, 23% of children fully discontinued their education, whereas only 44% partially participated in online classes. 90% of those who were able to continue their education accessed their classes via mobile devices. Pandemic's impact on school dropout also emerged in another study. A UNICEF report which surveyed 1,139 Syrian children aged 10-17 years old points out that 10% of children aged 10-17 years old who dropped out of school during 2020-2021 year states the pandemic as the main reason.[44] The same study also points out that apart from school dropout, access to EBA was also a major issue during the 2020-2021 school year and 29% of surveyed children reported not being able to access EBA. Another factor that negatively affected refugee children's continuity in education was the exacerbation of discrimination during the pandemic and their perception of this. Informants explained that refugees were perceived as a threat to public health during the pandemic and were discriminated against in public

[36] Ibid.
[37] Ibid.
[38] KII1
[39] KII1
[40] Inter-Agency Protection Coordination Turkey. (2020). Protection Sector Needs Assessment. Ankara: Türkiye
[41] Tokyay, M. (2020, April 17). Uzaktan eğitim dijital uçurumu derinleştiriyor mu? İnterneti olmayan öğrenci nasıl eğitim alacak? Euronews. Retrived from: https://tr.euronews.com/2020/04/17/uzaktan-egitim-dijital-ucurumu-derinlestiriyor-mu-interneti-olmayan-ogrenci-nas-l-egitim-a
[42] Deri Tekstil ve Kundura İşçileri Derneği. (2021). Pandemi'de Mülteci Çocuk İşçiliği Raporu. Izmir: Türkiye
[43] ASAM. (2021). COVID-19 Pandemisinin Türkiye'deki Uluslararası ve Geçici Koruma Altındaki Çocuklar Üzerinde Etkileri. Ankara: Türkiye
[44] UNICEF. (2022). Back to Learning Study 2021: Access to Education and Learning During COVID-19. Findings Report. Ankara: UNICEF.

spaces.[45] These experiences may have deterred many refugee children from going to school and demotivated parents to support their children's continuity in education during the reopening period.[46]

Children with special educational needs and disabilities have been adversely affected by the school closures and required additional support during the pandemic. In Türkiye, there are currently 425.816 children enrolled in K-12 schools benefiting from special education services across the country.[47] A majority of these children (75,1%) are enrolled in inclusive classrooms, including typically developing children.[48] A report published by the rights of children with disabilities network (Engelli Çocuk Haklari Ağı) demonstrates that the closures of educational centres and schools for children with special educational needs and disabilities exacerbated these children's behavioural and psychological development and led to a significant level of losses in their educational attainment.[49] The survey conducted with 565 parents of children with special educational needs and disabilities for this report underlined that a majority of families (66%) were severely affected by the school closures and many (48%) could not benefit from the online educational resources due to a lack of inclusive learning materials tailored for the needs of their children. This finding was also repeated in an interview study with 15 parents, which emphasised the need for additional support in education for children with special educational needs and disabilities.[50]

School closures potentially may also have exacerbated gender inequalities in education. Before the pandemic, school enrolment rates were 1 to 2% lower for girls across K-12 and early childhood education.[51] Low educational aspirations of parents for girls and gender expectations (e.g., contributing to the household chores) have been a factor affecting their school attendance and educational attainment.[52] Although the national statistics demonstrate that the number of children in labour was higher for boys in 2020[53], it is likely that the participation in domestic labour was undocumented for girls who supported their families at home during the pandemic. The gender differences in mental health need is another risk factor for their school attendance and educational attainment. Research shows that girls more often experience internalising behavioural problems (e.g., anxiety), which may remain unnoticed.[54] The nature of these issues poses a serious risk for the school attainment and well-being of girls.[55] Previous policy reviews from Türkiye also

[45] KII8
[46] KII8
[47] MEB (2020b). Millî eğitim istatistikleri: Örgün eğitim: 2019-2020. Kasım 2020, https://sgb.meb.gov.tr/meb_iys_dosyalar/2020_09/04144812_meb_istatistikleri_orgun_ egitim_2019_2020.pdf
[48] Ibid
[49] EÇHA (2020). Covid 19 (pandemi) sürecinde 'özel gereksinimli çocukların ve ailelerinin ihtiyaçlarını belirlemeye yönelik' eğitim analiz raporu. Kasım 2020, https://www.echa. org.tr/egitim-analiz-raporu-yayimlandi
[50] Yazcayir, G., & Gurgur, H. (2021). Students with Special Needs in Digital Classrooms during the COVID-19 Pandemic in Turkey. Pedagogical Research, 6(1), em0088. https://doi.org/10.29333/pr/9356
[51] MEB (2021). Millî eğitim istatistikleri: Örgün eğitim 2020-2021. Ekim 2021, https://sgb.meb.gov.tr/meb_iys_dosyalar/2021_09/10141326_meb_istatistikleri_orgun_ egitim_2020_2021.pdf
[52] Assaad, Ragui, Levison, Deborah, & Zibani, Nadia. (2010). The effect of domestic work on girls' schooling. Feminist Economics, 16(1), 79-128.
[53] TÜİK, 31 Mart 2020.
[54] Gutman, L.M., Codiroli McMaster, N. Gendered Pathways of Internalizing Problems from Early Childhood to Adolescence and Associated Adolescent Outcomes. J Abnorm Child Psychol 48, 703–718 (2020). https://ezproxy-prd.bodleian.ox.ac.uk:2102/10.1007/s10802-020-00623-w
[55] Okano, L., Jeon, L., Crandall, A., & Riley, A. (2020). Differential effects of internalizing behaviors on academic functioning for girls versus boys: An analysis of developmental cascades from elementary to high school. Development and Psychopathology, 32(2), 751-764. doi:10.1017/S0954579419000737

underline these risk factors and portray girls as being more vulnerable to the effects of the pandemic. [56] [57] [58]

Socioeconomic status of the families played an important role in their children's access to education during the pandemic. Poverty was a common denominator in the majority of access problems during the pandemic. According to a report published by Derin Yoksulluk Ağı, the pandemic pushed more families into extreme poverty in Istanbul and left many households with food insecurity.[59] A majority of these families also had no means to support their children's learning during the pandemic (See **Figure 3**).[60] Debilitating levels of poverty across these households also led school-aged children into work, keeping them out of education during the pandemic.[61] A report on child welfare during the pandemic, for instance, has shown that families living in extreme poverty had to prioritise basic human needs such as heating their homes and feeding their families over education.[62] The pathways into labour faced by refugee children were also intersectional and linked with poverty. For instance, a report has shown that 78% of refugee children from disadvantaged households were able to continue their education during the pandemic, whereas this number was reduced to 63% for children living in extreme poverty.[63] Other reports on refugee children have also underlined that the financial resources of families led to educational barriers other than access to the internet or digital devices during the pandemic. According to these reports, some refugee children had to discontinue their education to financially support their families.[64] [65] In one of the reports, including interviews with 100 refugee families in western Türkiye, the number of children financially supporting their families increased from 23 to 43.[66] Interviews with stakeholders revealed further information on the negative experiences of refugee families. In an interview with one of the leading non-governmental organisations working with refugee families, informants pinpointed the effects of the pandemic on single mothers, whose sole income depended on domestic work such as cleaning, childminding, and adult care.[67] With the pandemic restrictions, many refugee mothers lost their means to care for their children.[68] For these reasons, many school-aged children were pushed into paid jobs to support their families during the pandemic.[69] According to the stakeholders, the effects of the pandemic on children also varied by gender. Male children, for instance, took paid jobs to compensate for the income losses of their families, whereas female

[56] TEDMEM (2021). Türkiye'nin telafi eğitimi yol haritası raporu. Haziran 2021, https://tedmem.org/download/ turkiyenin-telafi-egitimi-yol-haritasi?wpdmdl=3669ver efresh=60b09f43991ae1622187843
[57] ARISE (2021) Eğitimde Eşitsizliğin Azaltılması Projesi Türkiye Ulusal Raporu. Istanbul: Türkiye
[58] TUSIAD (2021). COVID-19 etkisinde Türkiye'de eğitim. Istanbul: Türkiye
[59] Gökçen, C. (2020). Pandemi'de Derin Yoksullukla Mücadele. Derin Yoksulluk Ağı. İstanbul: Türkiye
[60] Ibid
[61] Ibid
[62] Başak Kültür ve Sanat Vakfı (BSV), Small Projects Istanbul (2020), Sulukule Gönüllüleri Derneği (SGD), Tarlabaşı Toplum Merkezi (TTM) (2021) Covid-19 sürecinde İstanbul'un Farklı Yerlerinde Çocukların HAklarına Erişimi- Eğitim Hakkı, Yetişkinler için Final Raporu. Retrieved from: http://covid19cocukhaklariizleme.org/uploads/pdf/821cf3d3992f479ad85fde101a31e67f.pdf
[63] Inter-Agency Protection Coordination Turkey. (2020). Protection Sector Needs Assessment. Ankara: Türkiye
[64] ASAM. (2021). COVID-19 Pandemisinin Türkiye'deki Uluslararası ve Geçici Koruma Altındaki Çocuklar Üzerinde Etkileri. Ankara: Türkiye
[65] Deri Tekstil ve Kundura İşçileri Derneği. (2021). Pandemi'de Mülteci Çocuk İşçiliği Raporu. Izmir: Deri Tekstil ve Kundura İşçileri Derneği
[66] Ibid
[67] KII8
[68] KII8
[69] KII8, KII1, KII10

children helped their parents with household chores and domestic or rural work.[70] According to the stakeholders, remote education made it difficult for schools and teachers to monitor these children, who were already at risk of leaving school early.[71]

Figure 3 A report published by Derin Yoksulluk Ağı portrayed the learning environment in households in extreme poverty

Source: Derin Yoksulluk Ağı. Pandemide Yoksullukla Mücadele (2020). Accessed from the following link: https://derinyoksullukagi.org/wp-content/uploads/2020/11/DYA-Pandemide-Derin-Yoksullukla-Mu%CC%88cadele.pdf

In addition to access problems, students also experienced issues with the features and the content of EBA. Some children experienced access problems as a result of the language barriers experienced when using the platform.[72] Children whose home language is other than Turkish reported struggling with understanding the classes delivered on EBA and EBA TV.[73] Another problem was children's adjustment to the online system. A survey study of 876 parents has shown that the majority of children had adaptation problems with taking online classes during the pandemic and struggled with learning.[74] Another study on the learning experiences of students in K-12 education (N = 6342) echoed this evidence.[75] Many children found the educational content tedious and experienced problems with staying focused during online classes.[76] Only 29.6% of high school students and 26.2% of secondary school students participating in this research did not find it difficult to focus on online classes.[77] The largest number of students who experienced attention problems during the classes were in primary school (84.3%). Stakeholders also underlined that many children needed their parents' support in understanding

[70] KII1, KII8, KII7, KII10, KII11
[71] KII10, KII7
[72] ERG. (2020). Öğrenciler ve Eğitime Erişim Eğitim İzleme Raporu 2020. Istanbul: Türkiye
[73] Çelik, S. & Kardaş İşler, N. (2020). Göç Mağduru Çocukların Covid-19 Salgını Sürecindeki Öğrenme Deneyimleri . Milli Eğitim Dergisi , Salgın Sürecinde Türkiye'de Ve Dünyada Eğitim , 783-800 . DOI: 10.37669/milliegitim.783048
[74] Aydın, O. (2021). Covid 19 Salgın Sürecinin Çocuklar Üzerindeki Etkileri. Temel Eğitim Araştırmaları Dergisi, 2021; 1 (2): 163-195 (e-ISSN 2791-6391); DOI: 10.29228/tead.11
[75] Orhan, F., Yilmaz, B. M., Zeren, G., Sensoy, O. & Atakisi, B. (2020). COVID-19 Sürecinde Uzaktan Öğretme Süreci İle İlgili İlk ve Ortaöğretim Öğrencilerinin Algıları ve Duygularına Yönelik Bir Analiz, TUBITAK, Program Kodu: 1001 Proje No: 120K193
[76] Ibid
[77] Ibid

the online classes delivered via EBA TV.[78] Policy analysts emphasised that EBA lacked supporting features for providing students feedback and facilitating teacher-child communication, making learning difficult for students during the pandemic.[79] Furthermore, the content and difficulty level of asynchronous classes on EBA did not respond to student skills, making it difficult for students to adapt.[80] In addition to these problems raised during the interviews with stakeholders, other functional issues with EBA led to problems with online education during the pandemic. One of the problems experienced by many children was not knowing when new learning materials or homework were made available on the platform.[81] This was also partly due to not knowing how to navigate the platform.[82] To overcome this problem, many teachers communicated with parents on more accessible social communication platforms (e.g., WhatsApp), which added to their increased number of responsibilities during the pandemic.[83]

The home environment played an important role in the effectiveness of online education during the pandemic. Children who experienced problems with learning online also came from crowded households. For instance, only 8.9% of children from smaller households reported not being able to benefit from online classes, whereas this number was higher for children from crowded households (17.8%).[84] These problems were especially documented and underlined as a learning impediment for refugee children. In a qualitative study of 36 refugee children enrolled in primary schools in Türkiye, many children reported having difficulties with learning due to household crowdedness and interruptions from family members.[85] Some children also mentioned finding it hard to focus on schoolwork whilst having responsibilities for household chores.[86] Children also mentioned struggling with their coursework as they were not able to receive help from their parents due to language barriers.[87] Stakeholders also underlined these problems in the interviews and added further information. Some informants, for example, emphasized the importance of housing during the pandemic and highlighted the disadvantages experienced by children living in urban apartments.[88] These children had problems with access to gardens or parks for recreational activities during the pandemic. Another factor affecting family well-being was the social support network available to families during the pandemic. Interviews suggested that living in a supportive neighbourhood or having other family members to help with childcare (e.g., grandparents) had a positive effect on the experiences of disadvantaged families with childrearing during the pandemic.[89] The quality of the home environment, however, was affected by the financial (e.g., unemployment) and psychological pressures (e.g., increased workload in the household) of the pandemic for many families leading to

[78] KII11, KII6
[79] TEDMEM. (2021). COVID-19 Sürecinde Eğitim: Uzaktan Öğrenme, Sorunlar ve Çözüm Önerileri. Ankara: Türkiye
[80] Ibid
[81] KII5
[82] KII5, KII6
[83] KII13, KII4, KII1
[84] Orhan, F., Yilmaz, B. M., Zeren, G., Sensoy, O. & Atakisi, B. (2020). COVID-19 Sürecinde Uzaktan Öğretme Süreci İle İlgili İlk ve Ortaöğretim Öğrencilerinin Algıları ve Duygularına Yönelik Bir Analiz, TUBITAK, Program Kodu: 1001 Proje No: 120K193
[85] Çelik, S. & Kardaş İşler, N. (2020). Göç Mağduru Çocukların Covid-19 Salgını Sürecindeki Öğrenme Deneyimleri . Milli Eğitim Dergisi , Salgın Sürecinde Türkiye'de Ve Dünyada Eğitim , 783-800 . DOI: 10.37669/milliegitim.783048
[86] Ibid
[87] Ibid
[88] KII9, KII4
[89] KII9, KII8

an increase in the cases of intimate partner violence.[90] We explore differences in the home learning environment in more detail in Section 3 of this report.

Child well-being was severely affected during the pandemic leading to an increased number of mental health problems. In a study of adolescent well-being involving responses from 2,754 secondary and high school students in Türkiye conducted in 2021, researchers found that 44% of students experienced pessimistic thoughts about the future during the pandemic. Almost a quarter of students (24%) reported losing hope in the future, whereas 20% of them reported having feelings of meaninglessness.[91] A small group of children (10%) participating in this research also reported needing psychological support during the pandemic.[92] A survey study of 1,133 parents of refugee children has shown that 40% of children experienced at least one of the symptoms of anxiety and depression, 30% of children struggled with communicating with their family and friends, and 57% of children experienced anger, some leading to behavioural problems.[93] These well-being problems also affected children's physical health. Reports of parents participating in the survey demonstrated that 49% of children experienced sleeping problems, whereas 55% of children had problems with their appetite or experienced issues around eating during the pandemic.[94] In a report published by the national medical council in Türkiye, doctors underlined that the issues experienced by children were risk factors for the neurodevelopmental and socioemotional well-being of children, especially those with disabilities or special needs.[95] Stakeholders also emphasized these problems and added further information in the interviews. Many stakeholders stressed the importance of household cohesion for the well-being of children during the pandemic.[96] An NGO stakeholder who works with disadvantaged families mentioned that many parents reported having more disputes at home due to financial problems exacerbated by the pandemic.[97] These disputes led to domestic violence incidents in some households, exposing affected children to trauma.[98] Parents also experienced not knowing what to do with their children at home.[99] Children with no siblings or with working parents also struggled with having opportunities to socialise at home.[100] As a solution, many parents left their children to watch TV or to play with digital devices for long periods of time.[101] These problems also compounded the mental health problems experienced by parents and had a negative effect on family cohesion.[102] Many stakeholders and academics explained that schools did not have sufficient numbers of counselling teachers to guide parents and their children

[90] Ayse Akalin & Fatma Ayhan (2022) Intimate Partner Violence against Women in Turkey during the COVID-19 Pandemic, Issues in Mental Health Nursing, 43:1, 68-75, DOI: 10.1080/01612840.2021.1949764
[91] Yalova Rehberik ve Araştırma Merkezı. (2021). Öğrencilerin Covd-19 Pandemisinden Etklenme Düzeyleri Araştırması. [Infographic]. Yalova Rehberik ve Araştırma Merkezi. https://yalovaram.meb.k12.tr/meb_iys_dosyalar/77/01/363601/dosyalar/2021_06/04142335_OYrencilerin_SalgYndan_Etkilenme.pdf
[92] ibid
[93] ASAM. (2021). COVID-19 Pandemisinin Türkiye'deki Uluslararası ve Geçici Koruma Altındaki Çocuklar Üzerinde Etkileri. Ankara: Turkey
[94] Ibid
[95] Türk Tabipleri Birliği. (2020). Pandemide Okul Sağlığına İlişkin Uzman Görüşleri. Ankara: Türk Tabipleri Birliği
[96] KII9, KII3, KII6
[97] KII9
[98] KII3
[99] KII9, KII4
[100] KII5
[101] KII9
[102] KII9

through the pandemic regarding their issues with mental health and well-being.[103]

The quality of education provided for underrepresented youth groups has presumably deteriorated during the pandemic, although the educational implications of the pandemic remain undocumented. According to an official letter published in March 2021, there are 345 accompanying children under the age of 6 living in correctional facilities in Türkiye.[104] A report documenting interviews with 14 convicted parents with accompanying children shows that detention centres are damaging for children's health and wellbeing as well as education.[105] Some children in these centres are not given access to early childcare or quality education.[106] Similar problems exist for young offenders. According to the official data made available by TURKSTAT, during 2020 alone, 10,234 children between the ages of 12-17 were convicted in Türkiye, a high majority of whom were male (96.7%).[107] There is no information or research currently available on how the pandemic affected these children and their education. Another youth group at educational risk is children with addiction problems (e.g., drugs). The official statistics from TURKSTAT demonstrate that the percentage of children with addiction problems is still high (34.1%). Educational intervention programmes for these children remain limited across the country, and medical professionals warn against the significant future implications of this welfare issue.[108] Another underrepresented youth group is children in care. According to the official statistics, the number of children currently in care in Türkiye is 13,524.[109] The Ministry of Family, Labour, and Social Services pledged to actively track the educational progress of children in care and provide counselling services during the pandemic, but no follow-up information has been made available.[110] The interviews with stakeholders also highlighted the lack of attention received by children with special educational needs and their families. Many informants mentioned that the negative effects of the pandemic were doubled for children with special educational needs, leaving them more vulnerable to health and well-being problems in the future.[111]

Challenges Faced by Schools and Teachers During School Closures

After discussing the issues children faced at the household level, in this section, we focus on the challenges faced by schools and teachers during school closures.

[103] KII3, KII6, KII12
[104] MEB. (2021). Bazı Basın Yayın Organlarında "3 Bin Çocuk Anneleriyle Cezaevinde" Şeklinde Yayınlanan ve Gerçekleri Yansıtmayan Haberlerle İlgili Basın Açıklaması. MEB. Retrieved from: https://cte.adalet.gov.tr/Home/SayfaDetay/basin-aciklamasi09032021045708
[105] Yaşam Hakları Derneği. (2021). Anneleriyle Birlikte Mahpus Olan Çocuklar. Istanbul: Yaşam Hakları Derneği
[106] Ibid
[107] TUIK. (2020).Ceza İnfaz Kurumu İstatistikleri, 2019. Accessed from: https://data.tuik.gov.tr/Bulten/Index?p=Prison-Statistics-2019-33625
[108] Turkey iHealth.. Why Are Turkish Teenagers Victim Of Drug Addiction?. Turkey iHealth. Retrieved from: https://turkeymedicals.com/teenagers-addiction
[109] TUIK (2021). İstatistiklerle Çocuk, 2020. Accessed from: https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Cocuk-2020-37228
[110] Bir Gün. (2020, September 15). Koruma altındaki çocuklara takip. Bir Gün. etrieved from: https://www.birgun.net/haber/koruma-altindaki-cocuklara-takip-315628
[111] KII5, KII13, KII3, KII12

Digital barriers to education negatively affected school and teacher effectiveness during the pandemic as teachers were for the most part, unprepared for teaching online and struggled to adapt to online education. One of the main barriers to online education during the pandemic was teachers' lack of digital literacy.[112] A survey of 1071 teachers across the country identified some of the demographic factors related to teachers' IT skills.[113] According to this research, female teachers and older teachers (+41) in particular experienced more problems using digital platforms during the remote education period. The digital illiteracy of teachers has also previously been identified as a problem. Researchers have underlined that the majority of teachers in Türkiye did not have any professional training in online teaching platforms prior to the launch of EBA.[114] These problems led to difficulties in navigating the online education platform and negatively affected teacher effectiveness during the pandemic.[115] [116] The digital skills of teachers were also identified as a protective factor for children's online learning in interviews with stakeholders.[117] Research with teachers has also documented that many teachers were unprepared for online education and had never previously practised online teaching.[118] [119] This problem was also raised during interviews conducted with stakeholders. According to an interview with UNICEF Türkiye[120], the training programme, which the Ministry of National Education launched to improve teachers' digital skills during the pandemic, reached approximately 300,000 teachers from a pool of more than 1,000,000 teachers in the country due to access issues.[121] In response to these issues, the Ministry of National Education announced forthcoming future projects to improve teachers' digital literacy and support their access to online education platforms as part of their Horizon 2023 Education plans.[122]

Many teachers lacked digital resources to teach or had students with no access to digital devices. A majority of schools in rural areas do not have the infrastructure to support teachers or students in using online learning platforms (Tosun et al., 2021). During the pandemic, internet access problems and limited availability of digital devices required teachers' initiative to create solutions in reaching students and delivering classes.[123] A commentary report published by the teacher's union in Türkiye underlined that transferring to online education left teachers with an

[112] Tosun, N., Mihci, C., & Bayzan, Ş. (2021). Challenges Encountered by In-Service K12 Teachers at The Beginning of The Covid-19 Pandemic Period: The Case Of Turkey. Participatory Educational Research, 8(4), 359-384.
[113] Ibid.
[114] İra, N., Yıldız, M., Yıldız, G., Yalçınkaya-Önder, E., & Aksu, A. (2021). Access to information technology of households and secondary school students in Turkey. Information Development, 02666669211008949.
[115] Tosun, N., Mihci, C., & Bayzan, Ş. (2021). Challenges Encountered by In-Service K12 Teachers at The Beginning of The Covid-19 Pandemic Period: The Case Of Turkey. Participatory Educational Research, 8(4), 359-384.
[116] Aral, N., & Kadan, G. (2021). Pandemi Sürecinde Okul Öncesi Öğretmenlerinin Yaşadiklari Problemlerin İncelenmesi. Kırşehir Ahi Evran Üniversitesi Sağlık Bilimleri Dergisi, 1(2), 99-114.
[117] KII12, KII13, KII3
[118] Aytaç, T. (2021). The Problems Faced by Teachers in Turkey during the COVID-19 Pandemic and Their Opinions. International Journal of Progressive Education, 17(1), 404-420.
[119] Yüksel, E. A. (2021). Sinif Öğretmenlerinin Covid-19 Salgini Sürecinde Çevrim İçi Ders-Uzaktan Eğitim Deneyimlerinin İncelenmesi. Ulakbilge Sosyal Bilimler Dergisi, 9(57), 291-303.
[120] KII 12
[121] MEB. (2020, October 13). Türk Eğitim Tarihinin En Büyük Öğretmen Eğitimi Çalişmasini Yapiyoruz. MEB. Retrieved from: https://www.meb.gov.tr/turk-egitim-tarihinin-en-buyuk-ogretmen-egitimi-calismasini-yapiyoruz/haber/21795/tr
[122] MEB. (2020, April 09). Öğretmenler İçin de "Uzaktan Eğitim" Başladi. MEB. Retrieved from: http://www.meb.gov.tr/ogretmenler-icin-de-uzaktan-egitim-basladi/haber/20667/tr
MEB. (2020, November 05). Öğretmenlerin Ara Tatildeki Mesleki Gelişim Eğitimi, Uzaktan Yapilacak. MEB. Retrieved from: https://www.meb.gov.tr/ogretmenlerin-ara-tatildeki-mesleki-gelisim-egitimi-uzaktan-yapilacak/haber/24483/tr
[123] Karabay, B. (2021). Pandemi süreci eğitimin öğretmen gözüyle bir yıllık değerlendirmesi. Eğitim-İş. Ankara: Türkiye

undocumented responsibility to support students in need.[124] Many teachers had to provide their own devices to continue teaching online, use other available platforms to deliver classes, and produce digital materials to aid their teaching.[125] An interview study with 3,743 teachers in K-12 education, for example, revealed that a majority of teachers in Türkiye (59%) had to purchase a computer/tablet and exceed their internet use.[126] The expenses spent on digital devices and the internet during the pandemic had a negative effect on teachers' financial assets.[127] Interviewing stakeholders, this issue was also emphasised as a barrier to teaching during the pandemic. According to the interviews, many teachers lacked digital devices or preparedness to continue their teaching or their device quality led to problems during online classes, which interfered with their teaching.[128] Teachers also had to monitor their students who did not have access to digital devices and support their learning with after-school classes or via mobile communication apps.[129] One interviewee, whose work focuses on education in rural areas, has shown that many teachers had to prepare physical teaching materials for children with no internet access, and in some cases, they also had to travel across the area to deliver these materials to children.[130] Other interviews also supported this finding. According to the informants, many teachers took initiatives to hold classes in person (e.g., visiting student homes, meeting in parks or other open spaces) to ensure that children with no internet access or digital devices continued learning during the school closures.[131]

A majority of teachers found teaching materials inapplicable to online classes and experienced problems with teaching during the pandemic. A report published by a research and development organization in Türkiye portrayed the experiences of teachers drawing on a large-scale survey with 638 teachers in 12 representative cities across the country.[132] According to the report, teachers found curriculum resources not suitable for online classes (81%) and experienced problems with teaching online due to a lack of digitised learning and teaching materials (80%).[133] Research on the use of online platforms in education shows that teachers' ability to navigate online platforms plays a major role in their teaching effectiveness.[134] Given the technological barriers experienced by many teachers and the lack of digitised educational materials, the evidence suggests that the learning experiences of the most disadvantaged children heavily depended on their teachers and their ability to compensate for the lack of digital resources during the pandemic. In most of the interviews with stakeholders, this finding also appeared as a recurring theme. Informants underlined that the technical issues experienced during the pandemic were frequently solved by teachers' initiatives, including preparing physical learning materials, reaching out to students via phone calls/text messages or via

[124] Eğitim Sen. (2021). 2020-2021 Eğitim-Öğretim Yılında Eğitimin Durumu. Ankara: Türkiye.
[125] Karabay, B. (2021). Pandemi süreci eğitimin öğretmen gözüyle bir yıllık değerlendirmesi. Eğitim-İş. Ankara: Türkiye
[126] Eğitim Sen. (2021). Eğitim-Sen Uzaktan Eğitime Yakından Bakıyor. Ankara: Türkiye
[127] Ibid
[128] KII3, KII12, KII4
[129] Aral, N., & Kadan, G. (2021). Pandemi Sürecinde Okul Öncesi Öğretmenlerinin Yaşadiklari Problemlerin İncelenmesi. Kırşehir Ahi Evran Üniversitesi Sağlık Bilimleri Dergisi, 1(2), 99-114.
[130] KII1
[131] KII10, KII6
[132] Karabay, B. (2021). Pandemi süreci eğitimin öğretmen gözüyle bir yıllık değerlendirmesi. Eğitim-İş. Ankara: Türkiye
[133] Ibid
[134] OECD. (2021). The State of Global Education. Paris: OECD

using more accessible platforms, and meeting students in person at their homes or open public spaces when possible.[135]

Infrastructure was not ready in many schools to allow for a safe reopening across the country. Interviews with key informants have underlined that the problems with infrastructure in most schools were an important barrier to the implementation of safety measures for re-opening. The informants, whose work involved collaborating with teachers in resource-constrained areas in the country, have highlighted that social distancing was not possible in the majority of the classrooms with more than 35 children.[136] According to this interview, high pupil-teacher ratios across classrooms in the country also made it difficult to monitor the safety measures in schools. Early childhood educators also experienced problems with implementing safety measures in their classes. According to an academic interview, the safety measures were initially found difficult to apply to young children by many teachers.[137] Following this, the removal of toys and play objects for health and safety measures in preschools reduced the quality of ECE and its role in early motor development.[138]

Teachers struggled with guiding children to adapt to the changes in the school environment and rules during the school reopening period. Another problem experienced by teachers during the school reopening was behavioural problems experienced by children in adjusting to the existing and novel school rules. In interviews with stakeholders, many informants underlined that children who spent their preschool education at home during the pandemic were not ready to adapt to the rule-bound environment of the school.[139] Children also struggled with maintaining their focus during classes and performing simple tasks (e.g., using writing skills) based on competencies acquired during the first two years of primary school.[140] This problem left many primary school teachers with an undocumented responsibility of re-orienting young children with the classroom environment and school behaviours.[141]

The effects of school closures on parent-teacher partnerships varied according to contextual and socioeconomic factors. The interviews with stakeholders showed that the pandemic affected the parent-teacher partnership during the school closures in different ways. Some of the stakeholders mentioned that the relationship between teachers and parents weakened due to school closures[142], whereas others noted that connections between teachers and parents were strengthened during the pandemic, with parent-teacher interactions improving through online communication tools.[143] A stakeholder also underlined that a strong connection between parents and teachers played a protective role in education

[135] KII1, KII5, KII6, KII13
[136] KII3
[137] KII5
[138] KII5
[139] KII5, KII3, KII1
[140] KII3 & KII9
[141] KII5
[142] KII5, KII6, KII1
[143] KII8, KII4, KII13

and contributed to children's learning during the pandemic.[144] The changing nature of interactions between parents and teachers also led to negative experiences for some teachers. A few stakeholders mentioned that some teachers were interrupted by parents during their online classes, or had to navigate online requests and questions from parents outside their teaching hours.[145] Although research in Türkiye has not documented the effects of the pandemic on parent-teacher communications or partnerships specifically, evidence from other countries suggests that both teachers and parents were left with novel responsibilities, which had some positive effects on their relationship with one another with more frequent communication as well as frustration and confusion.[146]

Teachers faced a double disadvantage with mounting responsibilities during the pandemic. An in-depth interview study with 17 teachers in K-12 education has shown that the stress and anxiety experienced by teachers during the pandemic have intensified due to the increased workload.[147] Helping students engage in learning during remote education was a challenge for many teachers.[148] Another survey study with 3743 teachers in K-12 education has also shown that a majority of teachers struggled to stay motivated and experienced low student engagement during their online classes.[149] Similar themes arose during the interviews with stakeholders. According to the interviews, many teachers were at risk of developing mental health problems during the pandemic.[150] Informants underlined that excessive workloads and anxiety experienced by many teachers during the pandemic affected their well-being as well as their teaching quality.[151] Household chores and childcare at home made teaching during the day difficult, especially for female teachers. As a result, some teachers had to change their teaching schedules and hold their classes in the evenings.[152] Although some teachers were able to stay motivated and continue to support their students during school closures, many teachers mentally struggled with witnessing the academic regression of their students.[153] Similarly, teachers also found it difficult to reach their students when their families lacked interest or did not value school education.[154] These experiences led to feelings of inadequacy and loneliness for many.[155] The informant also underlined that local programmes responding to the needs of teachers generated encouraging outcomes, leading to positive effects on teachers' self-belief and efficacy.[156] Another problem experienced by teachers that was repeatedly highlighted in the interviews was the lack of prioritization of teachers in the vaccination programme. A representative from one teachers' union in Türkiye, for example, mentioned that schools were open before the vaccination programme

[144] KII11
[145] KII3, KII5
[146] Stelmach, B. (2020). It Takes a Virus: What Can Be Learned About Parent-Teacher Relations from Pandemic Realities?. University of Alberta
[147] ERG. (2021). Eğitim İzleme Raporu 2021: Öğretmenler. Istanbul: ERG
[148] Ibid.
[149] Eğitim Sen. (2021). Eğitim-Sen Uzaktan Eğitime Yakından Bakıyor. Ankara: Türkiye.
[150] KII5, KII1
[151] KII3, KII5
[152] KII3
[153] KII1
[154] KII1
[155] KII1
[156] KII1

reached all the teachers in the country, putting some of their lives at an increased risk.[157]

The centralised education system in the country made it difficult for headteachers and teachers to implement needs-based measures in schools. Evidence from interviews suggests that the centralised nature of the education system in Türkiye prevented schools from responding to the local needs of children and families in a timely manner. Many stakeholders mentioned that the educational needs of children in rural areas were not met due to the restrictions that should not apply to some of the more underpopulated villages in Türkiye.[158] Stakeholders argued that monitoring for the virus in schools had been relatively easy in some locations, which would have allowed the education to continue as usual, especially when most children did not have access to the internet or digital devices.[159] The location-sensitive measures, however, came into effect in the later stages of the pandemic in March 2021.[160] The period of location-specific measures only lasted for 6 weeks ending with a combination of distance and face-to-face education measures depending on school level.[161] According to the stakeholders, changes to the school regulations during the pandemic caught school administrators and teachers unprepared to respond expeditiously.[162] The uncertainty caused by these changes also put a strain on teachers' well-being.[163]

The staff and educational needs of ECE institutions were not attended to sufficiently by the policy response during the pandemic, leaving many teachers and schools feeling alone.[164] In a study conducted with 24 ECEC teachers, in addition to technological problems, many teachers identified parents' lack of interest and prejudices toward online classes as the main barriers to ECEC attendance during the pandemic.[165] Stakeholders ascribed the low enrolment rate in preschools to the lack of unconditional free access to early childhood education in Türkiye.

Early childhood educators struggled to apply their teaching online due to the nature of teaching for this age group. According to the interviews with the stakeholders, conducting learning activities and playing online was largely not possible in preschool classes as the majority of activities required physical interactions and joint engagement with children.[166] Similarly, the absence of an online learning platform tailored for early childhood education made teaching more difficult during school closures. This problem is also reflected in parents'

[157] KII3
[158] KII1, KII6, KII10
[159] KII11, KII1
[160] Gündoğmuş, Y., Kasap, S., Erdoğan, M., N. (2021, February 28). Bakan Ziya Selçuk: Liselerde yüz yüze sınavlarda illerin durumuna göre karar verilecek. Anadolu Ajans. Retrieved from: https://www.aa.com.tr/tr/egitim/bakan-ziya-selcuk-liselerde-yuz-yuze-sinavlarda-illerin-durumuna-gore-karar-verilecek/2159955
[161] TEDMEM. (2022). 2021 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 8). Ankara: Türk Eğitim Derneği.
[162] KII4, KII10, KII11, KII3, KII6
[163] KII10, KII11
[164] Aral, N., & Kadan, G. (2021). Pandemi Sürecinde Okul Öncesi Öğretmenlerinin Yaşadiklari Problemlerin İncelenmesi. Kırşehir Ahi Evran Üniversitesi Sağlık Bilimleri Dergisi, 1(2), 99-114.
[165] Aral, N., & Kadan, G. (2021). Pandemi Sürecinde Okul Öncesi Öğretmenlerinin Yaşadiklari Problemlerin İncelenmesi. Kırşehir Ahi Evran Üniversitesi Sağlık Bilimleri Dergisi, 1(2), 99-114.
[166] KII5, KII4

experiences with their young children. An informant underlined that many parents had problems with maintaining their children's attention during online classes and struggled to find activities to support their children's learning.[167] Furthermore, younger children may have been more affected by the changing nature of education during the pandemic. Interviews undertaken show that many families prioritised the education of their older children in the household. Not having a sufficient number of digital devices at home was one of the leading reasons that explained this behaviour, although informants also mentioned witnessing an absence of understanding of the importance of ECE among parents. In these cases, teacher effectiveness and creative initiative played an important role. Stakeholders, for example, mentioned that many early childhood educators took the initiative to meet children in small groups in open public spaces and parks to continue their teaching.

[167] KII9

CHAPTER TWO

2. Education Policies During the COVID-19 School Closures in Türkiye

During the COVID-19 pandemic, several policies and programmes have been implemented by the Government of Türkiye to alleviate the impact of the pandemic on the education outcomes of children and these efforts were supported by the international and national NGOs through complementary activities. This section documents the educational policy responses in Türkiye and how the non-governmental and local organisations worked in collaboration to meet the needs of children and families across the country.

Central Government Responses to the Pandemic

During the 2019-2020 and 2020-2021 academic years schools were fully or partially closed but the measures have changed throughout the academic years and depending on the education level. The timeline below demonstrates the central government responses to the COVID-19 pandemic by date and the timing of the implemented measures (See **Figure 4**). The process of school closures started with the Government announcing on 12 March 2020, that all schools in Türkiye were due to shut down for a week commencing on 16 March 2020.[168] Shortly afterwards, on 23 March 2020, the distance learning measures and the online platform EBA were introduced and the EBA TV was launched.[169] The second semester of 2019-2020 academic year continued through distance learning and with no face-to-face education.

In the 2020-2021 academic year, the education sector in Türkiye experienced sweeping changes in response to the rising cases of COVID-19. The Ministry of Health COVID-19 Cabinet (Sağlık Bakanlığı Koronavirüs Bilim Kurulu) guided the policy decisions discussed during the presidential cabinet meetings on school closures and reopening. In March 2021, Türkiye implemented local risk assessment measures to lead the decisions on school closures and reopening.[170] This change,

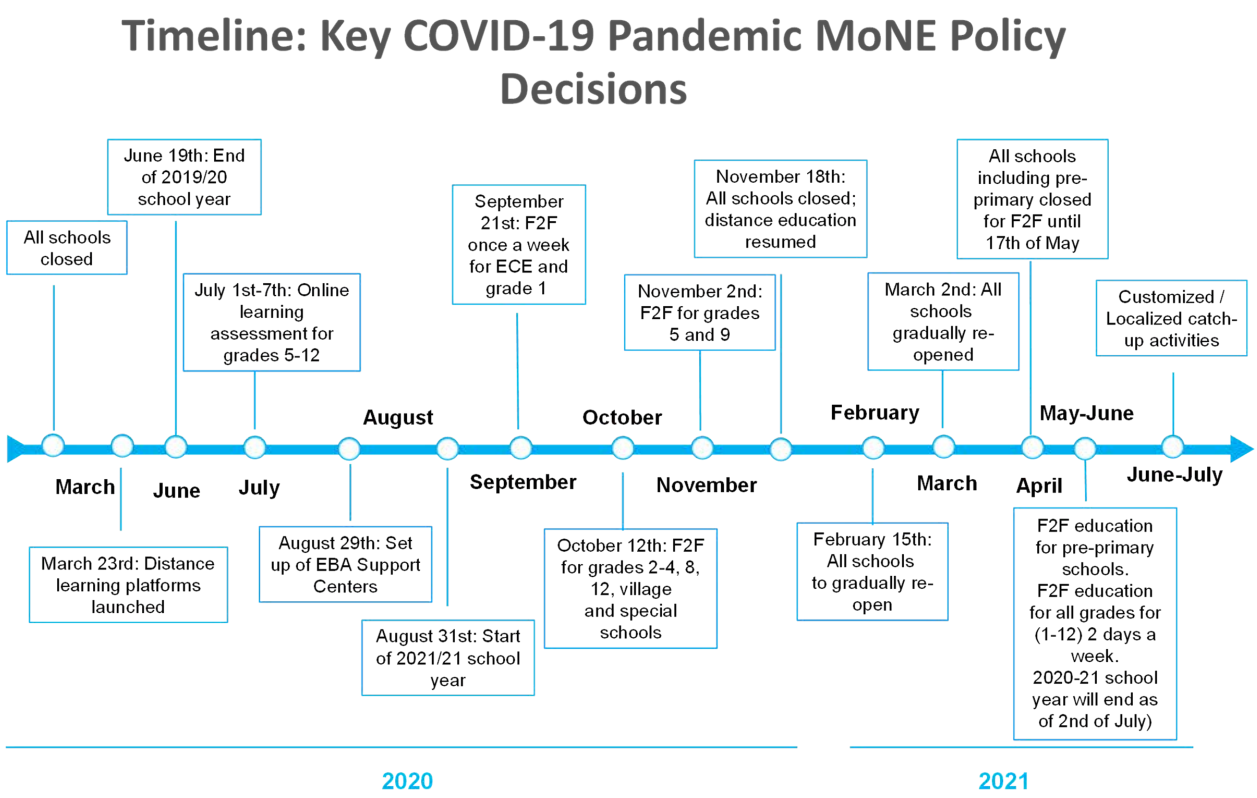
[168] TEDMEM. (2021). Türkiye'nin Telafi Eğitimi Yol Haritası. Ankara: TEDMEM
[169] Ibid
[170] MEB (2021, February 27). Yüz Yüze Eğitim Ve Sinavlarin Yapilmasina İllerin Salgin Koşullarina Göre 2 Mart'ta Başlanacak. Retrieved from: https://www.meb.gov.tr/yuz-yuze-egitim-ve-sinavlarin-yapilmasina-illerin-salgin-kosullarina-gore-2-martta-baslanacak/haber/22641/tr

however, was retracted within 6 weeks in response to the rising cases of COVID-19 across the country and all schools were closed until 30 April 2021.[171] The schools restarted the reopening process on 17 May 2021 with a new decision.[172]

Overall, in the 2020-2021 academic year, face-to-face education was possible during certain periods of time and for certain grades. On 21 September 2020, the early childhood education (ECE) and Grade 1 classrooms were led to trial one-off face-to-face (F2F) classes for a week.[173] On 12 October 2020, Grade 2-4 and 8 classrooms partially opened for 12 hours/2 days a week and Grade 12 classrooms partially opened for 16 hours/2 days a week.[174] The classrooms in village and special education schools, however, fully opened for face-to-face education on this date. On 2 November 2020, Grade 5 classrooms partially opened 12 hours/2 days a week and Grade 9 classrooms partially opened for 16 hours/2 days a week.[175] On 17 November 2020, the Government announced to keep the schools closed beyond the term break and moved all teaching activities online.[176] On 15 February 2021, all classrooms gradually started to reopen.[177] On 29 April 2021, however, all schools were shut down for the third time to remain closed until 17 May 2021.[178] On 17 May 2021, pre-school and special education classrooms were fully opened for face-to-face education, and the remaining classrooms were partially opened twice a week, commencing on 7 June 2021.[179] Eventually, the 2021-2022 academic year started and continued fully through face-to-face education.[180]

[171] MEB (2020, March 25). Uzaktan Eğitim 30 Nisan'a Kadar Devam Edecek. Retrieved from: https://www.meb.gov.tr/uzaktan-egitim-30-nisana-kadar-devam-edecek/haber/20585/tr
[172] MEB (2021, May 12). Basin Açiklamasi – Yüz Yüze Ve Uzaktan Eğitim. Retrieved from: https://www.meb.gov.tr/basin-aciklamasi-yuz-yuze-ve-uzaktan-egitim/haber/23197/tr
[173] TUSIAD (2021). COVID-19 etkisinde Türkiye'de eğitim. Istanbul: Türkiye
[174] Ibid
[175] Ibid
[176] CNNTurk. (2020, November 18). Okullar ne zaman açılacak? Retrieved from:https://www.cnnturk.com/turkiye/okullar-ne-zaman-acilacak-okullar-acilacak-mi-cumhurbaskani-erdogan-aciklayacak
[177] TUSIAD (2021). COVID-19 etkisinde Türkiye'de eğitim. Istanbul: Türkiye
[178] Ibid
[179] Ibid
[180] TEDMEM. (2022). 2021 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 8). Ankara: Türk Eğitim Derneği.

Figure 4 MoNE's policy decisions related to school closures during the 2019-2020 and 2020-2021 academic years



During the transition process, the central government established a variety of measures to support the safe reopening of schools. A guideline was prepared to lead schools to respond to the positive cases of COVID-19 in line with the safety measures of the government.[181] To support the adjustment of children in pre-primary schools, an orientation programme was delivered on 1-3 September 2021.[182]

Due to full or partial school closures, The Ministry of National Education adopted a distance-learning strategy early on and used a hybrid approach to remote learning by setting up an educational TV channel and moving classes to an online education platform.[183] On 23rd March 2020, the Government launched EBA TV, an educational TV channel to support students' access to education during the pandemic.[184] EBA TV aimed at children from disadvantaged backgrounds with no access to digital devices.[185] EBA TV was streamed on the national channel and was made free and available for 24 hours through a Turkish TV satellite. Materials and resources provided on EBA TV were produced for students at all levels of K-12. The

[181] MEB. (2021). "Okullarda Covid-19 pozitif vaka çıkması durumunda yapılması gereken uygulamalar rehberi" hazırlandı. Retrieved from: https://www.meb.gov.tr/okullarda-covid-19-pozitif-vaka-cikmasi-durumunda- yapilmasi-gereken-uygulamalar-rehberi-hazirlandi/haber/23988/tr

[182] https://orgm.meb.gov.tr/www/yuz-yuze-egitime-merhaba/icerik/1760

[183] TUSIAD (2021). COVID-19 etkisinde Türkiye'de eğitim. Istanbul: Türkiye

[184] Hurriyet. (2020, March 22). Turkey begins TV-based distance learning for school students due to pandemic. Hurriyet. Retrieved from: https://www.hurriyetdailynews.com/turkey-begins-tv-based-distance-learning-for-school-students-due-to-pandemic-153169

[185] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: Türkiye

classes were specified for different school years and curriculum subjects, and the videos were offered in accessible forms for students with visual disabilities.[186] EBA TV continued to broadcast classes for primary, secondary, and high school students via 3 separate channels. The broadcasted content was repeated 1 or 2 times throughout the day.[187] In collaboration with academics, a national psychosocial support team was also set up to improve the channel content with videos on well-being, mental health, as well as social distancing measures and safety during the pandemic.[188] It was also possible to access the broadcasted class content through EBA online platform. EBA also included other learning materials that can be accessed online.[189] Furthermore, the online education platform allowed teachers to stream live classes. During 23 March 2020 - 19 June 2021, streaming live classes and teaching synchronously were only made possible for certain grades first (3rd-12th grades), but in the 2020-2021 academic year, teachers of all grades (including pre-primary) were allowed to provide live classes though EBA, due to the improved capacity of the platform to hold more live classes at the same time.[190] Apart from EBA, schools and teachers also moved their classes online and taught synchronously on other platforms endorsed by the Ministry of National Education during the transition period to EBA.[191]

The Ministry of National Education implemented a project to improve the infrastructure of EBA, established digital support centres to facilitate access to the platform, and provided internet access and digital device support for students in need. In collaboration with the World Bank, the Turkish Government started implementing the Safe Schooling and Distance Education Project in June 2020 with a budget of 143.8 million Euro to scale up the online platform, support education access, and mitigate educational inequalities due to lack of digital resources. As part of the project, EBA's capacity has been increased to support 300,000 concurrent users in June 2020 to 865,000 users in March 2021.[192] Also, the capacity of the IT platform has been increased from 25,000 simultaneous online classrooms to 255,000 online classrooms during the same time period. By the end of 2023, the project aims to expand the capacity of the platform to 5,000,000 concurrent users and 100,000 online classes.[193] To increase the number of students accessing the platform, the Government also established EBA Support Centres to facilitate children's use of the platform.[194] In collaboration with the Government, UNICEF Türkiye contributed to opening 170 centres reaching the most vulnerable children across the country.[195] The support centres were spaces with computers

[186] EBA's Official Website: https://www.eba.gov.tr/
[187] EBA's Official Website: https://www.eba.gov.tr/nasil-tv
[188] Parlakkılıç, A. Turkey Applications to Reduce the Effects of Covid-19 in Education. Osmangazi Journal of Educational Research, 8(1), 286-301.
[189] TEDMEM. (2021). 2020 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 7). Ankara: Türk Eğitim Derneği.
[190] TEDMEM. (2021). 2020 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 7). Ankara: Türk Eğitim Derneği.
[191] Hurriyet. (2021, April 16). Öğretmenler zoom kullanabilir mi? MEB'den resmi açıklama. Hurriyet. Retrieved from: https://www.hurriyet.com.tr/egitim/ogretmenler-zoom-kullanabilir-mi-mebden-resmi-aciklama-41495906
[192] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG
[193] Reyes,Joel E. (2021). Disclosable Version of the ISR - Safe Schooling and Distance Education Project - P173997 - Sequence No : 04 (English). Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/714951636639979766/Disclosable-Version-of-the-ISR-Safe-Schooling-and-Distance-Education-Project-P173997-Sequence-No-04
[194] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG
[195] UNICEF. (2020). UNICEF Türkiye COVID-19 Response End-year Situation Report 2020. Ankara: UNICEF Türkiye. Retrieved from: https://reliefweb.int/report/turkey/unicef-turkey-covid-19-response-end-year-situation-report-2020.

and internet connection, established in schools or other institutions for those children who do not have computers or internet access at home.[196] Support centres could be used by children after filling an application form and submitting it to the school. By September 2020, there were 4,080 support centres available across the country[197]; by September 2021, this number was raised to 15,263.[198] EBA mobile support centres were also established to support students' access to EBA in rural areas. The number of mobile support centres decreased to 95 in September 2021, down from 167 in January 2021, due to the start of face-to-face education.[199] To overcome access issues due to the internet, the Ministry of National Education provided free internet access up to 8GB in collaboration with the telecom companies in Türkiye.[200] Additionally, the MoNE provided a 25GB internet access package and a tablet device to 664,157 children, selected based on income status, number of siblings in education, and special education needs.[201] Improving the infrastructure and accessibility of the platform is also reflected in the number of students using EBA. By the end of March 2021, 66% of students could access EBA, up from 26% in June 2020.[202]

To minimise the effects of school closures on student placement exams, the Ministry of National Education made changes to the placement examination schedules and content during the pandemic. The high school placement exam in 2020 was revised to exclude the curriculum content taught during the pandemic, and the exam date was postponed for 13 days.[203] In 2021, however, no changes were applied to this exam. Similarly, the student placement exam for higher education was initially delayed from 20th and 21st June to 25th and 26th July, which was then changed to 26th and 27th June following a final decision.[204] Learning materials and mock exams were made available on EBA to support student preparation for placement exams.[205]

The Government implemented a number of measures to mitigate learning losses due to the pandemic. To compensate for the learning losses of children during the pandemic, the Ministry of National Education has made changes to the education system and pledged for future programs to support students.[206] To improve student learning and support teaching effectiveness, the Ministry of National Education shared information about a project titled the National Support Programme (Ulusal Destekleme Programı: UDEP) in February 2021.[207] It was subsequently further announced that the UDEP program would last for 1.5 years.[208]

[196] EBA's Official Website/ Help centre: https://ders.eba.gov.tr/yardim-sss/
[197] Selçuk, Z. [@ziyaselcuk]. (2020, September 14). EBA erişiminde sorun yaşayan çocuklarımız,evde çalışma imkânı olmayan öğrencilerimiz ve öğretmenlerimizin çocukları için kurduğumuz EBA Destek Noktalarımızın sayısı bugün itibariyle 4080 oldu.Size en yakın EBA Destek Noktası'na, http://ebadesteknoktasi.meb.gov.tr adres
[198] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG
[199] Ibid.
[200] https://bireysel.turktelekom.com.tr/mobil/web/kampanyalar/sayfalar/faturasiz/eba-kampanyasi.aspx
[201] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG
[202] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG
[203] TEDMEM. (2021). COVID-19 Sürecinde Eğitim: Uzaktan Öğrenme, Sorunlar ve Çözüm Önerileri. Ankara: Türkiye
[204] TEDMEM. (2021). COVID-19 Sürecinde Eğitim: Uzaktan Öğrenme, Sorunlar ve Çözüm Önerileri. Ankara: Türkiye
[205] TEDMEM. (2022). 2021 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 8). Ankara: Türk Eğitim Derneği.
[206] MEB. (2021). 2020 Yılı İdare Faaliyet Raporu. Ankara: MEB. Retrived from: http://sgb.meb.gov.tr/meb_iys_dosyalar/2021_03/03134336_2020_YYlY_Ydare_Faaliyet_Raporu.pdf
[207] MEB. (2021, February 21). "Ulusal Destekleme Programi" Başliyor. MEB. Retrieved from: https://www.meb.gov.tr/ulusal-destekleme-programi-basliyor/haber/22518/trx
[208] MEB. (2021, June 01). Bakan Selçuk, "Telafide Ben De Varim" Programini Paylaşti. MEB. Retrieved from: https://www.meb.gov.tr/bakan-selcuk-telafide-ben-de-varim-programini-paylasti/haber/23323/tr

This programme was designed to monitor and support children's learning losses following the school closures.[209] As the first part of the UDEP programme, schools in 1001 villages that had the most difficulty in reaching EBA were identified, and an emergency plan was designed for them.[210] In the second phase, the Ministry of National Education implemented a project called 'Telafide Ben de Varım' during the summer of 2021 that aimed to support children's educational, psychosocial, and physical development following the pandemic. For this programme, schools remained open from July 5 to August 31, 2021, providing classes and activities for children across the country.[211] 8 million students applied to participate in these courses.[212] The UDEP programme is currently in progress.[213]

In October 2021, the Ministry of National Education conducted summative assessments covering the curriculum including all the subject matters (e.g., chemistry) to evaluate the learning losses of children in the past 1.5 years for grades 7 through to 11.[214] These exams covered various topics and were conducted with the aim of revising and improving the implemented policies and programmes designed to mitigate the measured learning losses. More recently, in May 2022, MoNE also announced that a Student Success Tracking Study will be implemented for 4-7th grades and for 10th-grade students to measure the learning losses of children during the pandemic.[215] The Ministry of National Education also continues to provide Support Courses (Destekleme ve Yetiştirme Kursları) to children in 6th-12th grades as well as to those who have already graduated and are preparing for central exams.[216] These support courses were provided in various topics as an alternative to private tutorship,[217] but it should be noted that these courses had also already was being provided for these grades before the pandemic.[218] MoNE also published supportive learning materials to mitigate learning losses. In May 2022, MoNE announced that to mitigate the learning losses due to the pandemic, supportive monthly publications are made available on their website and they will also be sent to schools as published materials for the new education year.[219]

[209] https://www.meb.gov.tr/ulusal-destekleme-programi-basliyor/haber/22518/tr
[210] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG
[211] MEB. (2021). "Telafide Ben de Varım" Programı (no. E-65631228-101.99-26359669).
[212] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: Türkiye
[213] TEDMEM. (2022). 2021 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 8). Ankara: TEDMEM
[214] MEB (2021, October 26). Uzaktan Eğitimdeki Öğrenme Kayiplarinin Tespiti İçin Kazanim Değerlendirme Uygulamasi Başladi. MEB. Retrieved from: https://www.meb.gov.tr/uzaktan-egitimdeki-ogrenme-kayiplarinin-tespiti-icin-kazanim-degerlendirme-uygulamasi-basladi/haber/24396/tr
[215] MEB (2022, May 14) MEB, Öğrenci Başari İzleme Araştirmasi Yapacak. Retrieved from: http://www.meb.gov.tr/meb-ogrenci-basari-izleme-arastirmasi-yapacak/haber/26211/tr
[216] MEB (2021, October 05). Destekleme Ve Yetiştirme Kurslarindan 7 Ve 11. Sinif Öğrencileri De Faydalanabilecek. MEB. Retrieved from: https://www.meb.gov.tr/destekleme-ve-yetistirme-kurslarindan-7-ve-11-sinif-ogrencileri-de-faydalanabilecek/haber/24221/tr
MEB. (2021, November 18). Destekleme Ve Yetiştirme Kurslarinin Kapsami Genişletildi. MEB. Retrieved from: https://www.meb.gov.tr/destekleme-ve-yetistirme-kurslarinin-kapsami-genisletildi/haber/24611/tr
[217] Sayıştay Başkanlığı. (2020,). Millî Eğitim Bakanlığı 2019 yılı Sayıştay denetim raporu. Ankara: Sayıştay Başkanlığı
[218] MEB (2019). Destekleme Ve Yetiştirme Kurslari E-Kilavuzu. Ankara: Türkiye
[219] MEB (2022, May 21) 2022-2023 Eğitim Öğretim Yili Başinda Yardimci Kaynaklar Öğrencilerin Siralarinda Olacak. Retrieved from: https://www.meb.gov.tr/2022-2023-egitim-ogretim-yili-basinda-yardimci-kaynaklar-ogrencilerin-siralarinda-olacak/haber/26297/tr

Responses from International and National Non-Governmental Organisations

In collaboration with the Ministry of National Education, organisations including UNICEF Türkiye implemented projects to provide health and safety guidelines, psychosocial support kits, technological support, and extra classes for children and families in Türkiye. NGOs in Türkiye worked in collaboration to support families during the pandemic in various areas of need. Support programmes responded to issues around health and safety, financial difficulties, access to education, and psychosocial needs of parents and children. Some programmes specifically aimed to address the needs of the most disadvantaged children, including refugees, children who live in rural areas, and children who come from educationally and financially deprived households. This section demonstrates the areas of intervention with examples from across the country.

In response to the COVID-19 outbreak, to support the Government's policy response to the pandemic, NGOs in Türkiye prepared information resources and guiding documents to support the health and safety of parents and children during the pandemic. In collaboration with partner organisations, UNICEF Türkiye established a programme to equip families with COVID-19 hygiene kits, which provided sanitation products, including hand sanitisers and personal protective equipment (PPE) for families of 5 (See **Figure 5**)[220].

Figure 5 UNICEF Türkiye established a programme to equip families with COVID-19 hygiene kits

Source: UNICEF Türkiye.

[220] UNICEF Türkiye. (2020). Turkey - UNICEF COVID 19 Family Hygiene Kit – 2020. Ankara: UNICEF Türkiye. Retrieved from: https://data2.unhcr.org/en/documents/details/76490

These kits were distributed to families in need by youth workers working for the Ministry of National Education, Ministry of Youth and Sports, Kilis Municipality, Turkish Red Crescent, and ASAM.[221] The kits reached 297,626 children by the end of 2020 and aimed to target 30,000 households of the most vulnerable families, including Syrian refugees in provinces with the highest infection rates.[222] The kits also included pamphlets providing information on safety measures and sanitation guidelines to safeguard families and reduce infection during the pandemic.[223] The Eğlen, Öğren, Hijyen (Have Fun, Learn, Hygiene) project was another example by TEGV (Türkiye Eğitim Gönüllüleri Vakfı), which provided an online platform for educating children on the COVID-19 virus and safety measures, as well as providing information on infectious viruses, bacteria, and microbes, and general guidelines for health and safety.[224] This programme reached 3,105 children in total.[225] To support the safe opening of schools, in collaboration with the Ministry of Education, UNICEF Türkiye also launched a 'Back to School' campaign, providing information leaflets on EBA on safety and hygiene practices for parents and children.[226] The leaflets were also made available in Arabic (See **Figure 6**).[227]

Figure 6 UNICEF Türkiye also launched a 'Back to School' campaign, providing information leaflets on EBA on safety and hygiene practices

Source: UNICEF Türkiye. (2021). Back to School, Hygiene, Masks, Physical Distancing. Next Step: Education. Ankara: UNICEF Türkiye. Accessed from the following link: https://www.unicef.org/turkey/en/media/11411/file and https://www.unicef.org/turkey/media/11421/file

To facilitate children's access to education and improve learning during the pandemic, UNICEF provided educational supplies and learning initiatives. UNICEF Türkiye actively collaborated with governmental organisations to support children's

[221] UNICEF Türkiye. (2020). COVID-19 Response Monthly Situation Report. Ankara: UNICEF Türkiye
[222] UNICEF Türkiye. (2020). COVID-19 Response End-year Situation Report 2020. Ankara: UNICEF Türkiye
[223] UNICEF Türkiye. (2020, June 01). Supporting vulnerable children in Turkey as they adapt to the "new normal". UNICEF Türkiye. Retrieved from: https://www.unicef.org/turkey/en/stories/supporting-vulnerable-children-turkey-they-adapt-new-normal
[224] TEGV. (2021). Türkiye Eğitim Gönüllüleri Vakfı Şubat 2021 - Haziran 2021 Etkinlik Raporu. Istanbul: TEGV
[225] Ibid
[226] UNICEF Türkiye. (2021). Back to School, Hygiene, Masks, Physical Distancing. Next Step: Education [Brochure]. UNICEF Türkiye. Accessed from the following link: https://www.unicef.org/turkey/en/media/11411/file
[227] UNICEF Türkiye. (2021). Back to School, Hygiene, Masks, Physical Distancing. Next Step: Education [Brochure] (Arabic). UNICEF Türkiye. Accessed from the following link: https://www.unicef.org/turkey/media/11421/file

educational needs during the pandemic. To mitigate learning losses, the organisation started a project distributing learning kits for those in need. By the end of December 2020, 75,548 educationally at-risk children (60,403 of those are Syrian) received 'Learn at Home Kit' to continue learning at home during the school closures (See **Figure 7**).

Figure 7 "Learn at Home Kit" were distributed by UNICEF

© UNICEF
Fatma, 11, and her younger brother Muhamet, 8, receiving UNICEF Learn at Home kit at their home in Istanbul.

© UNICEF
Melek,12, Ali, 9, and Hassan, 6, standing in front of their home in Hatay after receiving UNICEF Learn at Home kits

Source: UNICEF Türkiye. (2020). Supporting vulnerable children in Turkey as they adapt to the "new normal". UNICEF Türkiye. Accessed from the following link: https://www.unicef.org/turkey/en/stories/supporting-vulnerable-children-turkey-they-adapt-new-normal

The kits were separately designed for the needs of Turkish and Syrian children and included school supplies, storybooks and education materials, as well as recreational games and activities.[228] In addition to these kits, UNICEF Türkiye also played an important role in facilitating children's access to online education. In this cause, the organisation provided EBA support classrooms in the Children and Youth Centres of the Turkish Red Crescent in Antakya and Iskenderun, as well as establishing 170 EBA support centres and 6 EBA mobile support centres in collaboration with the Ministry of National Education.[229]

UNICEF also distributed a playbox for young children. My Playbox was developed by UNICEF Türkiye CO in cooperation with the Türkiye Ministry of National Education and the EU. It includes parents' and teachers' guidebooks developed by UNICEF and the Turkish Ministry of National Education, providing easy-to-follow instructions on the effective use of all the items included in the box. My Playbox aims to the most vulnerable children in Türkiye with the efforts of volunteer-teachers, who facilitate home-based early learning activities during their monthly visits to the homes of children.[230] Similar to the playbox provided by UNICEF Türkiye, ACEV also designed a 'play box' for young children to facilitate quality play and home learning during the pandemic.[231] These boxes were delivered to disadvantaged households with young children across the country in collaboration with municipalities (See **Figure 9**). An ongoing AÇEV programme to support the reading habits of children, 'Okuyan Bir

[228] Leaflets Syrian and Turkish children
[229] UNICEF Türkiye. (2020). COVID-19 Response End-year Situation Report 2020. Ankara: UNICEF Türkiye
[230] Input from UNICEF Türkiye Team.
[231] AÇEV. "Evdeki Oyun Kutum" Yola Çıktı!. Retrieved from: https://www.acev.org/evdeki-oyun-kutum-yola-cikti/

Gelecek', was moved to ACEV's YouTube channel and promoted by videos of celebrities reading children's books. Many disadvantaged families were also provided with free internet access up to 2GB by AÇEV to benefit from their programmes online.[232]

Figure 8 Volunteer teachers are conducting monthly visits to children's homes

Source: UNICEF Türkiye. (2021). My Playbox Photo Shoot - Caption: Volunteer-teachers visiting children's homes to deliver My Playbox and facilitate home-based early learning activities during their monthly visits.

In addition to these support programmes and resources, educationally at-risk children were offered homework support and Turkish language courses in cooperation with the Ministry of Youth and Sports, the Turkish Red Crescent, and Kilis Municipality.[233] Customised materials were also produced to support underachieving children in remedial classes and were distributed to schools across the country, targeting 1,743,480 students in the remedial education program.[234] These programs adopted a hybrid approach, where children received classes via phones and in small group sessions. By the end of 2020, 3,261 children (54% girls) had benefited from the language classes, 1,854 of which were out of school. The homework support program also reached 2,361 Syrian and Turkish children, 60% of whom were girls. To support early childhood education during the pandemic, in collaboration with 200 teachers, UNICEF also produced 38 storybooks and set up online support networks for parents of 3- to 7-year-old children.[235] This initiative reached 23,038 Syrian and Turkish children across the country.[236] Similarly, to facilitate refugee children's access to online education, various non-governmental organisations provided families with free internet access during the pandemic.[237]

Since fathers were spending more time at home due to the pandemic and were involved more in supporting their young children's early learning at home, UNICEF worked with the implementation partner (DFT) and developed the Father Education Programme aimed at increasing father's involvement in supporting their young

[232] Input from UNICEF Türkiye Team.
[233] Ibid
[234] UNICEF Türkiye. (2020). COVID-19 Response End-year Situation Report 2020. Ankara: UNICEF Türkiye
[235] UNICEF Türkiye. (2020). COVID-19 Response Monthly Situation Report. September 2020. Ankara: UNICEF Türkiye
[236] UNICEF Türkiye. (2020). COVID-19 Response End-year Situation Report 2020. Ankara: UNICEF Türkiye
[237] Doğanay, C., Koyuncu, İ., A., Kenanoğlu, M., Kadkoy, O., & Güven, S. (2020). Zorunlu Göçmenler için Sosyal Eşitlik: Pandemi Sürecinde Yerel Yönetimlerin ve STK'ların Rolü. Tepav. Anakara: Türkiye

children's development to promote gender-equitable caregiving behaviours. In this scope, fathers were sent audiobooks and tips on parenting to foster their playful and educational interactions with their young children.[238]

Figure 9 ACEV designed a 'play box' for young children to facilitate quality play and home learning during the pandemic

Source: Konak Municipality. (2021). Accessed from the following link: https://www.konak.bel.tr/haber/konak-belediyesi-acev-el-ele-2308

Existing programmes targeting refugee families were moved to online platforms. Leading organisations working with refugee families in Türkiye continued their projects online during the pandemic. Initially, the programmes focused on supporting the access of refugee families to healthcare and education as well as providing psychosocial support via helplines.[239] SGDD-ASAM, for instance, continued their 'Okula Kayıt İçin Destek Programı' (School Enrolment Support Programme) via phone calls to facilitate refugee children's school enrolment process during the pandemic.[240] To support student access to EBA, SGDD-ASAM also identified at-risk children and reached their families to provide support on how to use the online education platform during the pandemic.

During the pandemic, UNICEF delivered teacher training programs to facilitate online education and led health and safety campaigns to support the safe reopening of schools. To support teachers during the pandemic, teacher training programs focused on the new demands of online teaching and were provided through a collaboration between the Ministry of National Education and UNICEF Türkiye. This program reached 196,603 teachers and education administrators and targeted identifying support needs of children and improving the digital skills of teachers.[241] To facilitate the safe reopening of schools, UNICEF also delivered safety campaigns and school staff training, reaching 47,037 school administrators across the country.[242]

[238] Input from UNICEF Türkiye Team.
[239] Doğanay, C., Koyuncu, İ., A., Kenanoğlu, M., Kadkoy, O., & Güven, S. (2020). Zorunlu Göçmenler için Sosyal Eşitlik: Pandemi Sürecinde Yerel Yönetimlerin ve STK'ların Rolü. Tepav. Anakara: Türkiye
[240] ASAM: Okula Kayıt için Destek Programı. Retrived from: https://sgdd.org.tr/projeler/okula-kayit-icin-destek-programi/
[241] Ibid
[242] Ibid

To identify the most disadvantaged and underserved neighbourhoods and support children (e.g. stationery, cleaning materials, and food) to access ECE and other education services, UNICEF supported the Early Childhood Education (ECE) Department of the Basic Education General Directorate of the MoNE to develop a Vulnerability Identification System.[243]

UNICEF also continued to work in close collaboration with the Ministry of National Education to prevent child labour and mitigate financial barriers to education. To prevent child labour and school dropouts due to financial constraints, UNICEF Türkiye continued to work in close collaboration with the Ministry of Family and Social Services, the Ministry of National Education, and the Turkish Red Crescent to deliver the monetary support programme, Conditional Cash Transfer for Education, for refugee children. As of July 2020, 494,899 children on the beneficiary roster continued to benefit from the programme. A new programme was also launched in a Southeastern city, Şanlıurfa, assisting 472 children of families in seasonal agriculture work to prevent child labour and school dropouts due to the economic implications of the pandemic.[244]

In addition, UNICEF worked in collaboration to safeguard child welfare and provide resources on family well-being and mental health. UNICEF worked in collaboration with the Ministry of National Education to develop support programs and prepare materials on child welfare during the pandemic. This initiative led to the production of storybooks, brochures, information booklets on mental health and well-being (See **Figure 10**).

Figure 10 UNICEF worked in collaboration with the Ministry of National Education to develop support programs and prepare materials on child welfare during the pandemic

Source: http://orgm.meb.gov.tr/meb_iys_dosyalar/2021_08/30214713_27101758_SalgYn_ilkokul.pdf

In addition to these materials, AÇEV prepared a set of guidelines for families, including information on family well-being and relationships.[245] These guidelines focused on protecting the physical health of families, as well as psychosocial well-being. They provided recommendations on a variety of topics, including maintaining positive relationships at home, spending quality time with children,

[243] Input from UNICEF Türkiye Team.
[244] Ibid
[245] AÇEV. (2020). Covid-19 Salgını Döneminde Evde Iyi Olma Hâlini Koruma Rehberi. Istanbul: Türkiye

sharing household chores and setting up family routines, using media safely, and protecting child well-being and mental health during the pandemic. ERG also conducted an interview study on children's experiences at home, allowing for children's voices to be heard during the pandemic.[246] The findings of this study were disseminated online via a news media channel on YouTube.[247] AÇEV also continued its family support programmes online[248], and extended its work on fathers during this period.[249] Social media accounts of organisations, including UNICEF Türkiye and AÇEV, were used to share information on mental health, family life, parenting and child well-being during the pandemic.[250]

Social protection programmes also continued to be implemented during COVID-19.[251] The Conditional Cash Transfer for Education (CCTE) Programme continued its operations without any disruptions in both the national programme (implemented by the Ministry of Family and Social Services since 2003) and in the CCTE for Refugees Programme implemented by UNICEF in partnership with the Ministry of Family and Social Services, Ministry of National Education, and Turkish Red Crescent. The CCTE for Refugees continued benefitting more than half a million children at every payment cycle, increasing its cumulative beneficiaries to almost 800,000 since 2017. Social Assistance and Solidarity Foundations of the MoFSS and Service Centers of the TRC remained operational following COVID prevention measures. For families who could not come to banks to collect their debit cards due to COVID-19 risks and lock-downs, the CCTE for Refugees Programme delivered them to their home addresses. The MoFSS introduced internet applications through the e-Government Getaway platform for the COVID-19 social assistance programmes, to minimize crowding in the application points. Beneficiaries were approached through automated digital messages, Facebook and phone calls through 168 Kızılay Call Centre with informative messages on COVID-19 and protection measures.

To support families affected by the socio-economic impact of Covid-19, the MoFSS rolled-out three rounds of cash transfers benefiting more than 7 million households in Türkiye in 2021 and 2022. There has been a very rapid roll-out of cash transfer programmes as a result of which families already on social assistance schemes and those with emerging needs were able to benefit from these programmes.

[246] ERG. (2020, 09, 25). Çocuklar Evde Nasılsınız?. ERG Blog. https://www.egitimreformugirisimi.org/cocuklar-evde-nasilsiniz/
[247] Medyascope Plus. (2020, July 4). Gündem Çocuk: Çocuklar evde nasılsınız? [Video]. YouTube. https://www.youtube.com/watch?v=iTmsHah4Yrk
[248] AÇEV's Official Website/What we do/For Mothers and Fathers: https://www.acev.org/ne-yapiyoruz/anne-babalar-icin/
[249] AÇEV's Official Website/What we do/For Mothers and Fathers/ Father Support Program: https://www.acev.org/en/father-support-program/
[250] UNICEF Türkiye's Official Facebook Page: https://www.facebook.com/unicefturkiye/
AÇEV's official YouTube Channel: https://www.youtube.com/channel/UCknrine7khh3jBWiushNOpw
[251] Input from UNICEF Türkiye Team.

CHAPTER THREE

3. Estimation of Learning Losses and Other Risks During the Pandemic

Learning losses and ways to recover them are important topics in the global and national agenda. Recently, UNICEF, UNESCO and the World Bank collaboratively published a report on the progress achieved in learning recovery.[252] In the report five key action points were highlighted and progress of the countries was assessed. These were (i) Reach every child and retain them in school, (ii) Assess learning levels, (iii) Prioritize teaching the fundamentals, (iv) Increase catch up learning and progress beyond what was lost and (v) Develop psychosocial health and well-being so every child is ready to learn. According to a survey implemented in 122 countries in March 2022 to inform the report, one sixth of countries have published data on change in learning outcomes and three quarters of respondents reported that their countries are implementing measures to mitigate learning losses. Measuring and mitigating learning losses have also been on the agenda of the Ministry of National Education of Türkiye.[253] [254] [255] [256] In this section of the report, we try to estimate, using quantitative methodologies and microsimulation techniques, the levels of learning losses that may have occurred in Türkiye based on disparities in initial endowments in the home learning environment.

According to the latest global learning assessments of PISA and TIMSS, even prior to the pandemic, important shares of children performed below the minimum proficiency thresholds in Türkiye. According to PISA 2018 results, pre-pandemic, a considerable share of 15-year-old students was already performing below the minimum proficiency levels, and inequalities existed with respect to socioeconomic status in Türkiye. In the latest round of PISA, 37%, 26% and 25% of students in Türkiye performed below the minimum proficiency levels in math, reading and science, respectively.[257] Pre-pandemic socioeconomic status of students was also

[252] UNESCO, UNICEF and the World Bank. (2022). Where are We on Education Recovery?.Retrieved from: https://www.unicef.org/media/117626/file/Where%20are%20we%20in%20Education%20Recovery?.pdf
[253] MEB (2021, October 26). Uzaktan Eğitimdeki Öğrenme Kayiplarinin Tespiti İçin Kazanim Değerlendirme Uygulamasi Başladi. MEB. Retrieved from: https://www.meb.gov.tr/uzaktan-egitimdeki-ogrenme-kayiplarinin-tespiti-icin-kazanim-degerlendirme-uygulamasi-basladi/haber/24396/tr
[254] MEB (2022, May 14) MEB, Öğrenci Başari İzleme Araştirmasi Yapacak. Retrieved from: http://www.meb.gov.tr/meb-ogrenci-basari-izleme-arastirmasi-yapacak/haber/26211/tr
[255] MEB (2021, October 05). Destekleme Ve Yetiştirme Kurslarindan 7 Ve 11. Sinif Öğrencileri De Faydalanabilecek. MEB. Retrieved from: https://www.meb.gov.tr/destekleme-ve-yetistirme-kurslarindan-7-ve-11-sinif-ogrencileri-de-faydalanabilecek/haber/24221/tr
MEB. (2021, November 18). Destekleme Ve Yetiştirme Kurslarinin Kapsami Genişletildi. MEB. Retrieved from: https://www.meb.gov.tr/destekleme-ve-yetistirme-kurslarinin-kapsami-genisletildi/haber/24611/tr
[256] MEB (2022, May 21) 2022-2023 Eğitim Öğretim Yili Başinda Yardimci Kaynaklar Öğrencilerin Siralarinda Olacak. Retrieved from: https://www.meb.gov.tr/2022-2023-egitim-ogretim-yili-basinda-yardimci-kaynaklar-ogrencilerin-siralarinda-olacak/haber/26297/t
[257] OECD (2019). Results from PISA 2018 Turkey Country Note. Paris: OECD. Retrieved from: https://www.oecd.org/pisa/publications/PISA2018_CN_TUR.pdf

already correlated with learning outcomes. Socioeconomic status of students explained around 11% of the variation in test scores in all subjects in Türkiye, which is slightly lower than the OECD averages (14%, 12% and 13% respectively in math, reading and science).[258] Between school inequalities also existed, with low and high-performing students clustering in the same schools more often than the OECD average.[259] Students attending high-performing academic schools were on average, more likely to have higher socioeconomic status and were exposed to a richer learning environment at school.[260] Türkiye's test scores improved in 2018 compared to 2015 levels but were not statistically different than the 2009 and 2012 levels.[261]

According to TIMSS 2019 results, there has been an improvement in learning outcomes of 4th and 8th-grade students in Türkiye over the years, but learning resources at home created important differences in children's learning outcomes.[262] For the first time since 1999, Türkiye's average scores in math and science for 4th graders and for science for 8th graders have been higher than the median score of 500 in TIMSS 2019. Yet, important shares of children still score below the minimum proficiency level with 12% in math and 10% in science for 4th graders and 20% in math and 12% in science for 8th graders. Despite the improvements, inequalities between children and learning resources at home were an important factor that is associated with differences in the learning outcomes of children. A considerable share of children is living in households with very low learning resources. 26% of children in 4th grade had "very low" learning resources at home as opposed to 6% of children with "high" learning resources.[263] These shares were 32% and 9%, respectively, for 8th graders.[264] For 4th graders, a 175 point difference is found in math scores between the groups of children who have "high" and "very low" learning resources at home, and the difference was 166 points in math for 8th graders.

[258] OECD (2019). Results from PISA 2018 Turkey Country Note. Paris: OECD. Retrieved from: https://www.oecd.org/pisa/publications/PISA2018_CN_TUR.pdf
MEB (2019). PISA 2018 Türkiye Ön Raporu. Ankara: Türkiye. Retrieved from: https://www.meb.gov.tr/meb_iys_dosyalar/2019_12/03105347_PISA_2018_Turkiye_On_Raporu.pdf
[259] OECD (2019). Results from PISA 2018 Turkey Country Note. Paris: OECD. Retrieved from: https://www.oecd.org/pisa/publications/PISA2018_CN_TUR.pdf
[260] Niehues, W. , Kisbu-sakarya, Y. & Selçuk, B. (2019). Implications of between-school tracking for Turkish students . Turkish Journal of Education , 8 (3) , 196-216 . DOI: 10.19128/turje.453383
[261] Ibid.
[262] TEDMEM. (2021). Türkiye'nin TIMSS 2019 performansı üzerine değerlendirme ve öneriler (TEDMEM Analiz Dizisi 8). Ankara: TEDMEM
[263] 4th grade children with "high" learning resources are those that have more than 100 books at home, who have their own room and internet connection at home, whose parents report that children have more than 25 books and that at least one of the parents have a university degree and at least one has works as a professional employee. 4th grade children with "very low" learning resources are those that have less than 25 books at home, who do not have their own room or internet connection at home, whose parents report that children have 10 books or less and that none of the parents have a university degree and none works as a professional employee or owns a small business.
[264] 8th grade children with "high" learning resources are those that have more than 100 books at home, who have a supportive learning environment at home, and whose parents report that at least one of the parents have a university degree. 8th grade children with "very low" learning resources are those that less than 25 books at home, who do not have a supportive learning environment at home, and whose parents report that none of the parents have a university degree.

Home Learning Environment of Children in Türkiye

The home learning environment is an important factor in predicting disparities in children's education outcomes.[265] While the definition of home learning environment varies across studies, it generally involves (i) children's participation in learning activities, (ii) the quality of parent-child interactions, and (iii) the availability of learning materials.[266]

The importance of the home learning environment was much more pronounced during the COVID-19 lockdowns. As discussed in the earlier sections, Türkiye implemented remote learning for about 15 months, March 2020-June 2021, through the EBA online platform and EBA TV. However, not all children have had equal access to remote learning, or even if they could access the resources, they may not have been able to benefit from it as effectively due to not having an adequate studying environment, not having enough adult supervision available in the household or not having enough resources for all the children in the household when many children are living together.

In this respect, a multi-dimensional look at the home learning environment is crucial in understanding the possible deprivations of children in terms of learning and education with regard to the challenges presented by the COVID crisis. While access to infrastructure for remote learning is necessary, it is not sufficient for the child to continue learning at an effective rate. Hence the home learning environment should be assessed more holistically. While home learning environment indices generally include more specific questions related to the parents' time spent with children doing activities such as reading or playing as well as the availability of learning materials in the household, here we have a broader look taking into account the specific situation introduced by the COVID crisis and also taking into account data availability.[267]

home learning environment (HLE) is generally studied in the literature for children in early childhood. The indices created to measure the HLE in a composite way are constructed largely using variables measuring the frequency of activities that the child participates in at home that can enhance his/her learning. Melhuish et al. (2008) create a home learning environment index for pre-schoolers using the frequency of activities that a child does at home, including activities such as being read to, playing with numbers, painting and drawing, being taught letters.[268] The

[265] Simone Lehrl, Maria Evangelou & Pam Sammons (2020) The home learning environment and its role in shaping children's educational development, School Effectiveness and School Improvement, 31:1, 1-6, DOI: 10.1080/09243453.2020.1693487
[266] Lehrl, S., Evangelou, M., Sammons, P. (2020). The home learning environment and its role in shaping children's educational development. School Effectiveness and School Improvement 31(1), 1-6. doi:10.1080/09243453.2020.1693487
[267] The Scottish Government. (2010). Impact of the Home Learning Environment on Child Cognitive Development: Secondary Analysis of Data from 'Growing Up in Scotland'.
Aminipour, S., Asgari, A., Hejazi, E., & Roßbach, H. G. (2018). Home Learning Environments: A Cross-Cultural Study Between Germany and Iran. Journal of Psychoeducational Assessment, 38. doi:10.1177/0734282918778465
[268] Melhuish, E.C., Sylva, K., Sammons, P., Siraj-Blatchford, I., Taggart, B., & Phan, M. (2008) Effects of the Home Learning Environment and preschool center experience upon literacy and numeracy development in early primary school. Journal of Social Issues, 64, 157-188.

index is created by adding the Likert scaled frequency of the activities. Another approach in creating the index is z-standardising the indicators and then taking an average of them as used in Lehrl et al. (2019), in which the index is created using different sets of variables for the preschool age and for secondary school-age children as well.[269] Lehrl et al. (2021) follow a similar method and take the average of the frequency of activities such as reading to the child, counting, playing with alphabet toys in creating an analogue HLE scale and looking at/playing with apps, going online, doing something with the computer in creating a digital HLE scale.[270]

HLE is also assessed using The Home Observation for Measurement of the Environment (HOME) in a number of studies.[271] HOME is a survey tool designed to measure the quality and quantity of stimulation and support available to a child in the home environment and consists of different instruments depending on the age of the child from infant/toddler to late adolescent age group. The raw score is calculated by a simple summation of responses.[272] Kuger et al. (2018) and Todd and Wolpin (2007) are among the studies that use the HOME index.[273] An adaptation of HOME was also used in Türkiye, in studies related to early childhood.[274]

Results on Home Learning Environment of Turkish and Syrian Children

In this part of the report, we make use of DHS 2018 to understand the pre-pandemic home learning environment of both Turkish and Syrian children aged 6-17 years old. DHS is preferred since it involves questions to reflect the home learning environment of children and also includes a sample for Syrians, which allowed us to look at the situation for both Turkish and Syrian children.

Türkiye hosts the world's largest refugee population and is home to 3.7 million Syrians under temporary protection as of February 2022 along with around 330,000 refugees and asylum seekers from other nationalities under international protection.[275] Among the Syrians under temporary protection living in Türkiye, 47.4% are in the 0-18-year-old age group and making a total of 1.8 million children (the official statistics are given for age groups 0-4-year-olds, 5-9-year-olds, 10-14-year-olds and 15-18-year-olds, hence 18-year-olds are also included in the number of total

[269] Lehrl, S., Ebert, S., Blaurock, S., Rossbach, H.-G., & Weinert, S. (2019). Long-term and domain-specific relations between the early years home learning environment and students' academic outcomes in secondary school. School Effectiveness and School Improvement, 1–23. doi:10.1080/09243453.2019.1618346

[270] Lehrl, S., Linberg, A., Niklas, F., & Kuger, S. (2021). The Home Learning Environment in the Digital Age–Associations Between Self-Reported "Analog" and "Digital" Home Learning Environment and Children's Socio-Emotional and Academic Outcomes. Frontiers in Psychology, 12.

[271] Caldwell, B. M., & Bradley, R. H. (2016). Home Observation for Measurement of the Environment: Administration Manual. Tempe, AZ: Family & Human Dynamics Research Institute, Arizona State University.

[272] Todd, P. E., & Wolpin, K. I. (2007). The Production of Cognitive Achievement in Children: Home, School, and Racial Test Score Gaps. Journal of Human Capital, 1(1), 91–136. doi:10.1086/526401

[273] Kuger, S., Marcus, J., & Spiess, C. K. (2019). Day care quality and changes in the home learning environment of children. Education Economics, 27(3), 265-286.
Todd, P. E., & Wolpin, K. I. (2007). The Production of Cognitive Achievement in Children: Home, School, and Racial Test Score Gaps. Journal of Human Capital, 1(1), 91–136. doi:10.1086/526401

[274] Baydar, N., & Bekar, O. (2007). HOME gözlem ve mülakat ölçekleri, Yayınlanmamış Çalışma. Erişim: http://portal.ku.edu.tr/~tecge/index.htm, 25 Mayıs 2009.
Akçinar, B. & Baydar, N. (2018). Erken Çocuklukta Anne Davranişlarinin Dişsallaştirma Davraniş Problemleri İle İlişkisi. Elektronik Sosyal Bilimler Dergisi , 17 (66) , 454-470 . DOI: 10.17755/esosder.325593

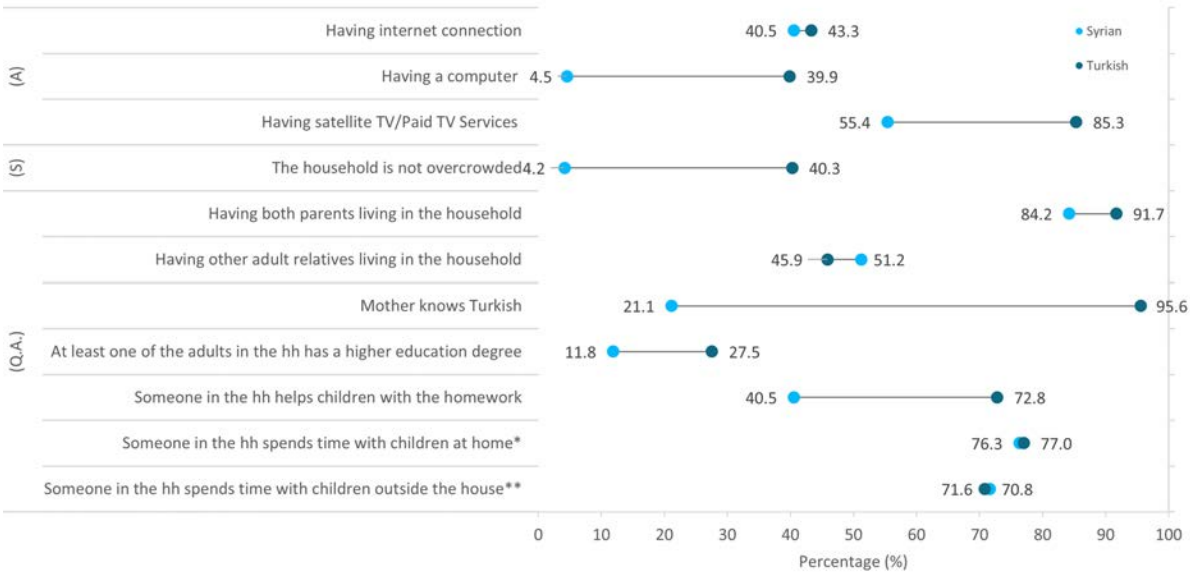
[275] Ministry Interior of Turkey Presidency of Migration Management (2022). Temporary Protection Statistics. Accessed through https://en.goc.gov.tr/temporary-protection27
UNHCR (2021). Turkey Fact Sheet September 2021. Accessed through: https://www.unhcr.org/tr/wp-content/uploads/sites/14/2021/10/Bi-annual-fact-sheet-2021-09-Turkey-1.pdf

children). Given that Türkiye's population of 0-18-year-olds is 24 million, Syrian children constitute a sizable group, that is around 7.4% of the Turkish population in the same age group.[276] Hence, in this report, we also report statistics on the Syrian children when possible by using the DHS.

Pre-pandemic, in 2018, both Turkish and Syrian children had certain disadvantages in terms of having a supportive home learning environment. First, there were existing gaps in terms of the necessary infrastructure to access remote learning (See **Figure 11**). A considerable share of children lacked an internet connection, a computer, satellite TV, or paid TV services. 43.3% of Turkish children and 40.5% of Syrian children had an internet connection in the household, while 39.9% of Turkish children and only 4.5% of Syrian children had a computer.[277] Having a satellite TV or paid TV services was more common for Turkish children. 85.3% of Turkish children and 55.4% of Syrian children lived in households with satellite TV or paid TV services.

Figure 11 Turkish and Syrian children lack certain dimensions to have a supportive home learning environment[278]

% of Turkish and Syrian children that has the dimension in the household, for children aged 6-17 years old



Source data: DHS 2018.[279] (A) Access to infrastructure for remote learning and learning materials at home, (S) Space availability for the child, (Q.A.) Quality of Adult Interaction. *Someone in the hh spends time with children at home playing games, reading books, watching T.V., etc. **Someone in the hh spends time with children outside the house going to the park, movies, etc.

[276] TUIK. (2022). Press release on Address Based Population Registration System Results, 2021. Accessed through: https://data.tuik.gov.tr/Bulten/Index?p=Adrese-Dayali-Nufus-Kayit-Sistemi-Sonuclari-2021-45500 Note that the population size in the official statistics reported here does not include Syrians under temporary protection.

[277] In DHS the question is "Does the household have internet connection?" The question does not emphasize or distinguish between mobile connection or fixed connection.

[278] For the dimension "mother knows Turkish", for children whose mother is interviewed her knowledge of Turkish is taken into account, for children whose mother is not interviewed, the variable takes 1 if any of the interviewed adult females knows Turkish.For the last three dimensions, again if the mother of the child is interviewed her answer is taken into account, if not, and there are other interviewed adult females, mode of their answers is taken into account.

[279] Note that in all of the analysis in this section DHS 2018 Turkish and Syrian samples are used and for children with a constructed HLEQI. DHS 2018 Turkish sample includes 7,792 children, and the sample used in this analysis is reduced to 6,569 children due to having missing dimensions of home learning environment. The Syrian sample is also reduced from 3,326 to 3,084 due to the same reason.

Space availability is another important dimension in having a supportive home learning environment. In terms of space availability, almost all Syrian children were living in a household with limited space availability, hence in an overcrowded household as well as a considerable share of Turkish children.[280] 95.8% of Syrian children and 59.7% of Turkish children lived in overcrowded homes.

When we look at the quality of adult interaction, as another major dimension of having a supportive home learning environment, not having a parent with a higher education degree stands out for Turkish children, while mother not knowing Turkish and having no one in the household to support with homework are among other major disadvantages for Syrian children. Living with both parents in the household or other adult relatives could provide support for children in their home learning activities. For the majority of Turkish and Syrian children (91.7% for Turkish children and 84.2% for Syrian children), both parents are living in the household. In terms of having other adult relatives in the household, 45.9% of Turkish children and 51.2% of Syrian children have other adult relatives in the household. Apart from having parents or adults in the household, the quality of adult interaction could be determined through other indicators such as Turkish knowledge of the mother, the level of education of adults in the household, and if there is anyone in the household spending time with the children. In terms of Turkish knowledge of the mother, Syrian children are quite disadvantaged. Only 21.1% of Syrian children's mother knows Turkish, while this rate is 95.6% for Turkish children. Having an adult with a higher education degree in the household is an indicator in which both Turkish and Syrian children are disadvantaged. Only 11.8% of Syrian children and 27.5% of Turkish children live with an adult in the household with a higher education degree. Perhaps related to not knowing Turkish, having someone in the household helping with the homework of children is low for Syrian children with 40.5%, while this rate is 72.8% for Turkish children.[281] Having someone at home playing games or reading books to children, or spending time with the children outside the house is similar for both Turkish and Syrian children. 76.3% of Syrian children and 77.0% of Turkish children live in a household where it is reported that someone in the household spends time with the children playing or reading to them. And 71.6% of Turkish children and 70.8% of Syrian children live in a household where it is reported that there is someone in the household spending time with them outside the household.

Turning these indicators into a composite index shows that Turkish children but especially Syrian children entered the crisis with disadvantages in terms of their home learning environment quality (See Annex 2.2 for the detailed methodology). A child would have a home learning environement quality index (HLEQI) of 100 if he/she had all these indicators in the household. The average HLEQI is calculated as 61.7 (out of 100) for Turkish children, while it is 36.5 for Syrian children (See **Figure**

[280] According to the EUROSTAT's definition a person is considered as living in an overcrowded household if the household does not have at its disposal a minimum number of rooms equal to: one room for the household; one room per couple in the household; one room for each single person aged 18 or more; one room per pair of single people of the same gender between 12 and 17 years of age; one room for each single person between 12 and 17 years of age and not included in the previous category; one room per pair of children under 12 years of age. The definition can be reached via the following link: https://ec.europa.eu/eurostat/en/web/products-datasets/-/TESSI175

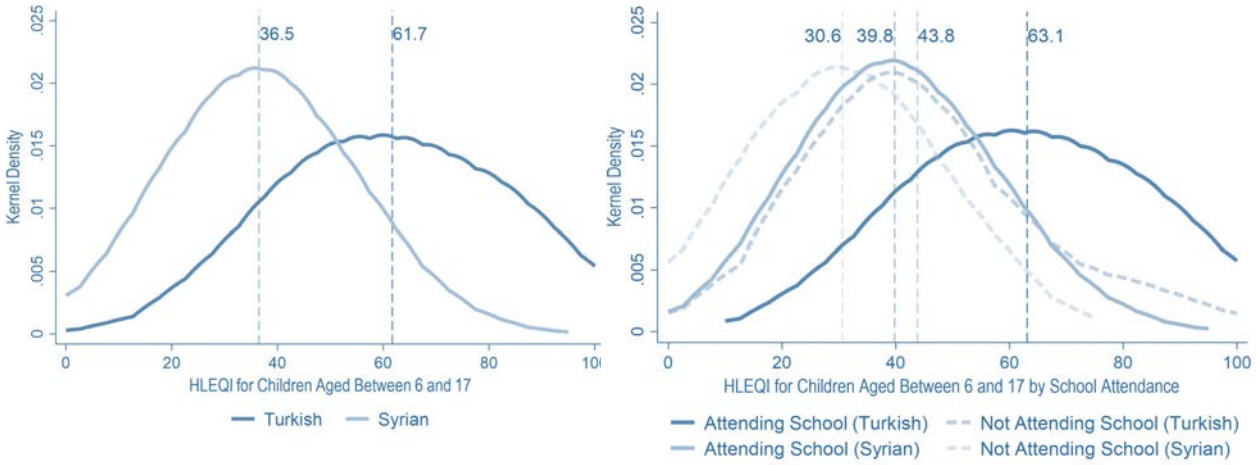
[281] These three questions are asked in the "Women's status module" in the Women Questionnaire, to gather information about who is doing the household chores in the women's households and are not asked specifically for each child.

12). Looking at the distribution of HLEQI for Turkish and Syrian children, it can also be seen that the majority of Syrian children aged 6-17 years old (94.3%) have an HLEQI lower than the Turkish average. Overall, 26.9% of Turkish children aged 6-17 years old and 77.2% of Syrian children in the same age group have an HLEQI less than 50 (out of 100). When we look at the distribution of HLEQI further by school attendance status of children, the discrepancies between children attending school and not attending school is seen. Especially for Turkish children, the divide is clearly visible, where the average HLEQI is 43.8 for children not attending school while it is 63.1 for children attending school. For the Syrian children, these averages are 30.6 and 39.8, respectively. Hence overall, children not attending school also are further disadvantaged in terms of having a home learning environment that is not supportive.

Figure 12 Turkish children but especially Syrian children entered the pandemic with disadvantages in terms of their home learning environment quality
Distribution of the Household Learning Environment Quality Index (HLEQI)

a. Turkish and Syrian children aged 6-17

b. Turkish and Syrian children aged 6-17, by school attendance status



Source data: DHS 2018.

Among Turkish children, HLEQI is higher for children attending school, living in wealthier households and households with more educated adults and in households where the number of children is lower (See Figure 13). In other words, children have a more supportive home learning environment in households with these characteristics. Looking at various subgroups of children, HLEQI is highest with 84.7 (out of 100) for children in the 5th wealth quintile (wealthiest 20% of the population, according to household assets). In comparison, children in the 1st quintile (poorest 20% of the population) have an HLEQI of 43.1 on average. Mother tongue of the mother and region of the household are also factors of inequality in terms of a supportive home learning environment. On average, children living in the East have an average HLEQI of 51.1 as opposed to 67.4 for children living in the west. Living in households with more children is also associated with having a lower HLEQI.

While differences in HLEQI can be seen for different subgroups of children, boys and girls overall are not much different than each other overall. On average girls have an HLEQI of 61.1 while boys have an HLEQI of 62.3. This is an expected result since the gender of the child is not expected to be related with socioeconomic conditions of the household while the rest of the household characteristics such as household wealth or educational attainment of adults in the household, are related with the socio-economic conditions of the household.

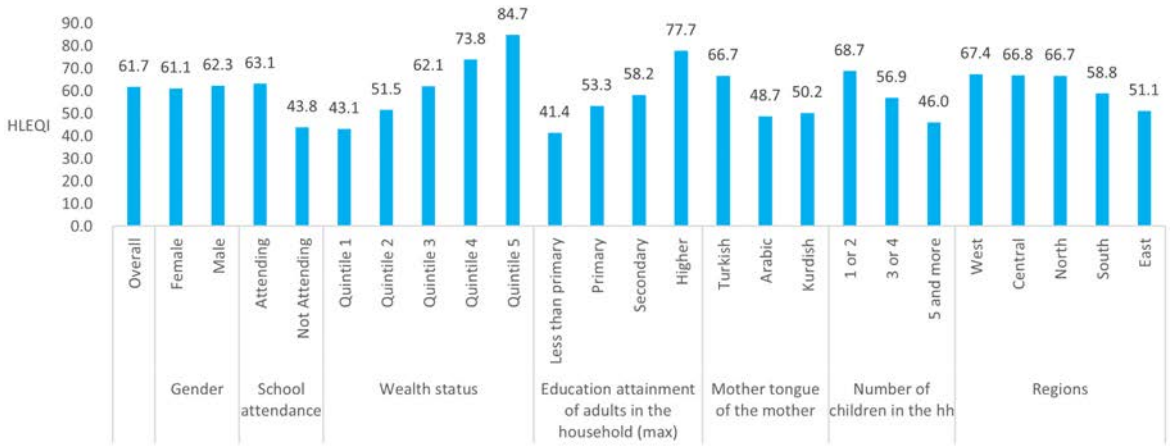
Among Syrian children, HLEQI is higher for some groups as well, yet, for none of the sub-groups, HLEQI is higher than the average HLEQI for Turkish children (See Figure 13). For all child subgroups, even the children living in the wealthiest 20% of the Syrian population, the average HLEQI is lower with 48.1, than the Turkish average of 61.7.[282] Regional inequality in HLEQI observed in the case of Turkish children also cannot be observed for Syrian children. On average, Syrian children living in different regions have similar HLEQI levels. Overall, the differences between subgroups with respect to HLEQI is smaller in the Syrian sample compared to the Turkish sample. For instance, the difference between the poorest and richest quintile is 41.6 for the Turkish children while it is 25.1 for Syrian children. Again, gender differences are not observed for the Syrian sample as well with respect to HLEQI. Both Syrian girls and boys on average have similar HLEQI levels.

Hence, our findings using DHS 2018 show that Syrian children overall, and Turkish children, especially those living in the East and who are in the bottom 20% of the population in terms of household wealth, have entered the pandemic with larger gaps in terms of having a supportive home learning environment that would be instrumental during remote learning.

Figure 13 Pre-pandemic variations can be observed in the average HLEQI by individual and household characteristics of children

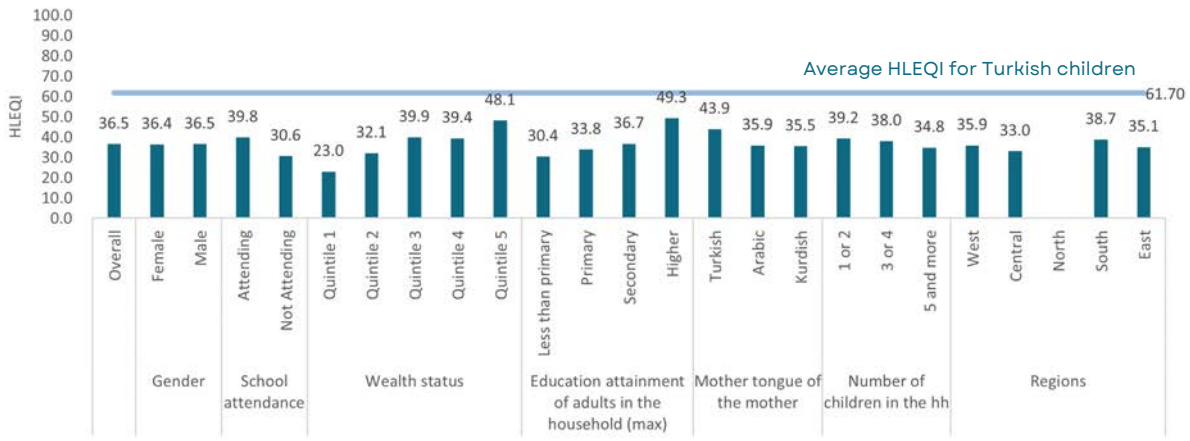
Average HLEQI of children aged 6-17 years old, by their characteristics

Turkish children



[282] Asset index and asset quintiles are constructed separately for the Turkish and Syrian samples, using the information on ownership of various assets. Hence bottom 20% of the Syrian sample is based on the asset index for the Syrian sample only. The asset index is constructed using the information on availability of the following items: LED/LCD TV, computer, deep freezer, gas/electric oven, microwave oven, dishwasher, garbage dispenser, washing machine, drying machine, iron, vacuum cleaner, home theatre, tea/coffee machine, kettle, generator, blender, paid TV services, satellite TV, internet, air conditioner, commercial vehicle, tractor, car/truck.

Syrian children



Source data: DHS 2018.

Estimated Learning Losses During the Lockdown

Several studies estimate the possible learning losses that would occur due to the COVID crisis in other country contexts. Using learning gains from studying one more grade, Azevedo et al. (2020) estimate that children's learning losses in terms of PISA scores could range between 7-25 points for upper-middle-income countries. Other studies using absenteeism and summer learning losses literature estimate lower achievement levels for children, especially for mathematics compared to reading, for the U.S.[283] Apart from simulations, collection of assessment data also point out to learning losses. Evidence from countries including Mexico, Russia, Pakistan and South Africa show important learning losses for children in different grades.[284] Assessment data from the Netherlands during COVID-19 suggest that an 8-week school closure led to learning losses in children. The impact was higher on children with less-educated parents.[285] A study from Ghana suggests that the availability of home learning support and home learning resources are important indicators in explaining learning loss gaps.[286]

Currently, information on learning losses are not publicly available in Türkiye and with the postponing of PISA 2021 to 2022 and TIMSS to take place in 2023, results from international assessments are not available yet to show the degree of learning losses in Türkiye. Qualitative results emerging from the field on students' experiences in Türkiye show that Turkish and refugee students are anxious about

[283] Kuhfeld, Megan and Beth Tarasawa. (2020). The COVID-19 slide: What summer learning loss can tell us about the potential impact of school closures on student academic achievement April 2020. Available online at https://www.nwea.org/content/uploads/2020/05/Collaborative-Brief_Covid19-Slide-APR20.pdf
Kuhfeld, Megan, James Soland, Beth Tarasawa, Angela Johnson, Erik Ruzek and Jing Liu. (2020). Projecting the potential impacts of COVID-19 school closures on academic achievement. EdWorkingPaper No. 20-226.
[284] The World Bank, UNESCO and UNICEF (2021). The State of the Global Education Crisis: A Path to Recovery. Washington D.C., Paris, New York: The World Bank, UNESCO, and UNICEF.
[285] Engzell, P., Frey, A., & Verhagen, M. D. (2020). Learning inequality during the COVID-19 pandemic.
[286] Sabates, R., Carter, E., & Stern, J. M. (2021). Using educational transitions to estimate learning loss due to COVID-19 school closures: The case of Complementary Basic Education in Ghana. International Journal of Educational Development, 82, 102377.

learning losses and that they were worried about not being able to catch up to more difficult classes in the upcoming academic year.[287] Students also pointed out that the quality of education deteriorated during the distance learning process and that they were receiving high grades even when they were not attending classes.[288] Hence students were worried that the learning losses they experienced might not be reflected well in their grades. Students were especially concerned about their science and mathematics knowledge as these were the topics that they thought were not suitable for distance learning.

Methodology for the Estimation of Learning Losses

As children are living in households with different environments to support home learning, during the lockdowns, this might have had an impact on their learning outcomes. In the absence of data on actual learning assessments, we made use of PISA 2018 (a global learning assessment for 15 year-olds), to come up with estimations on possible learning losses of children through making use of the variation in home learning environment quality of children. Through a microsimulation model, we estimated the possible learning outcomes of the children in Türkiye after the end of the remote learning process and school closures (See Annex 2.3 for the detailed methodology).[289]

Assuming PISA 2018 as the starting point, the possible progress that could be achieved is predicted not to take place in Türkiye in all three subject areas due to the remote learning process and the variation in the home learning environment of students. Overall, three values regarding learning scores are calculated and reported for children:

- The first one is the *learning scores before school closures*, which is the learning scores as they are obtained from PISA 2018 dataset.
- The second one is the *counterfactual learning scores*, which are the learning scores that would have occurred for the students if school closures did not take place at all and the school year went on as in normal times and through face-to-face education. Hence it is a hypothetical reality, where the learning gains occur as in normal times.
- The last value reported is the *learning scores after school closures*. This value is estimated by taking into account the variation in home learning environments between children and hence the differences in their possible absorption of the distance learning measures.[290] Hence the learning gains are assumed to not take place as in normal times.

To be able to find the counterfactual learning scores and learning scores after

[287] UNICEF. (2022). Back to Learning Study 2021: Access to Education and Learning During COVID-19. Findings Report. Ankara: UNICEF.
[288] UNICEF. (2022). Back to Learning Study 2021: Access to Education and Learning During COVID-19. Findings Report. Ankara: UNICEF.
[289] Our model assumes that children, on average, will stay where they have been at the beginning of the pandemic, not making the progress that they could have made while instead differences would occur in between children in terms of the degree that they are able to benefit from the distance learning measures taken, based on their home learning environment quality.
[290] While the home learning environment of the child is stable before school closures and after school closures, it is now assumed to affect the learning outcomes of children during the time of school closures.

school closures, the added value of studying another grade is first estimated in this study for Türkiye using PISA 2018 for different subjects. The learning gains (math, science, reading) are and found as 27.3, 19.2 and 20.4 points, respectively (See **Annex 2.3** for the regression results). These scores are assumed as the increases or the progress in the total score of students if they studied another year as in normal times. Hence counterfactual scores are basically equal to the learning scores before school closures summed up by these progress values for each subject.

But since there have been lengthy school closures due to the COVID pandemic, distance learning measures were implemented instead. And due to the variation in students' home learning environment, the assumption here is that not every child will be able to make this normal progress. Instead, the students' learning scores after school closures are predicted to stall, and it is assumed that no progress will be made on average. Students with unsupportive learning environments are assumed to experience learning losses while others with better home learning environments are expected to make progress.

Results of the Learning Loss Simulation

After the simulation is run it can be seen that after school closures, scores of students are on average estimated to be lower than the counterfactual (or what would have been without the pandemic). For math, the average score is 5.6% lower, while it is 3.9% and 4.2% lower, respectively, for reading and science, compared to the counterfactual. While the distribution of the students' scores was expected to shift to the right, instead, the scores in the upper end of the distribution became better while the scores in the lower end of the distribution are estimated to have gotten worse, meaning an increase in inequality (See **Figure 14**).

Compared to their counterfactual scores, after school closures, none of the groups of children can make the possible progress that they could have made and hence are behind the counterfactual learning scores on average (See Figure 15). Some student subgroups experience higher learning losses compared to the counterfactual. These groups are students living in the poorest households, students with no internet or those with parents with low levels of education, students speaking languages other than Turkish, living in villages or small towns. These groups are also the subgroups experiencing learning losses when compared to the baseline scores.

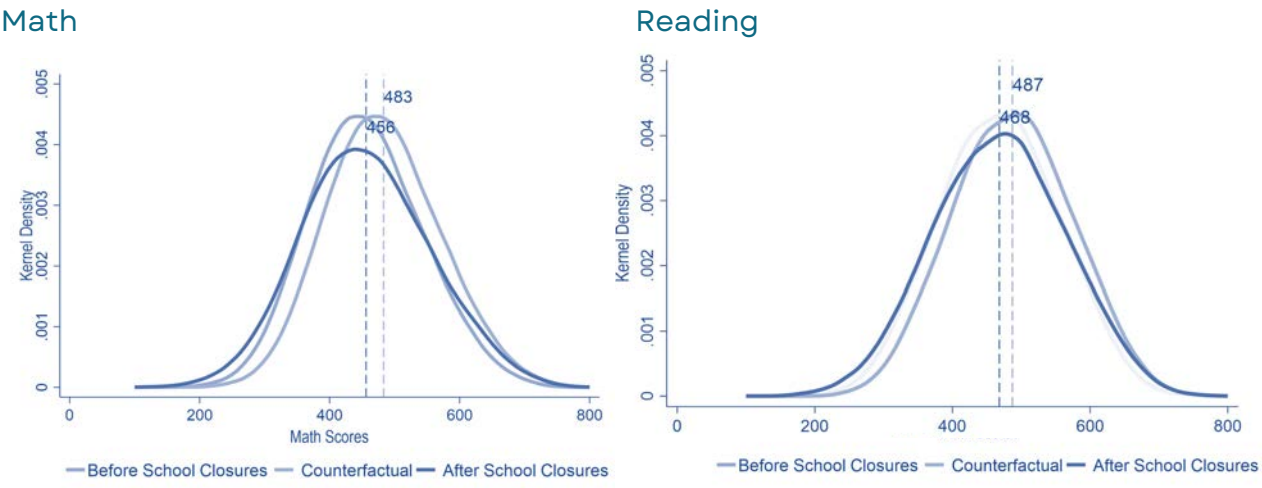
Internet connection in the household and households' socioeconomic status measured through household wealth and parental education are important factors in creating a supportive learning environment to prevent learning losses. Students without an internet connection at home, experience a learning loss of 14.0% in math, 10.0% in reading and 10.4% in science, compared to the counterfactual outcome (i.e. % change in scores after school closures compared to the counterfactual). Students living in the lowest wealth quintile (in terms of asset ownership), are also quite disadvantaged. On average, students in the lowest wealth quintile experience learning losses at the rate of 13.8%, 9.7% and 10.1%, respectively, in math, reading and science compared to their counterfactual

scores.[291] In terms of parental education, students experience learning losses compared to the counterfactual on average for all sub groups but students whose parents at most have an educational attainment level of high school or less are predicted to experience learning losses between 4.4-7.2 times higher than the learning losses experienced by those who have at least one of the parents with a university degree.

Mostly spoken language at home is also important in creating a supportive learning environment for children, and the results show that when mostly spoken language at home is not Turkish, larger learning losses occur. In fact, the group with the highest learning losses on average are those for whom the mostly spoken language at home is not Turkish. This group of students, on average, are estimated to have an after school closures' score that is 15.0% lower for math, 10.9% lower for reading and 11.3% lower for science, compared to the counterfactual scores.

Figure 14 The school closures lead to inequalities in the distribution of learning outcomes where the scores in the upper end of the distribution became better while the scores in the lower end of the distribution are estimated to have gotten worse

Kernel density of the math and reading scores of students, before school closures, counterfactual and after school closures



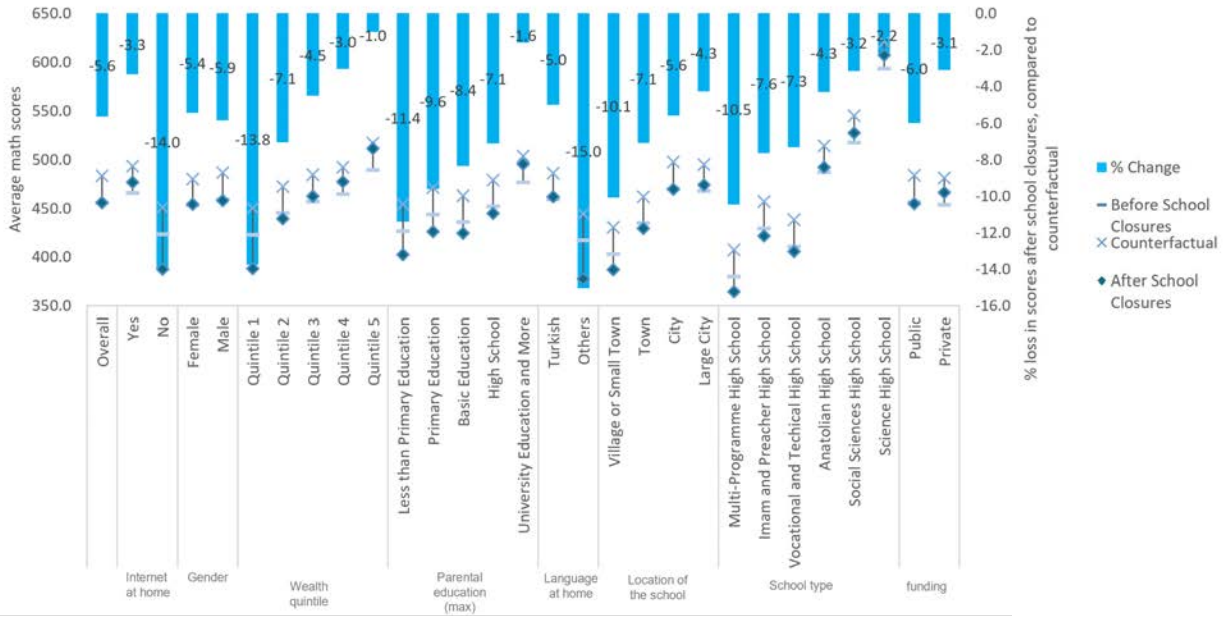
Source data: PISA 2018. Scores are reported as 10 plausible values. To come up with Kernel densities we draw kernel densities for each plausible score separately and then take the average of the density values and then depict the averages.

[291] Wealth index (WEALTH) that was already constructed and included in PISA 2018 data file is used in these calculations.

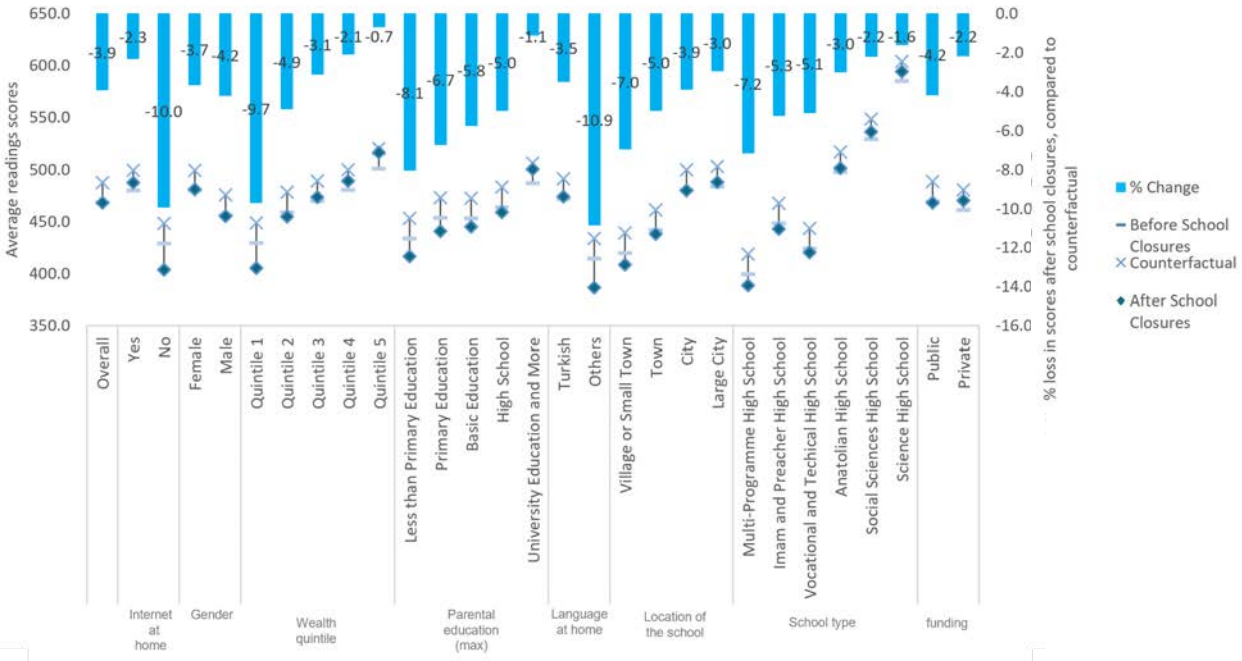
Figure 15 Compared to their counterfactual scores, after school closures, all student groups experience learning losses on average

Average scores of students, before school closures, counterfactual and after school closures and % change in scores after school closures compared to the counterfactual (secondary y-axis)

Math



Reading



Source data: PISA 2018.

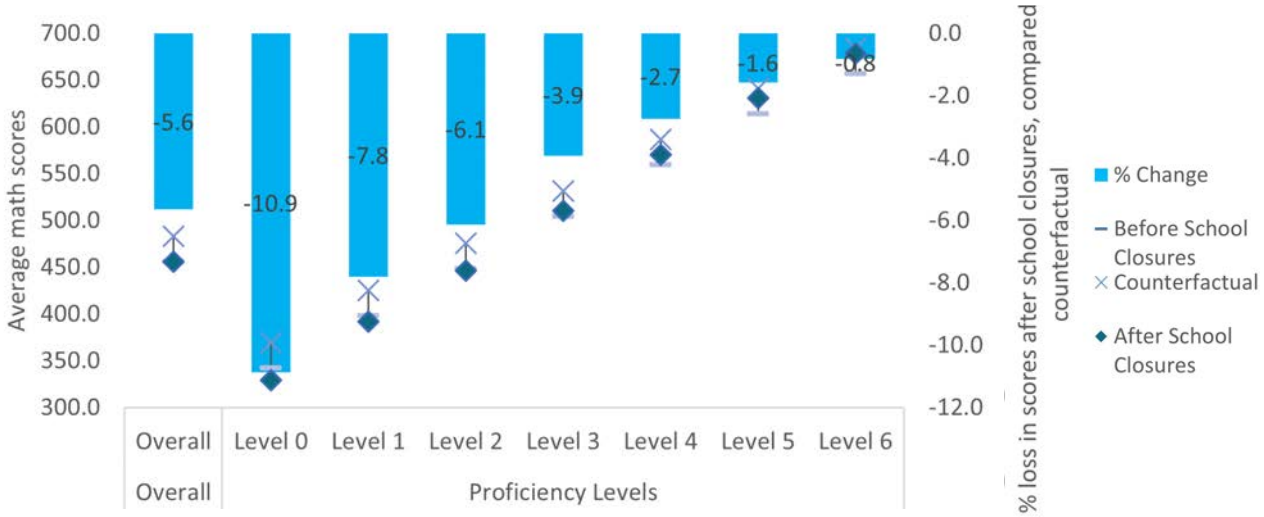
Students studying in certain school types, locations and school funding types are also predicted to experience larger learning losses (See Figure 15). The students that are going to school in large cities are predicted to have smaller learning losses on average, compared to the counterfactual while students going to schools in towns, cities and especially in villages and small towns are predicted to experience larger learning losses. In fact, compared to the students studying in large cities, students studying in villages or small towns experience learning losses that are twice as high in all subject areas. Students that are studying in multi-programme high schools, imam and preacher high schools, and vocational and technical high schools are also predicted to have larger learning losses in general as a result of the pandemic. For instance, the counterfactual learning losses are at 2.2% in math for students studying in science high schools while it is at 10.5% for students studying at multi-programme high schools. Students studying in public schools are also on average predicted to have larger learning losses, while students studying in private schools are predicted to have smaller learning losses. The counterfactual learning losses are twice as high in all subject areas for students studying in public schools compared to those studying in private schools.

The inequality between student scores is expected to rise since students who initially had lower scores are predicted to have larger learning losses on average, while those with higher scores initially are expected to have much smaller learning losses compared to the counterfactual (See Figure 16). Students who had lower scores in the baseline are predicted to obtain worse outcomes. This is due to the fact that students who have low learning scores are more likely to also have a low HLEQI, and hence they are already living in households with weak support for learning at home. Students with proficiency levels of 0, 1 and 2 in the baseline are predicted to experience much larger learning losses compared to the counterfactual, ranging between 10.9% and 6.1% in math, 9.8% and 4.4% in reading and 9.4% and 4.8% in science. On the other hand, students in the highest proficiency level in the baseline are predicted to have learning losses of only at 0.8%, 0.1% and 0.8% in the same subjects, compared to the counterfactual. Yet, it must also be noted that even the group with the highest proficiency level cannot achieve the counterfactual gains on average.

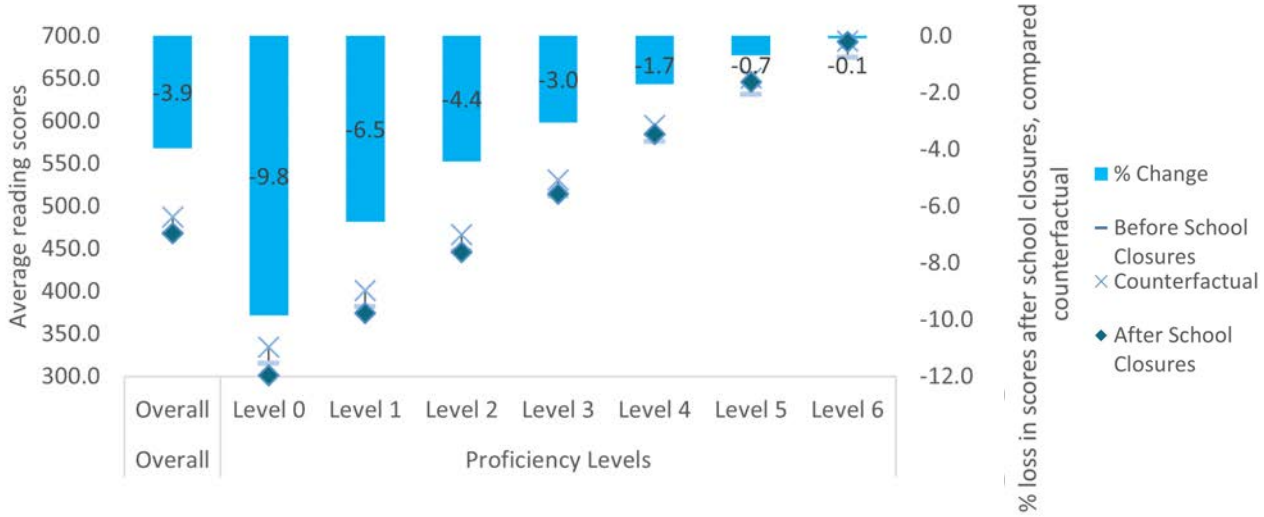
Figure 16 The inequality between student scores is expected to rise since students who initially had lower scores are predicted to have larger learning losses on average compared to those with higher scores in the baseline

Average learning scores of students, before school closures, counterfactual and after school closures and % change in scores after school closures compared to the counterfactual (secondary axis)

Math



Reading



Source data: PISA 2018. Thresholds for proficiency levels are taken from the PISA 2018 Technical Report, Chapter 15: Proficiency Scale Construction. (https://www.oecd.org/pisa/data/pisa2018technicalreport/PISA2018%20TecReport-Ch-15-Proficiency-Scales.pdf)

Other Risks during the Pandemic

Different household and individual characteristics of children made them vulnerable to more extreme risks during the pandemic. In this section, using DHS 2018, we delve into the household and individual characteristics of children and try to understand and profile the children at risk of school dropout and child labour during the crisis, taking into account the background characteristics that might make them more vulnerable.

Risk of Dropping Out of School

The net enrolment rate in education during the pandemic decreased the most in early childhood education, and there were slight increases or decreases for older age groups. The share of children who were not enrolled in education during the pandemic was highest for the category of 3-5-year-olds. According to official statistics, 94.4% of 3-year-old children were not enrolled to an Early Childhood Education and Care (ECEC) institution during the academic year of 2020-2021. This number was 83.6% for 4-year-olds and 41.5% for 5-year-olds.[292] In the previous academic year, these rates were considerably lower with 86.7%, 66.6% and 24.9% for 3, 4 and 5-year-olds, respectively. For older age groups, enrolment rates increased for children aged 14-17 years old (1.6 percentage points) and decreased minimally for children aged 6-9 years old (0.7 percentage points) and 10-13 years old (0.09 percentage points).

Using enrolment data from the Ministry of National Education, and controlling for cohort effects, ERI (2021) points out that there are decreases in the net enrolment rate for 14-17 year olds when the same group of children is followed through in between 2019-2020 and 2020-2021 academic years (See Table 1).[293] For the children aged 13 years old in 2019-2020 academic year net enrolment rate was 98.5% while the net enrolment rate for the children with the same birth year a year after, hence when they turned 14 years old is 96.3%, meaning a 2.2 percentage points drop. The decrease is highest for the children turning 16 years old in the 2020-2021 academic year, with a decline of 3.8 percentage points.

[292] MEB. (2021). Statistical Yearbook 2020/21. Ankara: MEB
[293] ERG. (2021). Eğitim İzleme Raporu 2021, Öğrenciler ve Eğitime Erişim. Istanbul: Türkiye

Table 1 Decreases in the net enrolment rates can be seen for 14-17 year olds in the 2020-2021 academic year, compared to a year ago when the same children were one year younger and had higher enrolment rates

	2019-2020		2020-2021		
Birth year	Age	Net enrolment rate (%)	Age	Net enrolment rate (%)	Percentage point change in between 2019-2020 and 2020-2021 academic years
2017	2	-	3	5.6	-
2016	3	13.3	4	16.4	3.1
2015	4	33.4	5	58.5	25.1
2014	5	75.1	6	92.1	17
2013	6	94.8	7	99.0	4.2
2012	7	99.0	8	99.0	0
2011	8	99.1	9	99.0	-0.1
2010	9	99.0	10	98.8	-0.2
2009	10	98.9	11	98.6	-0.3
2008	11	98.5	12	98.7	0.2
2007	12	98.7	13	98.0	-0.7
2006	13	98.5	14	96.3	-2.2
2005	14	95.7	15	93.4	-2.3
2004	15	92.3	16	88.5	-3.8
2003	16	87.3	17	84.5	-2.8
2002	17	81.3	18	-	-

Source: ERG. (2021). Eğitim İzleme Raporu 2021, Öğrenciler ve Eğitime Erişim.

Using household level data, it is possible to describe the profiles of the children who are most likely to have dropped out in this process. Focusing on the information from DHS 2018, before the pandemic (in 2018), the majority of Turkish children attended school while the attendance rate was considerably lower for Syrian children. 91.9% of Turkish children aged 6-17 years old attended school, while this rate was 63.2% for Syrian children. As the age group increases, the school attendance rate decreases for both groups, and the decrease for Syrian children is greater. Among Turkish children, 96.3% of children aged 6-9 years old and 96.9% of children aged 10-13 years old were attending school as opposed to 79.5% and 73.6% of Syrian children in the same age groups, respectively. For the children in 14-17 years old age group, while 82.8% of Turkish children aged 14-17 years old attended school, this rate dropped down to only 27.6% for Syrian children.

Children with certain household characteristics had a higher probability of dropout already prior to the pandemic. For both Turkish and Syrian children, the dropout rate is higher for children living in poorer households and households with less-educated adults and in households where the number of children is higher. For

Turkish children, 17.4% of children are not attending school among those that are in the bottom 20% according to the asset index of their household, while this rate drops down to 1.9% for Turkish children in the top 20%. A similar divide can be seen among Syrian children, but with higher rates. For Syrian children, those that are in the bottom 20% of the Syrian population, have a dropout rate of 42.1% while for those that are in the top 20% have a drop rate of 28.7%. Hence even in the comparatively well-off group of Syrians, the dropout rate among children is much higher than the Turkish average and even higher than the subgroup for whom the dropout rates are highest for the Turkish children that is the children in the bottom 20%.

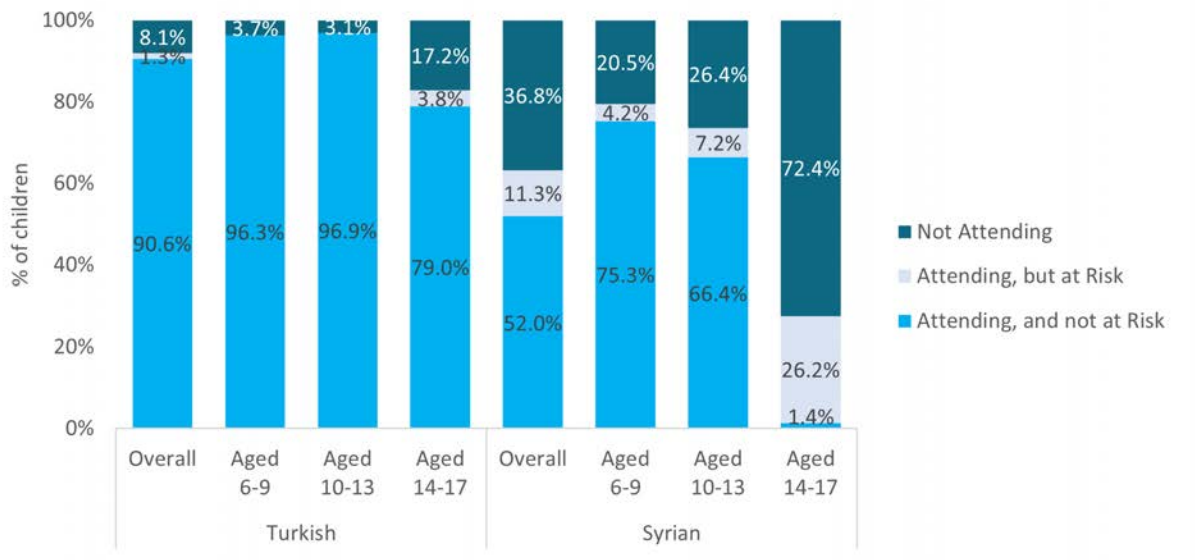
Controlling for several individual and household characteristics at the same time in a regression model, factors like age, household wealth and education level of adults in the households stand out for both groups of children (**See Annex 2.4** for the methodology and regression results). For Turkish children, being in the age group 14-17 years old, and the number of working age adults in the household are statistically significantly and negatively associated with school attendance while having at least one adult in the household with a higher education degree, living in a richer household and living in certain regions are statistically significantly and positively associated with school attendance. The share of adults working in a paid job among the adults in the household is positively and significantly associated with school attendance, but when household wealth is controlled for in the regression, the statistical significance disappears, and the size of the coefficient gets smaller.

For the Syrian children, being in any of the older age groups, compared to being in the age group 6-9 years old, the number of working age adults and number of children living in the household are statistically significantly and negatively associated with school attendance while being a female child, having adults in the household with higher education degrees, living in richer households are statistically significantly and positively associated with school attendance. The share of adults working in a paid job among the adults in the household is not significantly associated with school attendance.

Using predicted school attendance scores of children coming from the same regressions, we further predicted the group of children who are attending school but at risk of dropping out of school given their individual and household characteristics, hence the children who are more vulnerable to shocks (See **Annex 2.4** for the methodology). This rate is 1.3% for Turkish children and 11.3% for Syrian children (See **Figure 17**). In other words, of Turkish children aged 6-17 years old 1.3% are attending school but are at risk of dropout and 11.3% are attending school but at risk of drop-out.

Figure 17 The children at risk of dropout are only in the 14-17 year old age group in the Turkish sample, while the children at risk are in all age groups in the Syrian sample

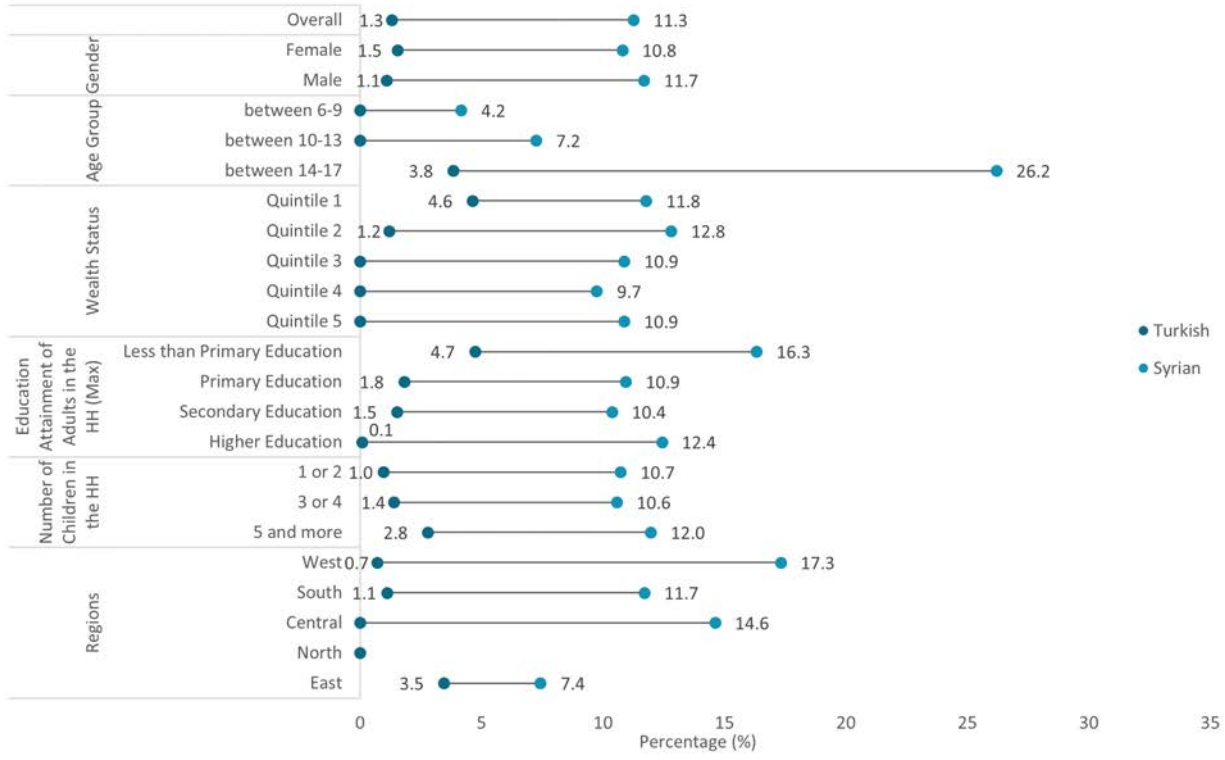
% of children at risk of school dropout



Source data: DHS 2018. Turkish Overall Sample includes 7,792 children, and Syrian Migrant Sample includes 3,326 children. Children at risk are those who attend school, and whose predicted score for school attendance is below 0.6 prior to the pandemic.

Figure 18 Children at risk of school dropout are only at the poorest households and households with much less-educated adults for the Turkish sample, while for the Syrian children, such a clear distinction does not occur and children coming from all kinds of backgrounds are predicted to be at risk

Percentage of Turkish and Syrian children at risk of dropout, aged 6-17 years old, by



Source data: DHS 2018. Turkish Overall Sample includes 7,792 children, and Syrian Migrant Sample includes 3,326 children.

While the children at risk of dropout are only in the 14-17 year old age group in the Turkish sample, the children at risk are in all age groups in the Syrian sample, and the older the children get, the percentage of children at risk also increases. In fact, for the Syrian children, almost all of the children aged 14-17 years old and attending school are at risk of dropout. This is not the case for younger children. For the 6-9 year old Syrian children, 4.2% are attending school but at risk of drop-out while this rate rises to 7.2% for the 10-13 year olds.

For the Turkish sample, the 14-17 year old children at risk of school dropout are only at the poorest households and households with much less-educated adults, while for the Syrian children at risk, such a clear distinction does not occur and children coming from all kinds of backgrounds could be at risk (**Figure 18**). While this is the case, the percentage of being at risk for Syrian children is still higher in poorer households and in households with less educated adults and more children.

Risk of Child Labour

Before the pandemic (in 2018), according to DHS, a comparatively lower share of Turkish children and a higher share of Syrian children worked in a paid job. 4.4% of Turkish children aged 12-17 years old worked in a paid job, while this rate is 20.3% for Syrian children in the same age group. Another source of child labour statistics is TURKSTAT's Child Labour Force Statistics 2019 (CLFS), and it gives a similar share of children working. According to CLFS, 4.4% of Turkish children aged 6-17 years old are engaged in employment, and 2.8% of these children work as a regular or casual employee.[294]

Looking at DHS 2018, as age increases, participation in employment increases for both Syrian and Turkish children. For Turkish children, 1.4% of children aged 12-14 years old have been working in a paid job, while this rate increases to 7.6% for 15-17 year olds. For Syrian children, the rates are higher with 12.0% and 31.5% for the same age groups. Overall, 4.9% of Turkish children and 24.0% of Syrian children aged 6-17 years old live in a household where at least one child aged 12 years old or older work in paid labour.

Focusing on children living in a household with child labour, children living in households with certain characteristics are more likely to be living in a household with child labour. As in the case of school dropout, for both Turkish and Syrian children living in a household with child labour is higher for children living in households with less-educated adults and in households where the number of children is higher. However, with respect to household assets, there seems to be a difference between Turkish and Syrian samples. Turkish children living in wealthier households are less likely to be living in a household with child labour. 10.4% of children in the first quintile are living in a household with child labour, while this rate is only 1.1% for children in the fifth quintile. For Syrian children, on the other hand, the rates are very similar for the children in the bottom 20% and the wealthiest 20%

[294] TUIK. (2020). Press release on Survey Child Labour Force Statistics, 2019. Retrieved from: https://data.tuik.gov.tr/Bulten/Index?p=Child-Labour-Force-Survey-2019-33807

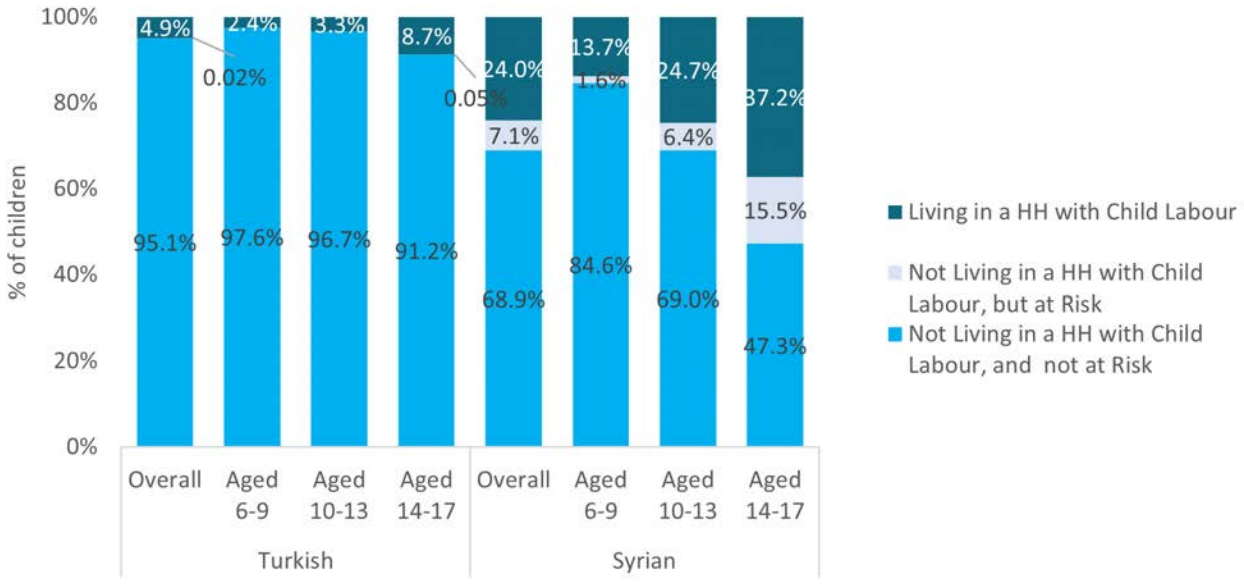
with 19.8% and 21.9% of the children in these groups respectively living in a household with child labour.

Controlling for several individual and household characteristics at the same time in a regression model, factors like age, education level of adults in the households and number of children in the household stand out for both groups of children, Turkish and Syrian (See **Annex 2.4** for the methodology and regression results). For the Turkish and Syrian samples, being in the older age groups and the number of children in the household are statistically significantly and positively associated with living in a household with child labour while having an adult in the household with higher education is statistically significantly and negatively associated with living in a household with child labour.

Male children are more likely to be living in a household with child labour. Overall, 4.7% of Turkish girls live in a household with child labour as opposed to 5.06% of Turkish boys. This gap is higher for Syrian children. 20.2% of Syrian girls live in a household with child labour as opposed to 27.5% of Syrian boys. However, gender of the child does not seem to be significantly associated with living in a household with child labour for Turkish children when we control for other individual and household characteristics (See Annex 2.4 for the methodology and regression results). In contrast, for Syrian children, being female significantly decreases the likelihood of living in a household with child labour.

Figure 19 As in the case of being at risk of school dropout, the children at risk are only in the 14-17 year old age group in the Turkish sample, while the children at risk are in all age groups in the Syrian sample, and as the age group increases, the percentage of children at risk also increases

% of children at risk of child labour



Source data: DHS 2018. Turkish Overall Sample includes 7,792 children, and Syrian Migrant Sample includes 3,326 children. Children at risk are those who do not live in a HH with child labour and whose predicted score for living in a HH with child labour is above 0.4.

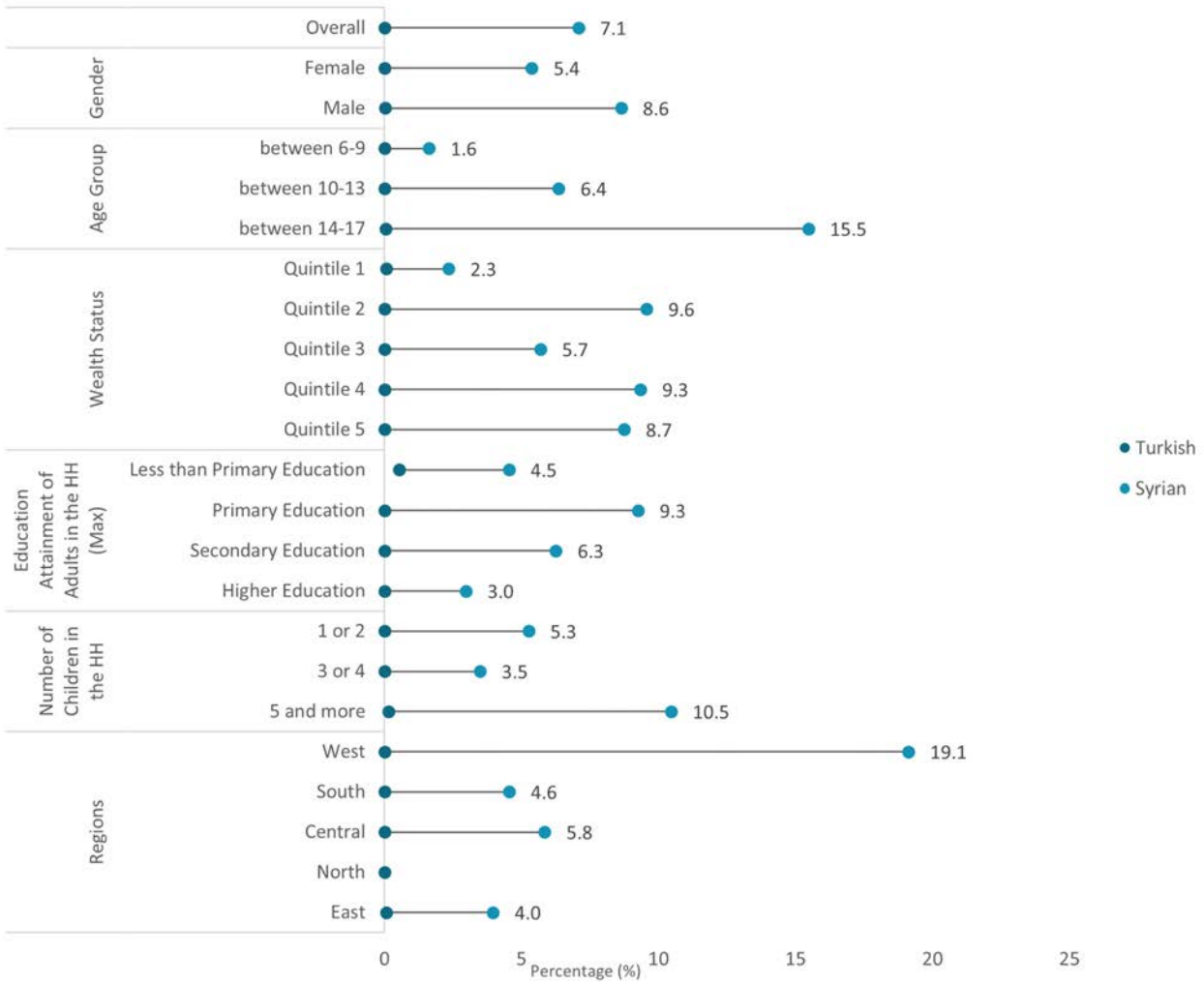
While for the Turkish sample share of adults working in a paid job among the adults in the household is not statistically significantly associated with living in a household with child labour, this is not the case for the Syrian sample. Syrian children living in households where more of the adults are working are more likely to be living in a household with child labour as well. When someone in the household is working, it might be the case that it is easier to find a job for the children in the same place. The relationship between household wealth and child labour is also different for Turkish and Syrian samples. The likelihood of living in a household with child labour decreases for Turkish children with increasing levels of wealth, while this relationship is not statistically significant for Syrian children.

Using the same regression models, we also predicted the children at risk of being in child labour (through living in a household with child labour). The percentage of children who are at risk of child labour (through living in a household with child labour) is very low for Turkish children at only 0.02% and relatively much higher for Syrian children at 7.1% (See **Figure 19**). As in the case of being at risk of school dropout, the children at risk are only in the 14-17 year old age group in the Turkish sample, while the children at risk are in all age groups in the Syrian sample, and as the age group increases, the percentage of children at risk also increases.

The risk of participating in child labour is relatively low for the Turkish sample; children at risk are only in the poorest households, households with the lowest education level of adults, and households with more than five children and male children (See **Figure 20**). On the other hand, Syrian children at risk, once again, are in all different characteristics, and the percentage of Syrian children at risk is higher for boys and households with less-educated adults and more children. The risk is higher for male children, children living in households with a higher number of children, with less-educated adults and in the region “West” specifically.

Figure 20 For the Turkish sample, children at risk are only in the poorest households, in households with the lowest education level of adults, and in households with more than 5 children, while the Syrian children at risk, once again, are in all different characteristics

Percentage of Turkish and Syrian children at risk of child labour, aged 6-17 years old, by their characteristics



Source data: DHS 2018. Turkish Overall Sample includes 7,792 children, and Syrian Migrant Sample includes 3,326 children.

Children in Türkiye faced multiple overlapping risks prior to the pandemic. Lastly, we combined these risks together and looked first at the share of children (i) who already dropped out of school, (ii) who are living in a household with child labour and (iii) living in a household with a low HLEQI (i.e. lower than the Turkish average) and next added on the children who are at risk of dropping out and who are at risk of living in a household with child labour.

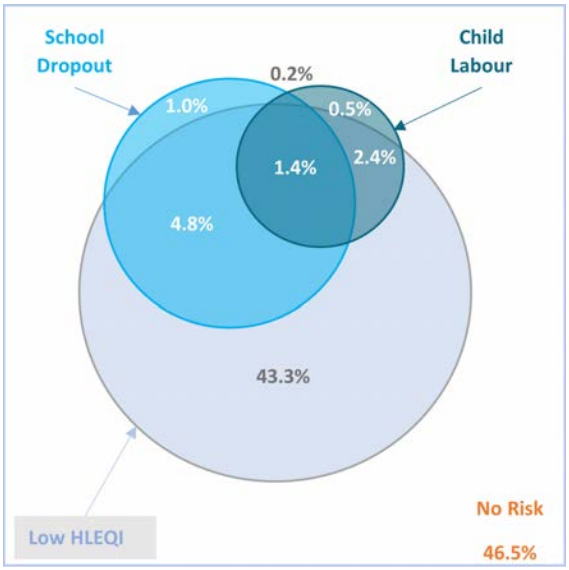
Prior to pandemic, while 46.5% of Turkish children were not exposed to any disadvantage (i.e. having already dropped out of school, living in a household with child labour or having low HLEQI), this rate was only 4.6% for Syrian children (See **Figure 21 Panel A**). In terms of exposure to all three disadvantages, the rate was

13.9% for Syrian children, which is much higher than for Turkish children (1.4%). Considering the children who are further at risk due to their household or individual characteristics during the pandemic, the risk groups get larger (See **Figure 21 Panel B**). Syrian children were more at risk during the pandemic compared to Turkish children, when we define the risk this time as being already in the disadvantaged group (i.e. being already dropped out of school) or having a high calculated dropout or household child labour risk. In terms of being at risk of exposure to all three dimensions, the rate increases from 13.9% at the current situation to 21.5% for Syrian children, while this increase is only from 1.4% to 1.5% for Turkish children.

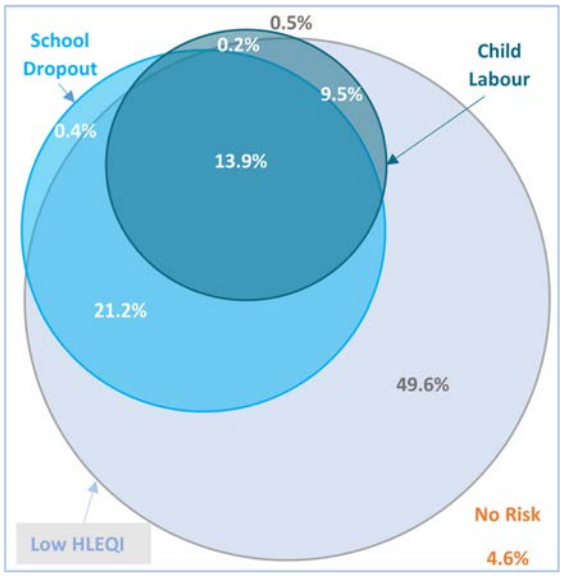
Figure 21 Syrian children were more at risk prior to the pandemic and during the pandemic compared to Turkish children, when we define the risk as being already in the disadvantaged group (i.e. being already dropped out of school) or having a high calculated dropout or household child labour risk

A. Percentage of Turkish and Syrian children aged 6-17 years old who have exposure to multiple risks - **prior** to the pandemic[295]

Turkish Children



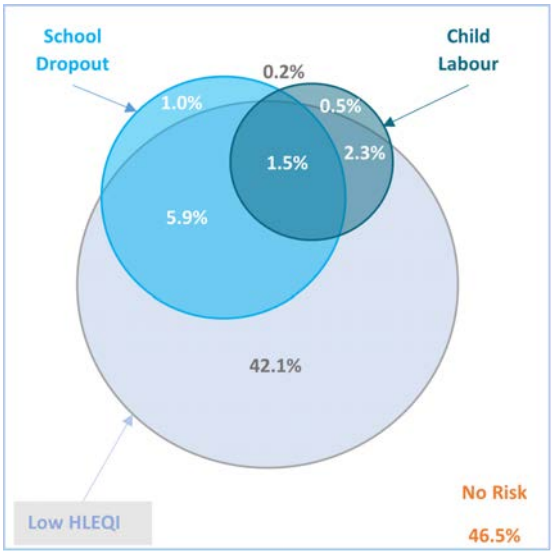
Syrian Children



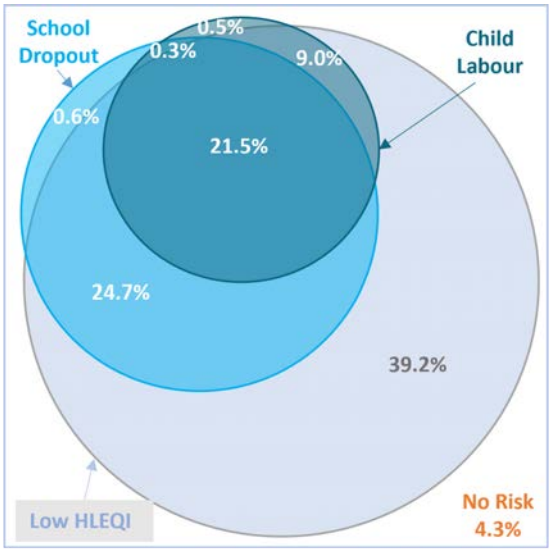
[295] Turkish sample includes 7,792 children, and the sample used in this analysis is reduced to 6,569 children due to having missing dimensions of the home learning environment. The Syrian sample is also reduced from 3,326 to 3,084 due to the same reason. Hence the samples are composed of children with a constructed HLEQI. In Panel A, the school dropout circle includes children who already dropped out, the child labour circle includes children who already live in a household with child labour and low HLEQI circle includes children whose HLEQI values are below the mean HLEQI value of the children aged 6-17 in the Turkish sample which is 61.7 (out of 100). In Panel B, the school dropout circle includes children who already dropped out and also children at risk of school dropout (i.e. children who are attending school but whose predicted score for school attendance is below 0.6). The child labour circle includes children who already live in a household with child labour and also children at risk of child labour (i.e. children who are those not living in a HH with child labour but whose predicted score for living in a HH with child labour is above 0.4). low HLEQI circle includes children whose HLEQI values are below the mean HLEQI value of the children aged 6-17 in the Turkish sample which is 61.7 (out of 100).

B. Percentage of Turkish and Syrian children aged 6-17 years old who have exposure to multiple risks- **during** the pandemic

Turkish Children



Syrian Children



Source data: DHS 2018.

CHAPTER FOUR

4.Future Policies and Recommendations for Remedial Education and Learning

Mitigating Learning Losses for All Children

Policies and programmes need to be developed to mitigate the learning losses of children. Our simulation results using PISA show that larger learning losses are predicted to occur, especially for certain groups of children in specific types of schools, from poorer and rural households or from households without internet connection. Children who had low scores prior to the pandemic are also predicted to be affected the most. Given that there were already considerable gaps in the home learning environment of Turkish and Syrian children aged 6-17 years old, learning losses would occur in all levels of the education system. Policymakers underline the importance of remedial education for the most vulnerable children to mitigate learning losses and reduce the widening educational inequalities across K-12 classrooms.[296] Ways to implement changes to the curriculum include implementing summer schools and increasing the number of after school programmes across the country to help educationally at-risk children with their return to school[297]; setting up accelerated education programmes to support the learning of educationally at-risk children (including those from refugee households); and supporting the learning of children with age-appropriate and linguistically diverse educational materials[298]. One example to such ongoing efforts in Türkiye is the Accelerated Learning Program (ALP) delivered by the Ministry of National Education in collaboration with UNICEF Türkiye, which was established in 75 public education centres across 12 provinces to support refugee children's access to formal and non-formal education opportunities.[299] In the aftermath of the pandemic, other examples are the UDEP programme, reintroduction of the Support Courses (Destekleme ve Yetiştirme Kursları), and the exams to measure the learning losses of children which have been proper and necessary measures, yet more needs to be done to remedy the learning losses.

Future interventions should be designed with a cross-sectoral approach. Research shows that programmes with financial incentives can lead to successful

[296] OECD. (2021). The Impact Of COVID-19 on Student Equity and Inclusion: Supporting Vulnerable Students During School Closures And School Re-Openings. Paris: OECD
[297] OECD. (2021). The Impact Of COVID-19 on Student Equity and Inclusion: Supporting Vulnerable Students During School Closures And School Re-Openings. Paris: OECD
[298] UNHCR. (2016). The case for Accelerated Education. Genève: UNHCR
[299] UNICEF Non-Formal Education Program Leaflet. Accessed from: https://www.unicef.org/turkey/media/8011/file

behavioural and educational outcomes for its participants.[300] These programmes, however, are more effective when they combine cash support with parenting programmes or other forms of support.[301] Drawing on this evidence, the future policy or intervention programmes that respond to the educational needs of children should bring together support mechanisms that focus on both proximal (e.g., parent-teacher partnerships, parent-child interactions) and distal factors (e.g., financial needs, transportation to school) that affect the educational experiences of children. Using holistic human development frameworks to guide the design of future intervention studies and complementing these programmes with randomised control trials can inform policymakers on the effective models in policymaking. An exemplary framework that has been widely used in studies on child development is the Bio-ecological Model of Human Development[302], which captures the interactions between different environmental mechanisms that shape child development and learning. Similarly, the guidelines on the application of the Theory of Change can guide the evaluation strategies used in future intervention studies that draw on holistic frameworks of child development.[303]

Improving teacher effectiveness is necessary to mitigate the learning losses during the recovery period. School teachers will play a significant role in retaining learning for educationally at-risk children. Teacher training programmes and adapted school guidelines may be necessary to facilitate their work with vulnerable children.[304] Equipping teachers with the knowledge to support their work with disadvantaged children or children with special educational needs, health safety, and pupil well-being via governmental guidance can aid teacher effectiveness during the recovery period. Exemplary guidelines published by the UK Government show some important areas of support for educational staff.[305] Teacher training programmes can also focus on improving teachers' digital literacy and developing online teaching materials to maximise their teaching effectiveness for children who continue their education remotely. Stakeholders and governmental institutions can collaborate with teachers to improve and adapt the education materials for more effective online teaching during hybrid learning. The increase in government spending to support and up-scale households and school access to digital devices and the internet across the country can expedite this process. Reports and information sources prepared by the UNICEF and UNESCO demonstrate resources for distance learning that can be adopted by schools and teachers to create digital learning content and to teach effectively online.[306] [307] [308] [309]

[300] Little, M. T., Roelen, K., Lange, B., Steinert, J. I., Yakubovich, A. R., Cluver, L., & Humphreys, D. K. (2021). Effectiveness of cash-plus programmes on early childhood outcomes compared to cash transfers alone: A systematic review and meta-analysis in low- and middle-income countries. PLoS medicine, 18(9), e1003698. https://doi.org/10.1371/journal.pmed.1003698
[301] Ibid
[302] Bronfenbrenner, U., & Morris, P. A. (2007). The bioecological model of human development. In Handbook of child psychology: Theoretical models of human development (Vol. 1, pp. 793). (Handbook of child psychology). https://doi.org/10.1002/9780470147658.chpsy0114
[303] De Silva, M.J., Breuer, E., Lee, L. et al. Theory of Change: a theory-driven approach to enhance the Medical Research Council's framework for complex interventions. Trials 15, 267 (2014). https://doi.org/10.1186/1745-6215-15-267
[304] OECD. (2021). The Impact Of COVID-19 on Student Equity and Inclusion: Supporting Vulnerable Students During School Closures And School Re-Openings. Paris: OECD
[305] The UK Department of Education Schools. (2022). COVID-19 Operational Guidance. London: Department for Education
[306] UNESCO's Official Website/ Distance learning solutions: https://en.unesco.org/covid19/educationresponse/solutions
[307] UNICEF. (2020). Guidance on Distance Learning Modalities to Reach All Children and Youth During School Closures. Kathmandu: UNICEF Regional Office for South Asia. Retrieved from: https://www.unicef.org/rosa/media/7996/file/Guidance%20Continuity%20of%20Learning%20during%20COVID-1
[308] Carnelli, Marta; Dreesen, Thomas (2022). Reopening with Resilience: Lessons from Remote Learning during COVID-19: Europe and Central Asia, Innocenti Research Report
[309] Brossard, Mathieu; Carnelli, Marta; Dreesen, Thomas; Kardefelt Winther, Daniel; Little, Celine (2021). Digital Learning for Every Child: Closing the Gaps for an Inclusive and Prosperous Future, Innocenti Working Papers. Retrieved from: https://www.t20italy.org/2021/08/25/digital-learning-for-every-child-closing-the-gaps-for-an-inclusive-and-prosperous-future/

Capacity building in schools will play an important role in responding to the varying needs of pupils returning to school. As the gap between advantaged and disadvantaged children is expected to rise, schools should prepare for the diverse needs of pupils from different ability levels. As our simulation results using PISA 2018 also suggest, students in some schools are expected to experience larger learning losses, hence special attention could be paid to students studying in schools in smaller areas such as villages and small cities and towns and in specific types of schools. Employing additional qualified teachers to reduce the pupil-teacher ratio to improve teaching effectiveness and provide the support needed by children may help to maximise each child's learning potential during the recovery period.[310] Responding to the needs of educationally at-risk children, including those with special educational needs with additional support programmes delivered on a 1:1 basis may also generate better results in reducing achievement gaps for the disadvantaged children and children with special educational needs and to help them to master foundational skills such as literacy and numeracy.[311] Primary school children should be supported for their behavioural and social skills important for school education, such as self-regulation, behaviour management, and social perception and competence, as well as social emotional learning, skills building and learning through play. Language immersion programmes and services should be developed for refugee children and children with Turkish as an additional language to mitigate their language losses and facilitate their return to school. Capacity-building should also respond to the increase in demand for mental health support and well-being needs of children in the post-pandemic world. To support and strengthen the psychosocial well-being of children in schools, the schools should recruit more teachers for psychological counselling services at schools and train teachers on child well-being and mental health at schools. An exemplary guideline for improving the psychological counselling services at schools has been prepared by the Ministry of National Education in collaboration with UNICEF in 2019.[312] Similar guidelines can be prepared to improve mental health and well-being services and responsiveness at schools to mitigate the psychosocial effects of the pandemic on children.

Implementing nationwide family training programmes to enrich and improve the learning resources and beneficial parenting practices available for children at home is necessary to facilitate the return of children to school. To continue children's learning outside the school and support their learning during the recovery period, the home learning environment will continue to play an important role.[313] The quality learning resources (e.g., storybooks, numeracy games) and interactions (e.g., conversation time, interactive family activities) at home will have an effect on children's educational levels when they return to school. As shown by our analysis results, children in Türkiye already have important gaps in their home learning environment ranging from lack of infrastructure to lack of quality parent-child interactions and the gaps are even higher for Syrian children. During the

[310] Blatchford, Bassett, Goldstein and Martin (2003), 'Are class size differences related to pupils' educational progress and classroom processes? Findings from the Institute of Education class size study of children aged 5 to 7 years', British Educational Research Journal, 29: 5

[311] Schwartz, R. M., Schmitt, M. C., & Lose, M. K. (2012). Effects of Teacher-Student Ratio in Response to Intervention Approaches. The Elementary School Journal, 112(4), 547-567. https://doi.org/10.1086/664490

[312] MEB. (2019). Rehber Öğretmen El Kitabı. Ankara: Türkiye

[313] National Children's Bureau. (2020). Recovery planning for Covid-19 Back to School. London: UK

recovery period, learning resources at home can buffer the effects of school closures. Research, however, shows that the pandemic had a negative impact on the home environments of many children due to financial strains and other stressors, especially for families from disadvantaged backgrounds.[314] [315] Programmes that equip parents with the knowledge to support their children's learning at home can help with improving home learning environments and additionally contribute to children's school adjustment. An exemplary intervention study in Türkiye, the Turkish Early Enrichment Project, shows how a well-rounded family training programme can improve the learning environments of children and have sustained effects on child outcomes for disadvantaged families in Istanbul.[316] An international example is the Sure Start Programme, which involved the opening of local centres across the UK to support families in parenting, child development, family health, and well-being.[317] Longitudinal evidence has shown that these centres contribute to long-term developmental outcomes of children, as well as improve the quality of the home learning environment.[318] Future programmes should also focus on parent skills and knowledge in the areas that are important to support children during the pandemic, including surrounding digital literacy and mental health.

Future policies need to focus on improving ECE attendance and reducing early leaving in education. The pandemic has underlined that children of pre-school age are at risk of not having access to ECEC in Türkiye[319], and attendance in nurseries and pre-school environments in Türkiye has significantly reduced during the pandemic.[320] Research shows that access to quality education in the early years' foundational stages has long-term effects on children's later school attainment.[321] [322] Future programmes should address ways to increase ECEC attendance as well as access to quality education in the early years for all children. Examples of similar policy responses come from the UK and EU countries, where public expenditure was raised to provide free childcare for up to 30 hours.[323] [324] These changes in policy also facilitated parents of young children, especially women, to join the workforce in their respective countries.[325] Another problem with children's retention in education in Türkiye is documented for early school leavers. Evidence shows that the number of children in education starts to drop from the age of 9.[326] This is

[314] Crew, M. (2020). Literature Review on the Impact of COVID-19 on Families, and Implications for the Home Learning Environment. The National Literacy Trust. London: UK
[315] IFS. (2020). Family Time Use and Home Learning during the COVID-19 Lockdown. London: IFS
[316] Kagitcibasi, C., Sunar, D., & Bekman, S. (2001). Long-term effects of early intervention: Turkish low-income mothers and children. Journal of Applied Developmental Psychology, 22(4), 333-361.
[317] The UK Department of Education. (2013). Sure Start Children's Centres Statutory Guidance. London: Department for Education
[318] Melhuish, E., Belsky, J., Leyland, A. H., Barnes, J., & National Evaluation of Sure Start Research Team. (2008). Effects of fully-established Sure Start Local Programmes on 3-year-old children and their families living in England: a quasi-experimental observational study. The Lancet, 372(9650), 1641-1647.
[319] ERG. (2020). Öğrenciler ve Eğitime Erişim Eğitim İzleme Raporu 2020. Istanbul: ERG
[320] Ibid
[321] Melhuish, E.C., Sylva, K., Sammons, P., Siraj-Blatchford, I., Taggart, B., & Phan, M. (2008b) Effects of the Home Learning Environment and preschool center experience upon literacy and numeracy development in early primary school. Journal of Social Issues, 64, 95-114. https://doi.org/10.1111/j.1540-4560.2008.00550.x
[322] Sammons, P., Sylva, K., Melhuish, E., Siraj, I., Taggart, B., Toth, K. and Smees R., (2014). The Effective Pre-school, Primary and Secondary Education Project (EPPSE 3- 16+) Influences on students' GCSE attainment and progress at age 16. Department for Education RR 352.
[323] ERG. (2020). Öğrenciler ve Eğitime Erişim Eğitim İzleme Raporu 2020. Istanbul: ERG
[324] EACEA. (2019). Key Data on Early Childhood Education and Care Education and Training in Europe. Luxembourg: Publications Office of the European Union
[325] European Commission. (2013). Mutual Learning Programme Database of National Labour Market Practices Malta - Free Childcare Scheme. Brussels: European Commission
[326] ERG. (2020). Öğrenciler ve Eğitime Erişim Eğitim İzleme Raporu 2020. Istanbul: ERG

particularly due to children's roles in household income for disadvantaged families.[327] Programmes such as conditional cash transfer support to keep children at school in Türkiye have also proved to be effective for the retention of refugee children in education.[328] To improve retention, policy responses should adopt holistic approaches in tackling factors related to early school leaving at the personal, social, economic, and educational levels. The future programmes should aim for collaborative intervention projects that bring together school leaders, teachers, parents, and families. In so doing, the government need to work together with education specialists to tackle the predictors of early school leaving and bring forward institutional change to respond to the needs of at-risk children. A policy guideline prepared by the European Commission shows that a holistic approach targeting students at risk can improve school effectiveness and education culture in disadvantaged areas through the collaboration of school governance, teachers, local organisations, parents, and families.[329]

Social services and support programmes need to be improved for improving the lives of children living in extreme poverty. Future legislations can focus on improving the living conditions of children living in extreme poverty. The number of children who live in extreme poverty is expected to rise following the pandemic, putting more children at risk for learning poverty and child labour.[330] Previous policy works on this issue demonstrate that cash transfer programmes implemented together with family training programmes can reduce child labour and protect children at risk.[331] [332] An example program implemented by UNICEF Türkiye, the Conditional Cash Transfer for Education, can be up-scaled to reach more children at risk in collaboration with social services.[333] Our analysis results also suggest that especially older children (aged 14-17 years old), children living in poor households, households with less educated adults and with more children are at risk of participating in child labour and for Syrian children, the risk is higher. Children at risk of dropout also are found to have similar background characteristics. Children at risk of child labour and at risk of dropout are found to be only at the 14-17 year olds age group for Turkish children, whereas the children in younger age groups were also found to be at risk, though lower, for the Syrian population. Social services are key to identifying and supporting children who are at risk for early school leaving. A pilot study conducted for the UK Government shows that introducing free school meals can help with the educational attainment and the dietary habits of the most disadvantaged children.[334] Other ways of monitoring educationally at-risk children can include building social services for a better child

[327] Dayioğlu, M. (2006). The impact of household income on child labour in urban Turkey. The Journal of Development Studies, 42(6), 939-956.
[328] UNICEF Türkiye's Official Website: The Conditional Cash Transfer for Education (CCTE) Programme: https://www.unicef.org/turkey/en/conditional-cash-transfer-education-ccte-programme
[329] European Commission. (2016). Schools policy A whole school approach to tackling early school leaving Policy messages. Brussels: European Commission
[330] UNICEF Türkiye's Official Website: COVID-19 impacts on child poverty: https://www.unicef.org/social-policy/child-poverty/covid-19-socioeconomic-impacts
[331] Rosati, F. Can cash transfers reduce child labor?. IZA World of Labor 2022: 293 doi: 10.15185/izawol.293.v2
[332] Save the Children. (2012). Cash and Child Protection: How cash transfer programming can protect children from abuse, neglect, exploitation and violence. London: Save the Children. Retrieved from: https://www.savethechildren.org.uk/content/dam/global/reports/education-and-child-protection/cash_and_child_protection.pdf
[333] UNICEF. (2021). Conditional Cash Transfer for Education (CCTE) Programme for Syrians and Other Refugees. Ankara: UNICEF. Retrieved from: https://www.unicef.org/turkey/media/11731/file
[334] The UK Department for Education (2010). Evaluation of the Free School Meals Pilot. London: UK

welfare system, capacity building in the local services supporting families in deprived neighbourhoods and improving the communication between schools and local institutions (e.g., health centres) for a rapid response from the child protection services.[335]

Preparing for the Future of Education

Globally, education systems and schools should prepare for the potential return of pandemic measures and online/hybrid teaching for the future of emergency management. Improving online infrastructure and digital resources for schools, as well as providing professional training programs for teachers will be important for the future of education. Some scientists predict that pandemics may become more frequent as a result of the changing bioecological atmosphere of the Earth[336] and stress the need for pandemic preparedness for the future[337]. These predictions magnify the importance of future readiness in all areas of life, including education. To ensure the educational preparedness for future pandemics in Türkiye, policy responses should draw on the lessons learnt from the COVID-19 outbreak. Improving digital and electrical infrastructure across the country, especially in rural areas, should be of the utmost importance for potential similar pandemic situations in the future. In this way, barriers to education and digital illiteracy can be reduced for those who are educationally at risk, and access to knowledge through formal and informal education can be made more inclusive. Educational institutions should also collaborate with disease specialists to create safe learning environments to reduce the transmission of infectious outbreaks in schools. School leaders should be trained for emergency responses for a potential return of the pandemic measures and school closures. Stakeholders further underlined that education should be prioritised in future emergency situations, and the schools should re-open as soon as conditions permit.[338] These practices will also play an important role in schools' preparedness for other emergency situations such as earthquakes and wildfires. Previous experiences in Türkiye have shown that emergency responses are not prepared enough to buffer school-aged children against the detrimental effects of natural disasters.[339]

School systems and infrastructure should be improved, especially in rural areas. The number of schools in rural areas should be increased to allow for the potential return of pandemic measures and the future of emergency management. Building infrastructure of schools should also be improved for ventilation and heating. Landline, electricity and internet infrastructure in these areas should be improved in line with the services provided to larger cities across the country to improve communication between teachers and families. The local institutions and

[335] An example report on how to build and improve the social services prepshows that giving local governments and organisations the agency and responsibility to inform and guide local services in safe guarding is the key to improve the practices at the local-level and across the country. Source: Munro, E. (2011). The Munro review of child protection: Final report, a child-centred system (Vol. 8062). The Stationery Office.
[336] Dodds W. (2019). Disease Now and Potential Future Pandemics. The World's Worst Problems , 31–44. https://doi.org/10.1007/978-3-030-30410-2_4
[337] Naguib, M. M., Ellström, P., Järhult, J. D., Lundkvist, Å., & Olsen, B. (2020). Towards pandemic preparedness beyond COVID-19. The Lancet Microbe, 1(5), e185-e186.
[338] KII5, KII3, KII11
[339] Bianet. (2012, January 10). Çocuklar Okula Gidemiyor. Bianet. Retrieved from: https://m.bianet.org/bianet/insan-haklari/135333-cocuklar-okula-gidemiyor

organisations should be provided with resources to support disadvantaged families and teachers with access to digital devices and the internet in the case of remote education. The central education system should either give more agency to the schools and teachers in rural areas or assign local ambassadors to accommodate the needs of the children better and in a timely manner in emergency situations.

The government should increase spending on digital learning, online education, and hybrid learning models. Future of education will require all children to access to digital devices and the internet, for which closing the digital divide across the country is vital.[340] To facilitate the country's readiness for this change, the Ministry of National Education should begin creating a new budget to support the advancements in digital learning and online education, as well as hybrid learning models. In so doing, the schools, teachers, and children should be provided with laptops, tablets, and hybrid meeting tools. Reducing the costs of connectivity, however, is key to children's access to online learning and would improve the benefits of these devices. In line with these advancements, safeguarding measures and tools to ensure children's online safety should also be tailored according to the needs of schools and families in the future.

New ways of collecting data on child development and learning are necessary to monitor and evaluate the academic attainment of children. To improve educational policies in Türkiye, developmental and educational data from children and families should be collected in every key stage of education, including the early years. In order to facilitate the knowledge exchange between educators and policymakers, data collection tools should be standardised and monitored across the country. PISA is a good example for tracking the educational improvement in the academic attainment of 15-year-old children in the country.[341] However, this assessment does not allow for researchers or policymakers to conduct longitudinal analyses on child development to improve the local services in the country. In England, for example, pupil data is collected by schoolteachers using the national assessment materials throughout the key stages of school education.[342] The stages include the Early Years Foundation Stage (0-5 years old), Key Stage 1 (5-7 years old), Key Stage 2 (7-11 years old), Key Stage 3 (11-14 years old), Key Stage 4 (14-16 years old), and 16-19-year-old education. Information collected in each stage allows for a better transition from one to another by informing educators and social services. During the Early Years Foundation Stage, teachers assess children on skills related to communication and language; personal, social and emotional development; physical development; literacy; mathematics; understanding the world; expressive arts and design.[343] Drawing on these examples, a knowledge exchange method for educators and social services should be designed and standardised in Türkiye to monitor and improve children's learning at all levels and respond to their needs with effective policies.

[340] Brossard, Mathieu; Carnelli, Marta; Dreesen, Thomas; Kardefelt Winther, Daniel; Little, Celine (2021). Digital Learning for Every Child: Closing the Gaps for an Inclusive and Prosperous Future, Innocenti Working Papers. https://www.unicef.org/media/113896/file/Digital%20Learning%20for%20Every%20Child.pdf
[341] OECD. (2019). Turkey Country Note: PISA 2018 Results. Paris: OECD
[342] OECD. (2019). Turkey Country Note: PISA 2018 Results. Paris: OECD
[343] The UK Department for Education. (2021). Early Years Foundation Stage Profile. London: Department for Education

Revisions to curriculum content are necessary to prepare children for societal changes in the post-pandemic world. Future curricula should focus on changing global conditions and how these may impact future lives. Education at all levels needs to focus on the future in order to mitigate against the effects of infectious diseases and natural disasters as well as other novel problems as they arise, such as climate change and the required reduction in carbon footprints for global citizens. An example study has been carried out in Tokat to inform and mentally prepare pre-school aged children for earthquakes in the area.[344] Similar to these case studies, more importance should be given to supporting children's preparedness and resilience in the face of emergencies and mental health in the areas of forming and maintaining healthy relationships, strengthening family environments, as well as raising children's awareness on when or how to seek help. Evidence shows that many children are at increased vulnerability for domestic abuse, family neglect, and exploitation as they spend more time in isolation from their families due to the pandemic measures.[345] [346] Policymakers need to collaborate with mental health professionals and social workers to implement courses on child mental health and family well-being across K-12 education.

[344] Tuncer, N., Sözen, Ş., & Sakar, Ş. (2021). Okul öncesi eğitimde deprem farkındalığı: Deprem benden küçüksün" projesi, Tokat ili örneği. International Journal of Educational Spectrum, 3(1), 1-27.
[345] Usher, K., Bhullar, N., Durkin, J., Gyamfi, N., & Jackson, D. (2020). Family violence and COVID-19: Increased vulnerability and reduced options for support. International journal of mental health nursing, 29(4), 549–552. https://doi.org/10.1111/inm.12735
[346] Bradbury-Jones, C., & Isham, L. (2020). The pandemic paradox: The consequences of COVID-19 on domestic violence. Journal of clinical nursing, 29(13-14), 2047–2049. https://doi.org/10.1111/jocn.15296

CONCLUSIONS

The COVID-19 pandemic has led to a significant period of disruption in face-to-face education across the world and in Türkiye, affecting the education outcomes of millions of children. To contain the spread of the virus, Türkiye also responded with closing schools starting in March 2020 and has been in the top 30% of countries with the longest duration of school closures between March 2020 and August 2021.

The Turkish Government implemented various measures to enable continuous access to education. Several measures have been implemented including moving from face-to-face education to remote education and delivering classes and educational content via EBA TV and EBA Online Platform, establishing EBA Support Centers, EBA Mobile Support Centres and distributing tablets with embedded internet to students in need. International and national NGOs also launched programmes to support and complement the central government's emergency responses by supporting the remote learning efforts and also supplying educational materials, hygiene kits to children and families in need.

Despite the implemented measures, children, teachers, and schools faced many ongoing challenges in the process. Children's access to remote learning was the primary barrier to children's retention in education during the COVID-19 pandemic in Türkiye. Especially the children living in rural areas, children from disadvantaged households and refugee families experienced problems. Our study points out that Turkish children, and even more so Syrian children, entered the crisis with considerable gaps in having a supportive home learning environment ranging from the necessary infrastructure to access remote learning to adequate space to study at home and to quality adult interaction.

Considerable learning losses are predicted to occur among children, given the variation in the quality of their home learning environment. Our analysis results suggest that the inequalities among children with respect to their learning outcomes will rise and the learning score gaps between low and high achievers are expected to get larger. While designing remedial education programmes special attention should be given to child sub-groups such as those studying in certain school types or villages and small towns, and also poor children, and children speaking languages other than Turkish as these child sub-groups are predicted to experience larger learning losses.

Children are also at risk of school dropout and engaging in child labour. Following the same group of children between 2019-2020 and 2020-2021 academic years, decreases in the net enrolment rates can be seen for 14-17 year olds with rates between 2.2% and 3.8%.[347] Our analysis results also underline that children at risk of school dropout and child labour are found to be at the 14-17 year old age group for Turkish children, and in all age groups for the Syrian children. Specific groups such as children living in poorer households, households with less-educated adults and with more children again call for more attention.

[347] ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG

Teachers and schools also experienced different challenges during the pandemic. Teachers were unprepared for teaching online and struggled to transition to online education. Before the pandemic, many teachers had no experience with using the digital devices or materials for teaching online.

Challenges experienced during the pandemic point out to remaining gaps that could be addressed with policies and programmes (See **Table 2** for a summary). Among the first measures that could be implemented is improving the internet infrastructure in rural areas and expanding the digital device support for all children. Apart from ensuring access to digital infrastructure, improving the home learning environment of children, measuring and addressing learning losses and detecting and supporting children at-risk of dropout are other necessary measures that could be prioritized.

Table 2 Several issues have arisen during the pandemic, and existing policy responses tried to address them, but there are still remaining gaps

Issues	Policy Responses	Remaining Gaps
Moving to remote education	Setting up EBA TV and EBA Online Platform to continue education during school closures	The early childhood education staff needs to be trained to implement online education platforms and teaching materials in their practice; a variety of learning materials are necessary to respond to the needs of diverse groups of children including those with special educational needs
Problems with access to digital devices and the internet	Setting up EBA support centres, and EBA mobile support centres, providing free internet and digital device support to those in need	Improving internet infrastructure in rural areas; expanding the digital device support until every child has access to digital learning
Digital illiteracy experienced by parents and teachers	Setting up EBA support centres for families, conducting digital training programmes for teachers	Expanding digital training programmes and family support services across the country
Increasing rates of extreme poverty and child labour	Continuing the conditional cash transfer programme[348]	Improving and extending social services to identify and help at-risk children and their families, setting up free school meal programme for children in need
Ensuring the safe reopening of schools	Preparing guidelines for schools and teachers	Improving school infrastructure across the country; reducing pupil-teacher ratio in classrooms; providing schools in need with hygiene and janitorial supplies
Adapting children to school environment and the curricula	Implementation of new and existing intervention programmes such as 'Telafide Ben de Varim'[349], 'İlkokullarda Yetiştirme Programı'[350]	Developing a variety of programmes targeting the needs of diverse groups of children including those with special educational needs; capacity building for psychological counselling teachers at schools; supporting teachers with guidelines for student reorientation

[348] UNICEF Türkiye's Official Webiste: The Conditional Cash Transfer for Education (CCTE) Programme: https://www.unicef.org/turkey/en/conditional-cash-transfer-education-ccte-programme
[349] MEB. (2021, June 01). Bakan Selçuk, "Telafide Ben De Varim" Programini Paylaştl. MEB News. Retrived from: https://www.meb.gov.tr/bakan-selcuk-telafide-ben-de-varim-programini-paylasti/haber/23323/tr
[350] MEB. (2021, October 13). İlkokullarda Yetiştirme Programı (İYEP). MEB. Retrived from: http://caldiran.meb.gov.tr/www/ilkokullarda-yetistirme-programiiyep/icerik/243

Supporting educationally at-risk children	Continuity of family training and support programmes, free courses for language and school support	Improving academic monitoring and evaluation of students across K-12 education; detecting educationally at-risk children at an earlier stage to provide support programmes
Low ECE attendance	Keeping pre-schools open for the majority of school closures	Making ECE accessible to everyone by introducing incentive schemes for disadvantaged families and children of working parents
Preparing children for the post-pandemic world	Some local-level support programmes to build children's understanding of the pandemics and natural disasters	Adding new materials on the global world problems in the curriculum across K-12 education to raise awareness and build resilience for the next generations

ANNEX

Annex I School Closures during 2019-2020 and 2020-2021 school years

<table>
<tr><th rowspan="2">Level</th><th rowspan="2">Grades</th><th colspan="13">Months</th></tr>
<tr><th>Mar-20</th><th>Apr-20</th><th>May-20</th><th>Jun to Aug-20</th><th>Sep-20</th><th>Oct-20</th><th>Nov-20</th><th>Dec-20</th><th>Jan-21</th><th>Feb-21</th><th>Mar-21</th><th>Apr-21</th><th>May-21</th></tr>
<tr><td>Pre-Primary</td><td>Pre-Primary</td><td>16/03 to 23/03</td><td></td><td></td><td>Private pre-schools will be able to start face-to face as summer school, if requested by funder and parents of students</td><td></td><td></td><td></td><td></td><td></td><td>22 Jan – 15 Feb</td><td></td><td></td><td>*</td></tr>
<tr><td>Primary</td><td>1</td><td>16/03 to 23/03</td><td></td><td></td><td rowspan="9">Summer Holiday from 19 June to August 31.

Remote catch-up programmes continued through TV and EBA online during the holiday.</td><td>From 21/9 - Twice a week</td><td>Twice a week</td><td>Twice a week
From 18/11</td><td></td><td>From 22/01</td><td>Until 15/02</td><td>Twice a week</td><td>Twice a week
15/04 to 29/04</td><td></td></tr>
<tr><td></td><td>2</td><td>16/03 to 23/03</td><td></td><td></td><td></td><td>From 12/10 twice a week</td><td>Twice a week
From 18/11</td><td></td><td>From 22/01</td><td>Until 15/02</td><td>Twice a week</td><td>Twice a week
15/04 to 29/04</td><td></td></tr>
<tr><td></td><td>3</td><td>16/03 to 23/03</td><td></td><td></td><td></td><td>From 12/10 twice a week</td><td>Twice a week
From 18/11</td><td></td><td>From 22/01</td><td>Until 15/02</td><td>Twice a week</td><td>Twice a week
15/04 to 29/04</td><td></td></tr>
<tr><td></td><td>4</td><td>16/03 to 23/03</td><td></td><td></td><td></td><td>From 12/10 twice a week</td><td>Twice a week
From 18/11</td><td></td><td>From 22/01</td><td>Until 15/02</td><td>Twice a week</td><td>Twice a week
15/04 to 29/04</td><td></td></tr>
<tr><td>Lower-Secondary</td><td>5</td><td>16/03 to 23/03</td><td></td><td></td><td></td><td>Twice a week
From 18/11</td><td>From 22/01</td><td>Until 15/02</td><td></td><td>15/04 to 29/04</td><td></td></tr>
<tr><td></td><td>6</td><td>16/03 to 23/03</td><td></td><td></td><td></td><td>From 22/01</td><td>Until 15/02</td><td></td><td>15/04 to 29/04</td><td></td></tr>
<tr><td></td><td>7</td><td></td><td></td><td></td><td></td><td>From 22/01</td><td>Until 15/02</td><td></td><td>15/04 to 29/04</td><td></td></tr>
</table>

	4	16/03 to 23/03			Face-to face catch-up classes for private school started on 17 August based on school's decision.			Twice a week			Until 15/02	Twice a week	Twice a week	
							From 12/10 twice a week	From 18/11		From 22/01			15/04 to 29/04	
Lower-Secondary	5	16/03 to 23/03						Twice a week			Until 15/02			
								From 18/11		From 22/01			15/04 to 29/04	
	6	16/03 to 23/03									Until 15/02			
										From 22/01			15/04 to 29/04	
	7										Until 15/02			
										From 22/01			15/04 to 29/04	
	8							Twice a week			Until 15/02		Twice a week	
							From 12/10 twice a week	From 18/11		From 22/01		Twice a week	15/04 to 29/04	
Upper-Secondary	9	16/03 to 23/03						Twice a week			Until 15/02			
								From 18/11		From 22/01			15/04 to 29/04	
	10	16/03 to 23/03									Until 15/02			
										From 22/01			15/04 to 29/04	
	11	16/03 to 23/03									Until 15/02			
										From 22/01			15/04 to 29/04	
	12	16/03 to 23/03						Twice a week			Until 15/02	Twice a week	Twice a week	
							From 12/10 twice a week	From 18/11		From 22/01			15/04 to 29/04	

Source: UNICEF Türkiye

Colour Coding
Fully Remote
Blended
Based on Risk Mapping
Fully Face-to-Face
Schools closed/Holiday

Annex 2 Quantitative Data and Methodology

1.Datasets used

DHS 2018

Demographic and Health Survey (DHS) offers a rich dataset composed of several modules and allows us to study the home environment related to education, as well as school attendance of children, and employment status of children 12 years old or older and also several other household related variables. While the primary objective of the DHS is to collect information on demographic and health outcomes of women and children, the survey contains information on many other topics as well, including school attendance and the prevalence of child labour.

DHS 2018 was collected in October 2018-February 2019 from 11,056 households and 7,346 women in the 15-49 years old age group. The sample is representative at the national level and at five regions and 12 NUTS I regions.

Another important added value of DHS 2018 is the Syrian migrant sample collected in addition to the Turkish population sample, which allowed us to analyse the situation for Syrian children as well. The sample size for the Syrian sample is 1,826 households and 2,216 women and is representative at the national level.

PISA 2018

PISA is OECD's Programme for International Student Assessment. It is a learning assessment of 15-year-old students established every three years in all OECD and other partner countries. The latest round of PISA was implemented in 2018 in a total of 79 countries. PISA measures "the extent to which children have acquired key knowledge and skills essential for full participation in social and economic life". The assessment includes reading, mathematics, and science literacy questions. Apart from the assessment itself, PISA also collects background data on students and their schools. PISA 2018 was collected from 6,890 students in 186 schools in Türkiye with an average age of 15.8 years old. The sample represents 884,971 15-year-old students (73% of the total population of 15-year-olds).[351]

As the collection of PISA 2021 was postponed to 2022, and there is no other publicly available data on learning outcomes for children in Türkiye for the pandemic period, PISA 2018 dataset is used to explore/simulate the impact of the pandemic on actual learning outcomes.[352]

[351] OECD. (2019). Turkey Country Note: PISA 2018 Results. Paris: OECD.
[352] https://www.oecd.org/pisa/

Construction of HLEQI using DHS 2018

For this study, considering the data availability, we constructed a home learning environment index (HLEQI) for children in the age groups 6-9 years old, 10-13 years old and 14-17 years old using the dimensions and indicators and weights provided below in Table 3 and using DHS 2018.

Table 3 List of Indicators and weights for the Home Learning Environment Quality Index using DHS 2018

Dimension	Indicators	Weight for 6–9-year-olds	Weight for 10–13-year-olds	Weight for 14–17-year-olds
(A) Access to infrastructure for remote learning and learning materials at home	Having internet connection	10	15	20
	Having a computer	10	15	20
	Having satellite T.V./Paid T.V. Services	10	10	15
(S) Space availability for the child	The household is not overcrowded (based on Eurostat's overcrowdedness definition[353])	10	10	15
(Q.A.) Quality of Adult Interaction	Having both parents living in the household	15	15	10
	Having other adult relatives living in the household	5	5	0
	Mother knows Turkish[354]	10	10	10
	At least one of the adults in the hh has a higher education degree	10	10	10
	Mother, father or another person in the hh helps children with the homework.	10	10	0
	Mother, father or another person in the hh spends time with children at home playing games, reading books, watching T.V., etc.	5	0	0
	Mother, father or another person in the hh spends time with children outside the house going to the park, movies, etc.	5	0	0
TOTAL		100	100	100

[353] According to the EUROSTAT's definition a person is considered as living in an overcrowded household if the household does not have at its disposal a minimum number of rooms equal to: one room for the household; one room per couple in the household; one room for each single person aged 18 or more; one room per pair of single people of the same gender between 12 and 17 years of age; one room for each single person between 12 and 17 years of age and not included in the previous category; one room per pair of children under 12 years of age. The definition can be reached via the following link: https://ec.europa.eu/eurostat/en/web/products-datasets/-/TESSI175.

[354] For the dimension "mother knows Turkish", for children whose mother is interviewed her knowledge of Turkish is taken into account, for children whose mother is not interviewed, the variable takes 1 if any of the interviewed adult females knows Turkish. For the last three dimensions, again if the mother of the child is interviewed her answer is taken into account, if not, and there are other interviewed adult females, mode of their answers is taken into account.

The items in the index receive different weights based on the importance that the item is assumed to have on having a quality home learning environment that is supportive for the child during lockdowns and in the absence of face-to-face education and the presence of remote learning activities. The weights assigned are decided based on internal discussion among the research team and hence reflect the research team's fieldwork insights and qualitative judgement. All the indicators in the list are dummy variables. Hence a child gets one if he/she has the listed item at home and gets zero otherwise. The home learning environment quality index is then constructed as an additive index using the different weights to each indicator. The weights add up to 100. Hence a child who has all the quality indicators will have an index of 100, while a child who has none of them will receive an index of 0.

The home learning quality index for the 6-9 year olds is constructed using the following equation:

$$\text{HLEQI}_{6\_9} = \mathbf{10} \times A1 + \mathbf{10} \times A2 + \mathbf{10} \times A3 + \mathbf{10} \times SA1 + \mathbf{15} \times QA1 + \mathbf{5} \times QA2 + \mathbf{10} \times QA3 + \mathbf{10} \times QA4 + \mathbf{10} \times QA5 + \mathbf{5} \times QA6 + \mathbf{5} \times QA7$$

The home learning quality index for the 10-13 year olds is constructed using the following equation:

$$\text{HLEQI}_{10\_13} = \mathbf{15} \times A1 + \mathbf{15} \times A2 + \mathbf{10} \times A3 + \mathbf{10} \times SA1 + \mathbf{15} \times QA1 + \mathbf{5} \times QA2 + \mathbf{10} \times QA3 + \mathbf{10} \times QA4 + \mathbf{10} \times QA5 + \mathbf{0} \times QA6 + \mathbf{0} \times QA7$$

The home learning quality index for the 14-17 year olds is constructed using the following equation:

$$\text{HLEQI}_{14\_17} = \mathbf{20} \times A1 + \mathbf{20} \times A2 + \mathbf{15} \times A3 + \mathbf{15} \times SA1 + \mathbf{10} \times QA1 + \mathbf{0} \times QA2 + \mathbf{10} \times QA3 + \mathbf{10} \times QA4 + \mathbf{0} \times QA5 + \mathbf{0} \times QA6 + \mathbf{0} \times QA7$$

Construction of HLEQI using PISA 2018 and Microsimulation of Learning Outcomes

Identifying the students in learning vulnerability due to their home learning environment

Following the analysis with DHS, for the analysis using PISA we also create a home learning environment quality index (specifically for the 15-year-old student sample). In this respect, in line with the dimensions used in the DHS analysis, the dimensions that are related to a quality home-schooling environment for children are assumed as the following: (i) Access to infrastructure for remote learning and other learning materials at home, (ii) Availability of adequate studying space, (ii) Quality of Adult Interaction.

Under each dimension, a number of indicators are included and examined. Then, the 'home learning environment quality index (HLEQI)' is built, with a similar

approach used in creating HLEQI in DHS but including different indicators given the different questions included in the PISA survey. The dimensions and the list of indicators are presented in **Table 4**.[355]

Table 4 List of Indicators for the Home Learning Environment Quality Index constructed using PISA 2018

Dimension	Indicator	Weight
(A) Access to infrastructure for remote learning and other learning materials at home	Internet connection	15
	Desktop computer/Portable laptop, or notebook/Tablet computer (e.g. <iPad>, <BlackBerry PlayBook>)/Cell phone with Internet access	15
	Television	8
	Having more than 100 books at home	5
	Educational software	5
	Books to help with his/her school work	4
	Technical reference books	2
	Cultural possessions (Classic literature (e.g. <Shakespeare>), Books of poetry, Books on art, music, or design, works of art)	1
(S) Space availability for the child	A desk to study at	5
	A room of his/her own	5
	A quiet place to study	5
(Q.A.) Quality of Adult Interaction	Having a parent with a university degree	10
	Turkish is the language that is usually spoken with the parents	10
	Agree or strongly agree with the statement "Thinking about <this academic year>: My parents support my educational efforts and achievements."	4
	Agree or strongly agree with the statement "Thinking about <this academic year>: My parents support me when I am facing difficulties at school."	3
	Agree or strongly agree with the statement "Thinking about <this academic year>: My parents encourage me to be confident."	3
TOTAL		100

Each indicator in the list provided in **Table 4** is a dummy variable. As in the HLEQI created using DHS, this home learning environment quality index is also additive as described in the equation below by giving different weights to each indicator depending on the assumed relative importance of the indicator in the learning environment for the child. Again, the index takes a value between 0 and 100 as the weights add up to 100. Students have certain gaps with respect to these indicators on average (See **Figure 22**).

The total sample size for PISA 2018 for Türkiye is 6,890 students. HLEQI was calculated for 6,197 students. But for the rest of the sample, HLEQI was not calculated first due to missing values in index indicators. For the observations that there is only one missing index indicator, we imputed the value using a regression model using the other index indicators as independent variables. If the predicted value of the variable is larger than 0.5, we assumed that the student has that index

[355] Note that PISA2018 allows for a more detailed and relevant list of indicators (which are also better to use for the simulation) compared to the list of variables included for the DHS 2018 in Table 2. The main limitation of this data, however is that it is only collected from a sample of 15 year old children enrolled in school in the country.

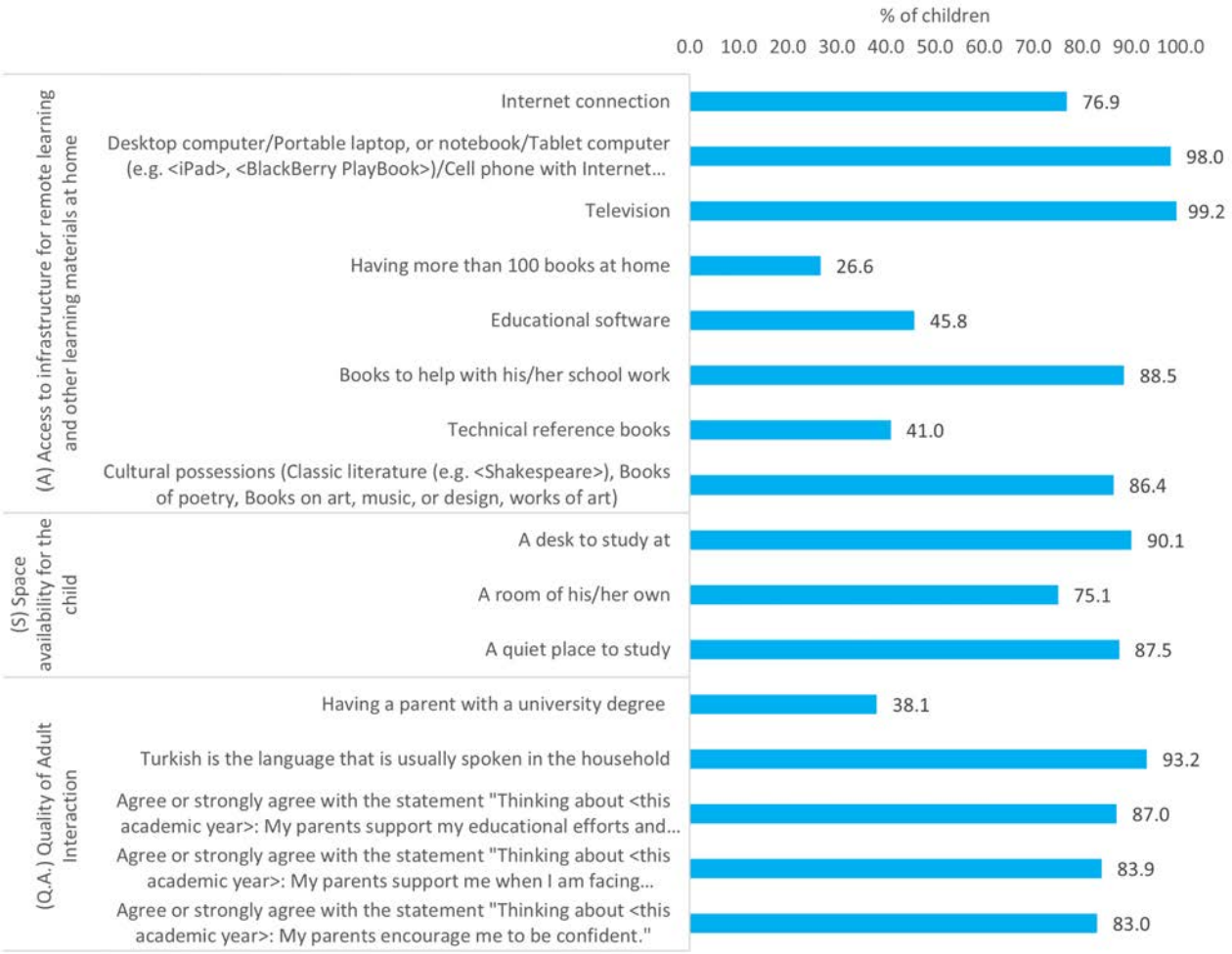
indicator and assigned 1 to the value, and if it is less than 0.5 then we assigned 0. This way, the final sample size became 6,585. Hence the analysis is conducted for students with a calculated HLEQI.

The home learning environment quality index for the 15 year old students is constructed using the following equation:

$$\text{HLEQI}_{15} = \mathbf{15} \times A1 + \mathbf{15} \times A2 + \mathbf{8} \times A3 + \mathbf{5} \times A4 + \mathbf{5} \times A5 + \mathbf{4} \times A6 + \mathbf{2} \times A7 + \mathbf{1} \times A8 + \mathbf{5} \times S1 + \mathbf{5} \times S2 + \mathbf{5} \times S3 + \mathbf{10} \times QA1 + \mathbf{10} \times QA2 + \mathbf{4} \times QA3 + \mathbf{3} \times QA4 + \mathbf{3} \times QA5$$

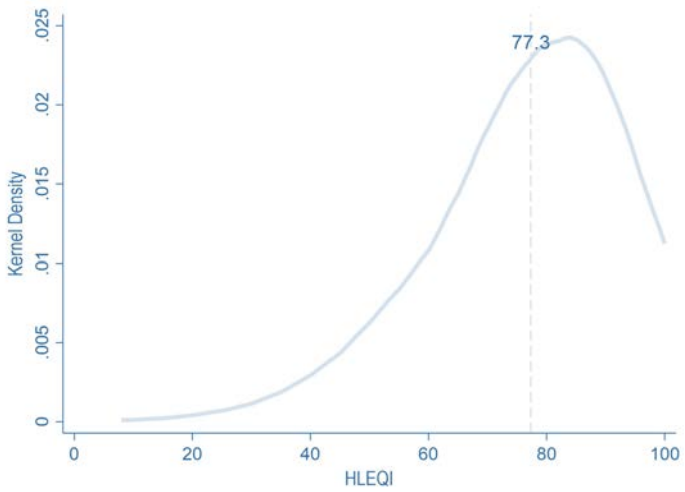
The HLEQI is on average 77.3 and has a left-skewed distribution overall (See **Figure 23**).

Figure 22 Home Learning Environment Quality Index Dimensions for Children
% of children with the mentioned dimension



Source data: PISA 2018. PISA 2018 includes 6,890 children and the sample here Is reduced to a total of 6,585 children due to missing dimensions and not being able to construct a HLEQI for some children. Hence the sample in this analysis is composed of children with a HLEQI that is not missing.

Figure 23 Kernel density of the HLEQI[356]



Source data: PISA 2018. PISA 2018 includes 6,890 children and the sample here Is reduced to a total of 6,585 children due to missing dimensions and not being able to construct a HLEQI for some children. Hence the sample in this analysis is composed of children with a HLEQI that is not missing.

A microsimulation model to estimate learning outcomes of children during COVID

After building the home learning environment quality index, we built a microsimulation model to estimate the possible impact of home learning environment quality on learning outcomes at the time of school closures and online education. For this reason, we assumed a certain projection for children's learning outcomes depending on their home learning environment quality index.

The intuition behind these simulations is that the children may not make the progress at the level they typically do in one year/grade due to not having an adequate home learning environment to support online learning. In order to do this, the added value of studying another grade is first estimated for Türkiye using PISA 2018 for different subjects (math, science, reading). Since PISA aims to sample 15 year old students, not all of them attend the same grade. For PISA 2012, the average effect of studying another grade was estimated for mathematics in OECD (2013).[357] The control variables used in the multilevel regression model was also written in the same document, and in this analysis, we use the same variables, which are: i) the PISA index of economic, social and cultural status; ii) the PISA index of economic, social and cultural status squared; iii) the school mean of the PISA index of economic, social and cultural status; iv) an indicator as to whether students were foreign-born first-generation students; v) the percentage of first-generation students in the school, and vi) students' gender (See **Table 5** for the regression results).

[356] Kernel density estimates are nonparametric density estimates and in certain ways are similar to a histogram. They have the added advantage of providing a smoother density estimate by using an alternative weighting function and allowing for overlapping of the data intervals. For more information see Cameron & Trivedi (2005).
[357] OECD (2013), "Table A1.2 - A multilevel model to estimate grade effects in mathematics accounting for some background variables", in PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed, PISA, OECD Publishing, Paris.

Table 5 Multi-level regression results

VARIABLES	Math scores	Reading scores	Science scores
Being in 10th grade (compared to being in 9th grade)	27.288***	19.243***	20.375***
	(4.135)	(2.916)	(2.526)
The PISA index of economic, social and cultural status	7.752***	6.462***	5.177***
	(1.974)	(1.670)	(1.801)
The square of the PISA index of economic, social and cultural status	2.371***	0.906	1.012
	(0.660)	(0.579)	(0.642)
The school mean of the PISA index of economic, social and cultural status	59.677***	56.838***	56.076***
	(5.991)	(5.368)	(5.334)
The percentage of first-generation students in the school	-657.133	-604.436	-433.166
	(462.457)	(494.014)	(442.956)
An indicator as to whether students were foreign-born first-generation students	-20.508	-25.030*	-0.178
	(20.159)	(13.487)	(16.653)
Female	-21.074***	8.782***	-9.608***
	(2.504)	(1.936)	(1.976)
Constant	514.796***	517.911***	525.353***
	(9.246)	(8.146)	(8.439)
Observations	6,581	6,581	6,581

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source data: PISA 2018, sample for Turkey. The sample is restricted to those who are in 9th grade or 10th grade.

Then the students have learning gains and learning losses depending on their position in the home learning environment quality index distribution. This is achieved by using the z scores. Z score gives the information of how many standard deviations away is the child compared to the mean home learning quality index. It takes a positive value if the HLEQI of the child is higher than the mean and a negative value if it is lower than the mean.

$$Z\ Score_i = \frac{HLEQI_i - mean\ (HLEQI)}{std(HLEQI)}$$

Students who have a home learning environment quality index that is equal to the average is assumed to keep their initial score, with no gains or no losses. Students with an HLEQI that is lower than the average HLEQI value are assumed to have a learning loss at the value of the average added value of studying another grade multiplied by the z-score, and similarly, those who have an HLEQI higher than the average value are assumed to have a learning gain at the value of the average added value of studying another grade multiplied by the z-score. Hence those that are further away from the mean HLEQI in the distribution have higher learning gains and losses. For instance, if a student has a HLEQI that is one standard deviation higher than the mean HLEQI, then he is assumed to have a learning gain at the average added value of studying another grade. If the student has a HLEQI that is two standard deviations lower than the mean HLEQI, then the student is assumed to have a learning loss that is twice the value of the average added value of studying another grade. Hence while the home learning environment of child A is the same

before school closures and after school closures, it is now assumed to have an effect on the child's learning gains given that the absorption of information from distance learning measures is dependent solely on the home learning environment now. And if child A has a better home learning environment than child B then he is assumed to have a higher learning gain (or a lower learning loss depending on his position in the overall distribution of the home learning environment quality index).

The new score of the child i is then estimated using the following equation:

$$New\ Score_i = Initial\ Score_i + average\ added\ value\ of\ studying\ another\ grade * Z\ Score_i$$

We also estimate the counterfactual scores, meaning what would have happened if the pandemic did not occur. Here we assume all the children would have learned equal to the grade effects estimated.

$$Counterfactual\ Score_i = Initial\ Score_i + average\ added\ value\ of\ studying\ another\ grade$$

Factors associated with dropout and child labour and estimating the children at risk of dropout and at risk of child labour – DHS 2018

To find out the factors associated with school attendance, we first ran a probit regression in which school attendance is the dependent variable and including a number of independent variables controlling for individual and household level factors that might be correlated with school attendance. Next, using the coefficients obtained from the model we predict a score for each child. Predicted scores range between 0 and 1.

$$\begin{aligned} &Pr(School\ Attendance = 1|X) = \\ &\varphi(\beta_0 + \beta_1(Share\ of\ Working\ Adults\ in\ the\ HH\ Before\ the\ Shock) + \beta_2 Age\ Group + \beta_3 Gender \\ &\quad + \beta_4 Highest\ education\ Level\ of\ the\ Adults\ in\ the\ HH \\ &\quad + \beta_5 Household\ Wealth\ Quintile + \beta_6 Share\ of\ Working\ Age\ Adults\ in\ the\ HH \\ &\quad + \beta_7 Number\ of\ Children\ in\ the\ HH + \beta_8 Number\ of\ Elderly\ in\ the\ HH \\ &\quad + \beta_9 HH\ Head's\ Gender + \beta_{10} Regions) \end{aligned}$$

Children are assumed to be at risk if they attend school but have a predicted score for school attendance that is below 0.6. In other words, children who have a likelihood of attending school that is less than 60% are assumed to be at risk of dropout.

We also ran the same regression model as above but using "living in a household with child labour" as the dependent variable. And then predict scores for each child. Predicted scores range between 0 and 1. Children at risk are those who are living in a household without child labour but have a predicted score above 0.4. In other words, children who have a likelihood of living in a household with child labour that is more than 40% are assumed to be at risk of child labour.

These regression models are run separately for Turkish and Syrian samples.

Table 6 Marginal effects of the school attendance probit regression, for 6-17 year old children

	Turkish		Syrian	
Dependent Variable: School Attendance	Controlling for Wealth	Without Controlling for Wealth	Controlling for Wealth	Without Controlling for Wealth
Share of Working Adults in the HH	0.015	0.035***	0.025	0.044
	(0.010)	(0.012)	(0.050)	(0.051)
Age Groups				
Aged 10-13	0.006	0.007	-0.063***	-0.059***
	(0.004)	(0.005)	(0.019)	(0.019)
Aged 14-17	-0.117***	-0.120***	-0.551***	-0.539***
	(0.009)	(0.009)	(0.022)	(0.022)
Gender				
Female	-0.007	-0.008	0.054***	0.052***
	(0.005)	(0.005)	(0.019)	(0.019)
Highest Education Level of Adults in the Household				
Less than Completed Secondary Education	0.010	0.046	0.091*	0.126**
	(0.020)	(0.035)	(0.053)	(0.053)
Completed Secondary Education	0.025	0.081**	0.170***	0.227***
	(0.020)	(0.035)	(0.055)	(0.054)
Higher Education	0.054***	0.120***	0.290***	0.359***
	(0.020)	(0.035)	(0.063)	(0.060)
Household Composition				
Number of Working Age Adult	-0.011***	-0.014***	-0.027***	-0.029***
	(0.002)	(0.003)	(0.010)	(0.010)
Number of Elderly	0.000	0.002	0.026	0.036
	(0.004)	(0.005)	(0.030)	(0.030)
Number of Children	0.002	-0.001	-0.013**	-0.015**
	(0.002)	(0.002)	(0.006)	(0.006)
HH Head Gender				
Female	-0.014	-0.022*	-0.015	-0.017
	(0.010)	(0.011)	(0.043)	(0.042)
Wealth Index				
Quintile 2	0.051***		-0.009	
	(0.012)		(0.040)	
Quintile 3	0.092***		0.115***	
	(0.011)		(0.041)	
Quintile 4	0.091***		0.152***	
	(0.012)		(0.041)	
Quintile 5	0.100***		0.192***	
	(0.012)		(0.041)	
Observations	7,790	7,790	3,326	3,326
Pseudo R-squared	0.220	0.179	0.225	0.209
Log Pseudo Likelihood	-1682	-1771	-1682	-1716

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: Authors' calculations using DHS 2018. Standard errors in parenthesis. The regression analysis is conducted controlling for 12 NUTS-1 regions. ***p<0.01, **p<0.05,*p<0.1.

Table 7 Marginal effects of the having child labour in the household probit regression, for 6-17 year old children

	Turkish		Syrian	
Dependent Variable: Living in a HH with Child Labour	Controlling for Wealth	Without Controlling for Wealth	Controlling for Wealth	Without Controlling for Wealth
Share of Working Adults in the HH	0.002	-0.007	0.123**	0.122**
	(0.012)	(0.013)	(0.058)	(0.058)
Age Groups				
Aged 10-13	0.005**	0.006**	0.108***	0.107***
	(0.002)	(0.003)	(0.014)	(0.014)
Aged 14-17	0.055***	0.058***	0.243***	0.242***
	(0.006)	(0.007)	(0.020)	(0.020)
Gender				
Female	-0.004	-0.004	-0.077***	-0.076***
	(0.004)	(0.004)	(0.015)	(0.015)
Highest Education Level of Adults in the Household				
Less than Completed Secondary Education	-0.011	-0.030	-0.010	-0.010
	(0.023)	(0.035)	(0.061)	(0.060)
Completed Secondary Education	-0.015	-0.045	-0.052	-0.052
	(0.024)	(0.035)	(0.062)	(0.061)
Higher Education	-0.045*	-0.080**	-0.124*	-0.125*
	(0.023)	(0.035)	(0.068)	(0.066)
Household Composition				
Number of Working Age Adult	-0.001	0.000	0.004	0.005
	(0.003)	(0.003)	(0.011)	(0.011)
Number of Elderly	0.001	-0.000	-0.013	-0.013
	(0.006)	(0.006)	(0.034)	(0.035)
Number of Children	0.005*	0.007**	0.036***	0.035***
	(0.002)	(0.003)	(0.008)	(0.008)
HH Head Gender				
Female	0.006	0.010	0.059	0.060
	(0.010)	(0.011)	(0.050)	(0.050)
Wealth Index				
Quintile 2	-0.028**		0.063	
	(0.013)		(0.045)	
Quintile 3	-0.034***		0.065	
	(0.012)		(0.045)	
Quintile 4	-0.047***		0.054	
	(0.012)		(0.046)	
Quintile 5	-0.050***		0.034	
	(0.012)		(0.048)	
Observations	7,791	7,791	3,326	3,326
Pseudo R-squared	0.149	0.126	0.123	0.120
Log Pseudo Likelihood	-1274	-1308	-1594	-1600

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: Authors' calculations using DHS 2018. Standard errors in parenthesis. The regression analysis is conducted controlling for 12 NUTS-1 regions. ***p<0.01, **p<0.05,*p<0.1.

Annex 3 Qualitative Data and Methodology

Desk Review Methodology

An intensive desk review was conducted to provide a rich background to the study. The search included national and international reports and journal articles concerning education during the pandemic. The purpose of the literature review was to benefit from previous studies' take on the topic of the study and to address and comprehensively answer the research questions identified in the inception report.

Initially, the search was carried out by exploring the literature and the related publications using specific keywords. For instance, "learning loss, education during the pandemic, education in Türkiye during COVID-19" and many others. Many valuable reports and papers were found as a consequence of the recognition of the preliminary set of search results. In turn, those publications were sources that helped find new, very relevant papers. It must be underlined that sources shared by the UNICEF Türkiye education team were of great importance to the study as well.

Based on the conducted search, a total of 247 documents were identified and used to complete the literature review for the study. The documents included in the literature review are publications by (i) The Ministry of National Education (MEB), (ii) national non-governmental organisations involved in educational research like Eğitim Reformu Girişimi/ Education Reform Initiative (ERG), EğitimSen, Türk Eğitim Derneğinin/The Turkish Education Association (TEDMEM) and (iii) international organisations like UNICEF, UNESCO, and the World Bank and (iv) journal articles concerning education during the COVID-19 covering an international scope and with a national concentration on the Turkish context.

Coding Tree Used for Literature Review

Nodes
1. Socioeconomic and demographic profile(s) of the children with the highest learning vulnerability
1.1. Children in rural areas with limited access to internet and technology (i.e., wifi access, ownership of technological devices, or proximity to technological devices)
1.2. Children from crowded households (including not having access to study desk and technological devices)

Nodes
1.3. Children from low socioeconomic backgrounds (e.g., low maternal and paternal educational background, material deprivation, unemployment)
1.4. Children with disabilities (including areas of language, learning, physical and cognitive development)
1.5. Refugee and immigrant children
1.6. Children with Turkish as an additional language
1.7. Systematic Inequalities
2. Factors associated with school dropout
2.1. Socioeconomic factors
2.2. Cultural factors and norms (Gender-based dropout)
2.3. Individual level factors (e.g., disabilities, mental health problems, health problems)
2.4. Other (Bullying and discrimination)
3. Estimated effects of the pandemic on children's educational outcomes and dropouts
3.1. School attainment
3.2. Family socioeconomic background (e.g., low parental education, material deprivation, unemployment)
3.3. Child labour
3.4. Mental health

Nodes
4. Challenges and barriers children faced during the COVID-19
4.1. Physical and-or Environmental Barriers
4.1.1. The lack of personal space
4.1.2. Access to a device
4.1.3. Access to the internet
4.1.4. Access to school supplies (i.e., stationary) and study desk and-or space
4.1.5. Access to books, activity books and other materials
4.2. Financial barriers
4.2.1. Child labour
4.3. Technical barriers
4.3.1. Use of devices
4.3.2. Knowledge and use of educational platforms
4.4. Lack of support
4.4.1. Lack of family support (the case of working parents and-or lack of time allocated due to working hours)
4.4.2. Lack of support from teachers
4.5. Lack of interaction
4.5.1. One way communication
4.5.2. Used techniques in virtual classrooms

Nodes
4.5.3. Language barriers
4.6. Other
4.7. Systematic barriers
5. Policies and programs that have been implemented to date by the government and national and international organisations
5.1. Technical support
5.1.1. Providing access to technological devices
5.1.2. Providing access to the internet
5.1.3. Providing technical guidance
5.2. Psycho-social support
5.2.1. Parent support (e.g., family training programs, counselling, parent workshops)
5.2.2. Individual child support (e.g., teaching sessions, coursework help, counselling, after school classes)
5.2.3. Language support (e.g., translations of teaching sessions, in-class support from bilingual teachers, after school language classes for pupils)
5.2.4. Interactive group activities
5.2.5. Supporting students with special needs
5.3. Financial support
5.3.1. Allocated to internet and technological devices

Nodes
5.3.2. Allocated to school supplies
5.3.3. Financial support (i.e., cash transfer)
5.4. Providing information and guidance about the pandemic
5.5. Other
5.6. Formal governmental policies
5.6.1. Health and vaccination
5.6.2. Covid policies and changes in legislation
5.6.3. Education system and policies in Türkiye before Covid
5.6. Governmental and non-governmental policies
5.6.1. Health and vaccination
5.6.2. Covid policies and changes in legislation
5.6.3. Education system and policies in Türkiye before Covid
5.7. Measures taken by teachers and educators
6. Remaining gaps in education policies and programs
6.1. Addressing gaps in research and policymaking
6.2. Demonstrating case studies and best practices from other countries
6.3. Policy recommendations

Key Informant Interviews

Fieldwork Design and Sampling

In the phase of designing fieldwork, a list of potential stakeholders and experts was prepared. First, relevant publications like reports and journal articles were identified by conducting an intensive literature search. Next, several authors of recent reports published by national and international organisations were selected as well as academics who recently published articles related to the topic of the study. This search for academics was also carried out through a general search method by reviewing faculty members of some of the lead universities in Türkiye and their most recent and relevant articles that have been published. In the initial list, a total of 49 contacts were identified. However, the email addresses of nine of them could not be reached. This list has been shared with UNICEF for approval and further additions if required. As a result, the final list of contacts prepared for this fieldwork included 40 contacts, which were emailed on December 22, 2021. The email letter contained a brief description of the study, information about the dates and times of the planned interviews, and links to the consent form (See Informed Consent Form in Annex 3). All of the previously mentioned information was provided in English and Turkish. A reminder email was also sent on December 27, 2021. The consent form included information on the following: a) Purpose of the study, b) Methodology, c) Procedure of Key Informant Interviews, d) Voluntary Participation, e) Risks and Benefits, f) Confidentiality, g) Contact point, and h) A link to the calendar for the selection of time slots. The consent form was also available in both English and Turkish.

Overview of Completed Interviews

Thirteen interviews were carried out, and 14 individuals were interviewed in the scope of this fieldwork. (See List of Stakeholders Interviewed (by date) in Annex 3 for the list of completed interviews). The interviews were held between January 5 - 13, 2022. The prepared guideline covered the following main topics: a) Perceptions of educational inequalities in Türkiye, b) School role and parent-teacher partnerships in facing the challenges during COVID-19, c) Policy responses and external factors in the education sector during COVID-19, and d) Remaining gaps in policies and recommendations. This guideline was shared with UNICEF in the inception report and was also shared with interviewees upon request prior to the discussion. Dr Pınar Kolancali carried out interviews with the support of DA's team members in note-taking. A summary of each discussion was prepared; those summaries are used in the qualitative analysis of the KIIs.

List of Stakeholders Interviewed (by date)

Institution Name	Title	Name	Interview Date
Köy Okulları Değişim Ağı (KODA)	Social Impact Manager	Arzu Sahin	05.01.2022
Uludağ University, Department of Medical Education	Lecturer	Okan Aydin	05.01.2022
Erciyes University	PhD faculty member	Sami Konca	05.01.2022
Eğitim-sen	Central Executive Committee member	Sinan Muslu	05.01.2022
Anadolu University	Research Assistant	Umran Alan	06.01.2022
Eğitim Reformu Girişimi (ERG)	Policy Analyst	Yeliz Duskun	06.01.2022
Eğitim Reformu Girişimi (ERG)	Director	Isik Tuzun	07.01.2022
Boğaziçi University, Sosyal Politika Forumu (SPF)	Senior researcher and lecturer	Basak Akkan	07.01.2022
Mother Child Education Foundation (Anne Çocuk Eğitim Vakfı)	Early Childhood Education Special Projects Manager	Duygu Yasar	07.01.2022
TEDMEM	Education Research Specialist	Gulbahar Yilmaz	07.01.2022
Association for Solidarity with Asylum Seekers and Migrants (ASAM)	Education expert	Maryam Pashazadeh	07.01.2022

Institution Name	Title	Name	Interview Date
Association for Solidarity with Asylum Seekers and Migrants (ASAM)	Education expert	Gökçe Ceylan	07.01.2022
UNICEF Türkiye	Education Manager	Mehmet Buldu	10.01.2022
UNICEF Türkiye	Education Manager	Francesco Calcagno	13.01.2022

Interview Guidelines

*** *Thank you very much for agreeing to meet us for this interview. ***introductions*** Today, we would like to talk to you about the experiences of school-aged children in Turkey with learning during COVID-19 pandemic in relation to the responses from governmental and non-governmental organisations. Your views will help us to understand the educational implications of school closures and the experiences of pupils with learning during an educational crisis. We will use these interviews to write a report for UNICEF Turkey which will inform future policy and practice.* *We will need to record this interview to check the feedback you give us. If you prefer, you can switch your camera off during the meeting. Are you happy for us to record the interview?* ***		
Research Questions	*Topics*	*Guiding questions*
	1. Introductions	*First, I would like to ask you some questions about your professional background and your experience at (Institution Name):* Could you please tell me about yourself and your experience with working at (Institution Name)?
Who are the children at risk of not learning given their current household environment? What is/are the socioeconomic and demographic profile(s) of the children with the highest learning vulnerability in the COVID-19 context? Which factors are associated with school dropout? Who are the children at risk of dropping out of school during the COVID-19 pandemic? What is the relationship between the socioeconomic status of the families and the educational outcomes and well-being of their children? What have been the main challenges and barriers children faced during the COVID-19 pandemic with education, analysed by age group and gender?	2. Perceptions of educational inequalities in Turkey	Now I would like to ask about the student experiences during COVID-19 to understand the experience of pupils from diverse backgrounds. What were some of the issues experienced by students during and after school closures? Do you think there are any similarities between students who have been most affected by school closures during COVID-19?
What have been the main challenges and barriers children faced during the COVID-19 pandemic with education, analysed by age group and gender?	3. School role and parent-teacher partnerships	We talked about the role of student characteristics that influence the educational experiences of children during and after school closures. Now I'd like to ask you about the responses from school administrations during school closures. What were some of the responses from schools that facilitated learning during and after school closures? How was parent-teacher communication during school closures?
What have been the education sector responses for addressing the educational situation of Turkish and refugee children in Turkey during the COVID-19 pandemic? What policies and programs have been implemented to date by the government and national and international organisations related to children's education in response to the pandemic, including any mitigation measures?	4. Policy responses and external factors	We talked about the role of school administration and teachers in continuing pupils' learning during school closures. Now I'd like to ask you some questions about the role of policy and other external factors that might have affected children's experiences with learning during and after school closures. How do you think the governments around the globe responded to the educational needs of children during the pandemic? How did you find the policy responses in Turkey? *(If the institution is an implementer of programmes on education) What programmes have been implemented by your organisation?*

Interview Guidelines

What are the remaining gaps in education policies and programs? What are potential education and socioeconomic policy and program responses that can be developed & recommended to close the learning gap of children, especially the most vulnerable?	5. Gaps and future directions	We talked about the policy responses around the globe as well as in Turkey. Now I'd like you to reflect on these responses to thinking about the future of educational policymaking and state responses to educational crises as such. What was done right for pupil learning during COVID-19? What could have been done more to support pupils learning during school closures? What are the needs of underachieving pupils in the immediate future? What are the lessons learned from this experience?
	6. Concluding remarks	Thank you very much for your time and insight. You have given me a clear overview of the educational experiences of students in Turkey. We have now finished our interview. Do you have any concluding remarks for us?

Informed Consent Form

This form will be provided online via the link https://form.jotform.com/213144132720340 and signed by participants prior to qualitative data collection.

Documentation of Education Response in Türkiye during the COVID-19 Pandemic and its Effect on Children's Access to and Retention in Education

Information for Key Informant Interview Participants

Purpose of the Study

The study "Documentation of Education Response in Türkiye during the COVID-19 Pandemic and its Effect on Children's Access to and Retention in Education "is being carried out by Development Analytics for the UNICEF Türkiye Country Office. It will focus on the barriers and difficulties children faced in accessing education and the efficiency of the implemented policies and programmes in the scope of education during Covid-19 in Türkiye. It also aims to address the gaps in these policies and help present new approaches based on recommendations from experts.

Methodology

The study is designed to have three key parts:

- Desk review: This will include a document review of reports and articles relevant to the challenges children faced in access to education and the policies and programs implemented in years 2020 and 2021 related to Covid-19.
- Quantitative Data Analysis: This will include the analysis of PISA and DHS datasets.
- Qualitative Data Collection and Analysis: This will include conducting key informant interviews with academics and experts from national and international organisations.

Procedure of Key Informant Interviews

Our team will coordinate and plan 12 interviews with academics and experts from both national and international organisations. These interviews are considered an important instrument to benefit from the experts' profound understanding and information on the topic of the study based on their related publications and work. The key informant interviews are planned to take place between November 29 and December 17, 2021. The discussions will be held online by Dr Pinar Kolancali from our team and each interview will approximately take 45 minutes. A note taker from our team will also be present during the interview to take note of the discussion.

Voluntary Participation

Participation in the study is voluntary and participants are free to decline to answer any particular question they do not wish to answer for any reason and can withdraw at any time.

Risks and Benefits

Although no physical and/or emotional risks associated with the study have been identified, unforeseen risks may occur during or after the interview. Thus, participants are asked for their consent through this form. By signing this form, participants voluntarily agree to take part in the study.

Confidentiality

Information provided by participants in key informant interviews will be stored securely, shared only within team members working within the study's scope, treated confidentially, and anonymised in all deliverables shared/published outside of the study team.

Contact point

If you require further information on this study or your rights as a participant in the study, please contact:

Yali Hajhassan: yali.hassan@developmentanalytics.org If you agree to participate in the study, we would like you to book an interview slot that suits your schedule by following this calendar link. We value your inputs for the study and look forward to meeting with you soon.

The Development Analytics Team

REFERENCES

- ACEV. (2020). Covid-19 Salgını Döneminde Evde Iyi Olma Hâlini Koruma Rehberi. Istanbul: Türkiye
- AÇEV. "Evdeki Oyun Kutum" Yola Çıktı. Retrieved from: https://www.acev.org/evdeki-oyun-kutum-yola-cikti/
- Akbulut, M., Sahin, U., & Esen, A. C. (2020). More than a Virus: How COVID 19 Infected Education in Turkey?. Journal of Social Science Education, 19, 30-42.
- Akçinar, B. & Baydar, N. (2018). Erken Çocuklukta Anne Davranişlarinin Dişsallaştirma Davraniş Problemleri İle İlişkisi. Elektronik Sosyal Bilimler Dergisi , 17 (66) , 454-470 . DOI: 10.17755/esosder.325593
- Akgündüz. D. (2021). Akademisyen, Okul Yöneticisi, Öğretmen ve Uzman Görüşleriyle COVID-19 Sürecinde K-12 Eğitim Raporu. İstanbul Aydın Üniversitesi
- Alan, Ü. (2021). Distance Education During the COVID-19 Pandemic in Turkey: Identifying the Needs of Early Childhood Educators. Early Childhood Educ J, 49, 987–994
- Aminipour, S., Asgari, A., Hejazi, E., & Roßbach, H. G. (2018). Home Learning Environments: A Cross-Cultural Study Between Germany and Iran. Journal of Psychoeducational Assessment, 38. doi:10.1177/0734282918778465
- Angrist, N., de Barros, A., Bhula, R., Chakera, S., Cummiskey, C., DeStefano, J., ... & Stern, J. (2021). Building back better to avert a learning catastrophe: Estimating learning loss from COVID-19 school shutdowns in Africa and facilitating short-term and long-term learning recovery. International Journal of Educational Development, 84, 102397.
- ANKA. (2021, February 08). MEB araştırması: Öğrencilerin yüzde 13'ü çevrimiçi derslere katılamadı. Cumhuriyet. Retrieved from:https://www.cumhuriyet.com.tr/haber/meb-arastirmasi-ogrencilerin-yuzde-13u-cevrimici-derslere-katilamadi-1812212
- Aral, N., & Kadan, G. (2021). Pandemi Sürecinde Okul Öncesi Öğretmenlerinin Yaşadiklari Problemlerin İncelenmesi. Kırşehir Ahi Evran Üniversitesi Sağlık Bilimleri Dergisi, 1(2), 99-114.
- ASAM. (2020). COVID-19'un Mülteciler Üzerindeki Etkisine İlişkin Raporlara Dayalı Sistematik Bir Derleme. Ankara: Türkiye
- ASAM. Okula Kayıt için Destek Programı. Retrieved from: https://sgdd.org.tr/projeler/okula-kayit-icin-destek-programi/
- ASAM. (2021). COVID-19 Pandemisinin Türkiye'deki Uluslararası ve Geçici Koruma Altındaki Çocuklar Üzerinde Etkileri. Ankara: Türkiye
- Ataş, H. (2021, February 17). Karabıyık: Türkiye'de 2.4 milyon öğrencinin EBA'ya erişimi yok! Sozcu. Retrieved from: https://www.sozcu.com.tr/2021/egitim/karabiyik-turkiyede-2-4-milyon-ogrencinin-ebaya-erisimi-yok-6264927/?utm_source=dahafazla_haber&utm_medium=free&utm_campaign=dahafazlahaber
- Avanesian, G., Mizunoya, S., & Amaro, D. (2021). How many students could continue learning during COVID-19-caused school closures? Introducing a new reachability indicator for measuring equity of remote learning. International Journal of Educational Development, 84, 102421.

- Aydın, O. (2021). Covid 19 Salgın Sürecinin Çocuklar Üzerindeki Etkileri. Temel Eğitim Araştırmaları Dergisi, 2021; 1 (2): 163-195 (e-ISSN 2791-6391); DOI: 10.29228/tead.11
- Aytaç, T. (2021). The Problems Faced by Teachers in Turkey during the COVID-19 Pandemic and Their Opinions. International Journal of Progressive Education, 17(1), 404-420.
- Azevedo, J. P., Hasan, A., Goldemberg, D., Iqbal, S. A., & Geven, K. (2020). Simulating the Potential Impacts of COVID-19 School Closures on Schooling and Learning Outcomes : A Set of Global Estimates. Washington, DC: WORLD BANK GROUP
- Bağcılar Belediyesi. (2020, September 02). Bağcilar'da 7 Noktada Eba Destek Noktasi Açildi. Bağcılar Belediyesi. Retrieved from: http://www.bagcilar.bel.tr/icerik/472/19716/bagcilarda-7-noktada-eba-destek-noktasi-acildi.aspx
- Başak Kültür ve Sanat Vakfı (BSV), Small Projects Istanbul (2020), Sulukule Gönüllüleri Derneği (SGD), Tarlabaşı Toplum Merkezi (TTM) (2021) Covid-19 sürecinde İstanbul'un Farklı Yerlerinde Çocukların HAklarına Erişimi- Eğitim Hakkı, Yetişkinler için Final Raporu. Retrieved from: http://covid19cocukhaklariizleme.org/uploads/pdf/821cf3d3992f479ad85fde101a31e67f.pdf
- Bayar G. (2021, September 06). Schools Reopen in Turkey Amid Coronavirus Measures. Anadolu Ajans. Retrieved from: https://www.aa.com.tr/en/education/schools-reopen-in-turkey-amid-coronavirus-measures/2356838#
- Baydar, N. & Akcinar, B. (2015). Ramifications of socioeconomic differences for three year old children and their families in Turkey. Early Childhood Research Quarterly, 33, 33-48.
- Baydar, N., Küntay, A. C., Yagmurlu, B., Aydemir, N., Cankaya, D., Göksen, F., & Cemalcilar, Z. (2014). "It Takes a Village" to Support the Vocabulary Development of Children with Multiple Risk Factors. Developmental Psychology, 50(4), 1014-1025.
- Beltekin, E., & Kuyulu, I. (2020). The Effect of Coronavirus (COVID19) Outbreak on Education Systems: Evaluation of Distance Learning System in Turkey. Journal of Education and Learning, 9(4), 1-9.
- Bianet. (2012, January 10). Çocuklar Okula Gidemiyor. Bianet. Retrived from: https://m.bianet.org/bianet/insan-haklari/135333-cocuklar-okula-gidemiyor
- Bianet. (2019, September 24). Survey by Ministry: 40 Percent of Students Don't Understand What They Read. Bianet. Retrived from: https://bianet.org/1/2/213445-meb-arastirmasi-ogrencilerin-yuzde-40-i-okudugunu-anlamiyor
- Bianet. (2021, November 18). Turkey sees 'a learning loss in all grades of primary education'. Bianet. Retrieved from: https://bianet.org/english/education/253509-turkey-sees-a-learning-loss-in-all-grades-of-primary-education
- Bianet. (2021, September 28). 1,736 Classrooms Closed across Turkey Due to COVID-19. Bianet. Retrieved from: https://bianet.org/english/health/250949-1-736-classrooms-closed-across-turkey-due-to-covid-19-says-union

- Bir Gün. (2020, September 15). Koruma altındaki çocuklara takip. Bir Gün. Retrived from: https://www.birgun.net/haber/koruma-altindaki-cocuklara-takip-315628
- Blatchford, Bassett, Goldstein and Martin (2003), 'Are class size differences related to pupils' educational progress and classroom processes? Findings from the Institute of Education class size study of children aged 5 to 7 years', British Educational Research Journal, 29: 5
- Bol, T. (2020, April 30). Inequality in homeschooling during the Corona crisis in the Netherlands. First results from the LISS Panel. https://doi.org/10.31235/osf.io/hf32q
- Bradbury-Jones, C., & Isham, L. (2020). The pandemic paradox: The consequences of COVID-19 on domestic violence. Journal of clinical nursing, 29(13-14), 2047–2049. https://doi.org/10.1111/jocn.15296
- Brossard, M., Cardoso, M., Kamei, A., Mishra, S., Mizunoya, S., Reuge, N. (2020). Parental Engagement in Children's Learning: Insights for remote learning response during COVID-19. Florence: UNICEF Office of Research
- Çakin, M., & Külekçi Akyavuz, E. (2021). Educational Adventure of Students in the COVID-19 Period in Turkey: Determination of Parents' Views. International Journal on Social and Education Sciences, 3(1), 109-125.
- Caldwell, B. M., & Bradley, R. H. (2016). Home Observation for Measurement of the Environment: Administration Manual. Tempe, AZ: Family & Human Dynamics Research Institute, Arizona State University.
- Cameron, A. C., & Trivedi, P. K. (2005). Microeconometrics: methods and applications. Cambridge university press.
- Cameron, C., Hollingworth, K., Schoon, I., van Santen, E., Schröer, W., Ristikari, T., ... & Pekkarinen, E. (2018). Care leavers in early adulthood: How do they fare in Britain, Finland and Germany?. Children and Youth Services Review, 87, 163-172.
- Çelik, S. & Kardaş İşler, N. (2020). Göç Mağduru Çocuklarin Covid-19 Salgini Sürecindeki Öğrenme Deneyimleri. Milli Eğitim Dergisi, Salgin Sürecinde Türkiye'de Ve Dünyada Eğitim , 783-800 . DOI: 10.37669/Milliegitim.783048
- Cesuroğlu, T., Kölemen, A. (2021). Pandemi Kosullarinda Egitim Gercekleri Raporu. Okullar Açalım
- Cetinkaya, M. (2020). Distance Education in Turkey During the Pandemic. Research Highlights in Education and Science 2020, 85.
- CNNTurk. (2020, November 18). Okullar ne zaman açılacak? Retrieved from:https://www.cnnturk.com/turkiye/okullar-ne-zaman-acilacak-okullar-acilacak-mi-cumhurbaskani-erdogan-aciklayacak
- Conger, R. D., & Donnellan, M. B. . (2007). An Interactionist Perspective on the Socioeconomic Context of Human Development. Annual Review of Psychology, 58(1), 175–199.
- Conto, C. A., Akseer, S., Dreesen, T., Kamei, A., Mizunoya, S., & Rigole, A. (2021). Potential effects of COVID-19 school closures on foundational skills and Country responses for mitigating learning loss. International Journal of Educational Development, 87, 102434.
- Crew, M. (2020). Literature Review on the Impact of COVID-19 on Families, and Implications for the Home Learning Environment. The National Literacy Trust. London: UK

- Dayıoğlu, M., Kirdar, M. G., & Koç, İ. (2021). The making of a lost generation: Child labor among Syrian refugees in Turkey (No. 2105). Koc University-TUSIAD Economic Research Forum, Working Paper.
- Deri Tekstil ve Kundura İşçileri Derneği. (2021). Pandemi'de Mülteci Çocuk İşçiliği Raporu. Izmir: Deri Tekstil ve Kundura İşçileri Derneği
- Dincer, O, B., Federici, V., Ferris, E., Karaca, S., Kirisci, K., & Carmikli, E., O. (2013). Turkey and Syrian Refugees: The Limits of Hospitality. Policy File, 2013-11-01.
- Di Pietro, G., Biagi, F., Costa, P., Karpiński, Z., & Mazza, J. (2020). The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets (Vol. 30275). Luxembourg: Publications Office of the European Union.
- Dodds W. (2019). Disease Now and Potential Future Pandemics. The World's Worst Problems, 31–44. https://doi.org/10.1007/978-3-030-30410-2_4
- Doğanay, C., Koyuncu, İ., A., Kenanoğlu, M., Kadkoy, O., & Güven, S. (2020). Zorunlu Göçmenler için Sosyal Eşitlik: Pandemi Sürecinde Yerel Yönetimlerin ve STK'ların Rolü. Tepav. Anakara: Türkiye
- Dorn, E., Hancock, B., Sarakatsannis, J., & Viruleg, E. (2020). COVID-19 and student learning in the United States: The hurt could last a lifetime. McKinsey & Company, 1.
- EACEA. (2019). Key Data on Early Childhood Education and Care Education and Training in Europe. Luxembourg: Publications Office of the European Union
- ECHO. (2021). ECHO CCTE III: Interim Report. Brussel: Belgium
- Egitim Sen. (2021). 2020-2021 Eğitim Öğretim Yılı Sonunda Eğitimin Durumu. Ankara: Türkiye
- Eğitim Sen. (2021). Eğitim-Sen Uzaktan Eğitime Yakından Bakıyor. Ankara: Türkiye
- Eğitim Sen. (2021). Meb Örgün Eğitim İstatistikleri Işiğinda Eğitimin Durumu. Ankara: Türkiye
- Eğitim Sen. (2021). Okullarımızda Uzaktan Eğitim Araştırma Raporu. Ankara: Türkiye
- Engzell, P., Frey, A., & Verhagen, M. (2020). Learning Inequality During the Covid-19 Pandemic. Center for Open Science. doi:10.31219/osf.io/ve4z7
- Engzell, P., Frey, A., & Verhagen, M. D. (2021). Learning loss due to school closures during the COVID-19 pandemic. Proceedings of the National Academy of Sciences, 118(17).
- Erdemir, E. (2021). Uncovering community cultural wealth through an early intervention program: Syrian refugee children speaking. Early Childhood Education Journal, 1-20.
- Erdoğan, M., Ata Solmaz, T. (2020). Adli Sisteme Giren Çocuklarla Çalışmalar. Türkiye Çocuklara Yeniden Özgürlük Vakfı. Istanbul: Türkiye
- ERG. (2020). Öğrenciler ve Eğitime Erişim Eğitim İzleme Raporu 2020. Istanbul: Türkiye
- ERG. (2020, 09, 25). Çocuklar Evde Nasılsınız?. ERG Blog. https://www.egitimreformugirisimi.org/cocuklar-evde-nasilsiniz/
- ERG. (2021). ARISE Eğitimde Eşitsizliğin Azaltılması Projesi Türkiye Ulusal Raporu. Istanbul: ERG
- ERG. (2021). Eğitim İzleme Raporu 2021: Öğrenciler ve Eğitime Erişim. Istanbul: ERG

- ERG. (2021). Eğitim Ortamlari Eğitim İzleme Raporu 2021. Istanbul: ERG
- ERG. (2021). Öğretmenler Eğitim İzleme Raporu 2021. İstanbul: ERG
- ERG. (2021). Öğretmen Gözünden Öğrenme Kayıpları. Istanbul: ERG
- ERG. (2021). Uzun Hikâye Çocukların Gözünden Pandemi. Istanbul: ERG
- ERG. (2021). Eğitim İzleme Raporu 2021: Öğretmenler. Istanbul: ERG
- European Commission. (2013). Mutual Learning Programme Database of National Labour Market Practices Malta - Free Childcare Scheme. Brussels: European Commission
- European Commission. (2016). Schools policy A whole school approach to tackling early school leaving Policy messages. Brussels: European Commission
- Eutsler, L., Mitchell, C., Stamm, B. et al. . (2020). The influence of mobile technologies on preschool and elementary children's literacy achievement: a systematic review spanning 2007–2019. Education Tech Research Dev 68, 1739–1768
- Fiş Erümit, S. (2021). The distance education process in K-12 schools during the pandemic period: evaluation of implementations in Turkey from the student perspective. Technology, Pedagogy and Education, 1-20.
- Göçmen, E., Kalender, G., Foggo, H., Yüksel, S., Şener, Ş., & Duman, Ş. (2020). Pandemi Döneminde Derin Yoksulluk ve Haklara Erişim Araştırması. İstanbul: Derin Yoksulluk Ağı
- Gökçen, C. (2020). Pandemi'de Derin Yoksullukla Mücadele. Derin Yoksulluk Ağı. İstanbul: Derin Yoksulluk Ağı
- Grace, R., Kemp, L., Barnes, J., Elcombe, E., Knight, J., Baird, K., . . . Byrne, F. (2018). Community volunteer support for families with young children: protocol for the Volunteer Family Connect randomized controlled trial. JMIR Research Protocols 7(7).
- Gumus, S. & Chudgar, A. (2016). Factors affecting school participation in Turkey: An analysis of regional differences1. Compare, 46(6), 929-951.
- Gündoğmuş, Y., Kasap, S., Erdoğan, M., N. (2021, February 28). Bakan Ziya Selçuk: Liselerde yüz yüze sınavlarda illerin durumuna göre karar verilecek. Anadolu Ajans. Retrieved from: https://www.aa.com.tr/tr/egitim/bakan-ziya-selcuk-liselerde-yuz-yuze-sinavlarda-illerin-durumuna-gore-karar-verilecek/2159955
- Hawk, W. J., Spielberg, F., Ressler, E., & Aguilar, P. (2021). Ethical considerations in deciding when to reopen schools. International Journal of Educational Development, 83, 102398.
- Hiziroglu Aygun, A., Kirdar, M. G., Koyuncu, M., & Stoeffler, Q. (2021, June). Keeping refugee children in school and out of work: Evidence from the world's largest humanitarian cash transfer program. Koc University-TUSIAD Economic Research Forum.
- Hossain, M. (2021). Unequal experience of COVID-induced remote schooling in four developing countries. International Journal of Educational Development, 85, 102446.
- Huisman, J., & Smits, J. (2015). Keeping children in school: effects of household and context characteristics on school dropout in 363 districts of 30 developing countries. Sage Open, 5(4).

- Hurriyet. (2020, April 16). Öğretmenler zoom kullanabilir mi?. MEB'den resmi açıklama. Hurriyet. Retrieved from: https://www.hurriyet.com.tr/egitim/ogretmenler-zoom-kullanabilir-mi-mebden-resmi-aciklama-41495906
- Hurriyet. (2020, March 22). Turkey begins TV-based distance learning for school students due to pandemic. Hurriyet. Retrieved from: https://www.hurriyetdailynews.com/turkey-begins-tv-based-distance-learning-for-school-students-due-to-pandemic-153169
- Hurriyet. (2021, September 03). 6 Eylül Pazartesi okula gitmek zorunlu mu? Ortaokul ve liselerde okulda devam zorunluluğu olacak mı? Milli Eğitim Bakanlığı yanıtladı. Hurriyet. Retrieved from: https://www.hurriyet.com.tr/galeri-6-eylul-pazartesi-okula-gitmek-zorunlu-mu-ortaokul-ve-liselerde-okulda-devam-zorunlulugu-olacak-mi-milli-egitim-bakanligi-yanitladi-41887111
- IFRC & TRC. (2021). Cash assistance in times of COVID-19 | Impacts on refugees living in Turkey - Findings from the Post-distribution Monitoring (PDM) Survey (Round 10) on Emergency Social Safety Net (ESSN) Applicants (March 2021). Ankara: Türkiye
- IFRC. (2021). Intersectoral Vulnerability Survey: The Vulnerability Conditions of Refugees Living in Turkey (Round 1 - April 2021). Geneva: IFRC
- IFS. (2020). Family Time Use and Home Learning during the COVID-19 Lockdown. London: IFS
- Inter-Agency Protection Coordination Turkey. (2020). Protection Sector Needs Assessment Analysis. Ankara: Türkiye
- Inter-Agency Protection Coordination Turkey. (2021). Protection Sector Needs Assessment: Round 3 Findings. Ankara: Türkiye
- Inter-Agency Protection Coordination Turkey. (2021). Protection Sector Needs Assessment: Round 4. Ankara: Türkiye
- IOM. (2021). IOM Turkey 2nd Round Rapid Needs Assessment on the Impact of COVID-19 on Migrant and Refugee Populations. Geneva: IOM
- İra, N., Yıldız, M., Yıldız, G., Yalçınkaya-Önder, E., & Aksu, A. (2021). Access to information technology of households and secondary school students in Turkey. Information Development, 02666669211008949.
- Jones, N., Tapia, I. S., Baird, S., Guglielmi, S., Oakley, E., Yadete, W. A., ... & Pincock, K. (2021). Intersecting barriers to adolescents' educational access during COVID-19: exploring the role of gender, disability and poverty. International Journal of Educational Development, 102428.
- Kagitcibasi, C., Sunar, D., & Bekman, S. (2001). Long-term effects of early intervention: Turkish low-income mothers and children. Journal of Applied Developmental Psychology, 22(4), 333-361.
- Karabay, B. (2021). Pandemi süreci eğitimin öğretmen gözüyle bir yıllık değerlendirmesi. Eğitim-İş. Ankara: Türkiye
- Karakaya, F., Adigüzel, M., Üçüncü, G., Çimen, O., & Yilmaz, M. (2020). Teachers' views towards the effects of Covid-19 pandemic in the education process in Turkey. Participatory Educational Research, 8(2), 17-30.
- Kirdar, M. G., Koç, İ., & Dayioğlu, M. (2021). School Integration of Refugee Children: Evidence from the Largest Refugee Group in Any Country. IZA Institute of Labor Economics

- KODA. (2021). Köy Halkının Gözünden Pandemide Köylerin Ve Köy Okullarinin Durumu. Istanbul: KODA
- Kollender, E. & Nimer, M. (2020). Long-Term Exclusionary Effects of Covid-19 For Refugee Children in The German and Turkish Education Systems: A Comparative Perspective. Istanbul Policy Center
- Konak Mülteci Derneği. (2021). Mülteci Çocukların Uzaktan Eğitime Erişimi. Izmir: Türkiye
- Konak Municipality. (2021, April 11). Konak Belediyesi AÇEV El Ele. Retrieved from the folowing: https://www.konak.bel.tr/haber/konak-belediyesi-acev-el-ele-2308
- Konca, A. S., & Çakır, T. (2021). Pandemi sürecinde uzaktan eğitim ile okul öncesi eğitimden ilkokula geçiş hakkında veli görüşleri. Yaşadıkça Eğitim, 35(2), 520-545.
- Kuger, S., Marcus, J., & Spiess, C. K. (2019). Day care quality and changes in the home learning environment of children. Education Economics, 27(3), 265-286.
- Kuhfeld, M., &Tarasawa, B. (2020). The COVID-19 slide: What summer learning loss can tell us about the potential impact of school closures on student academic achievement. Portland: NWEA
- Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E. & Jing Liu, J. (2020). Projecting the Potential Impact of COVID-19 School Closures on Academic Achievement. Educational Researcher, 49(8), 549-565.
- Lehrl, S., Ebert, S., Blaurock, S., Rossbach, H.-G., & Weinert, S. (2019). Long-term and domain-specific relations between the early years home learning environment and students' academic outcomes in secondary school. School Effectiveness and School Improvement, 1–23. doi:10.1080/09243453.2019.1618346
- Lehrl, S., Evangelou, M., Sammons, P. . (2020). The home learning environment and its role in shaping children's educational development. School Effectiveness and School Improvement 31(1), 1-6. doi:10.1080/09243453.2020.1693487
- Lehrl, S., Linberg, A., Niklas, F., & Kuger, S. (2021). The Home Learning Environment in the Digital Age–Associations Between Self-Reported "Analog" and "Digital" Home Learning Environment and Children's Socio-Emotional and Academic Outcomes. Frontiers in Psychology, 12.
- Lennox, J., Reuge, N., & Benavides, F. (2021). UNICEF's lessons learned from the education response to the COVID-19 crisis and reflections on the implications for education policy. International Journal of Educational Development, 102429.
- Livingstone, S., & Helsper, E. . (2008). Parental Mediation of Children's Internet Use. Journal of Broadcasting & Electronic Media, 52(4), 581-599.
- Martin, E. (2017). Hidden Consequences: The Impact of Incarceration On Dependent Children. National Institute of Justice Journal (278).
- MEB. (2021, October 08). None of our 71 Thousand and 320 Schools Suspended Face-to-Face Education. MEB. Retrieved form: https://www.meb.gov.tr/minister-ozer-none-of-our-71-thousand-and-320-schools-suspended-face-to-face-education/haber/24239/en
- MEB. (2019). 2019-2023 Stratejik Planı. Ankara: MEB
- MEB. (2019). 4.sınıf Seviyesi Türkçe-Matematik-Fen Bilimleri Öğrenci Başarı İzleme Araştırması (TMF-ÖBA). Ankara: MEB
- MEB. (2019). Destekleme Ve Yetiştirme Kurslari E-Kilavuzu. Ankara: MEB

- MEB. (2019). PISA 2018 Türkiye Ön Raporu. Ankara: MEB
- MEB. (2019). Rehber Öğretmen El Kitabı. Ankara: MEB
- MEB. (2020). 2021 Yılı Performans Programı. Ankara: MEB
- MEB. (2020). Covid-19 Pandemisi ile Mücadele Süreci Milli Eğitim Müdürlüğü Raporu. MEB. Gaziantep: Türkiye
- MEB. (2020). Güvenli Okullaşma Ve Uzaktan Eğitim Projesi (P173997) Çevresel Ve Sosyal Yönetim Çerçevesi. Ankara: MEB.
- MEB (2020, March 25). Uzaktan Eğitim 30 Nisan'a Kadar Devam Edecek. Retrieved from: https://www.meb.gov.tr/uzaktan-egitim-30-nisana-kadar-devam-edecek/haber/20585/tr
- MEB. (2020, April 09). Öğretmenler İçin de "Uzaktan Eğitim" Başladi. MEB. Retrived from: http://www.meb.gov.tr/ogretmenler-icin-de-uzaktan-egitim-basladi/haber/20667/tr
- MEB. (2020, November 05). Öğretmenlerin Ara Tatildeki Mesleki Gelişim Eğitimi, Uzaktan Yapilacak. MEB. Retrived from: https://www.meb.gov.tr/ogretmenlerin-ara-tatildeki-mesleki-gelisim-egitimi-uzaktan-yapilacak/haber/24483/tr
- MEB. (2020, October 13). Türk Eğitim Tarihinin En Büyük Öğretmen Eğitimi Çalişmasini Yapiyoruz. MEB. Retrived from: https://www.meb.gov.tr/turk-egitim-tarihinin-en-buyuk-ogretmen-egitimi-calismasini-yapiyoruz/haber/21795/tr
- MEB. (2021, February 09). "Ulusal Destekleme Programi" Başliyor. MEB. Accessed from the following link: https://www.meb.gov.tr/ulusal-destekleme-programi-basliyor/haber/22518/tr
- MEB. (2021). 2020-21 MEB İstatistikleri: Örgün Eğitim. Ankara: MEB
- MEB. (2021, March 01). Basin Açiklamasi - Eğitimde Kontrollü Normalleşme Sürecinde Eğitim Kurumlarinin Açilma Ve Uygulama Kriterleri. MEB. Accessed from the following link: https://www.meb.gov.tr/basin-aciklamasi-egitimde-kontrollu-normallesmesurecinde-egitim-kurumlarinin-acilma-ve-uygulama-kriterleri/haber/22651/tr
- MEB. (2021). Bazı Basın Yayın Organlarında "3 Bin Çocuk Anneleriyle Cezaevinde" Şeklinde Yayınlanan ve Gerçekleri Yansıtmayan Haberlerle İlgili Basın Açıklaması. MEB. Retrieved from the following link: https://cte.adalet.gov.tr/Home/SayfaDetay/basin-aciklamasi09032021045708
- MEB. (2021). Education Information Network (EBA). Ankara: Türkiye
- MEB. (2021, October 13). İlkokullarda Yetiştirme Programı(İYEP). MEB. Retrieved from: http://caldiran.meb.gov.tr/www/ilkokullarda-yetistirme-programiiyep/icerik/243
- MEB. (2021). Psikososyal Destek Psikoegitim Programi Ilkokul. Ankara: MEB
- MEB. (2021). Psikososyal Destek Psikoegitim Programi Okul Oncesi. Ankara: MEB
- MEB. (2021). Psikososyal Destek Psikoegitim Programi Ortaokul. Ankara: MEB
- MEB. (2021). Resmi Yazi: Telafide Ben de Varım Programı. Ankara: MEB. Retrieved from: http://mtegm.meb.gov.tr/meb_iys_dosyalar/2021_06/11191504_Telafide_Bende_VarYm__resmi_yazY.pdf
- MEB. (2021). Sayılarla Uzaktan Eğitim [Infographic]. MEB. https://yegitek.meb.gov.tr/www/sayilarla-uzaktan-egitim/icerik/3225

- MEB (2021, February 27). Yüz Yüze Eğitim Ve Sinavlarin Yapilmasina İllerin Salgin Koşullarina Göre 2 Mart'ta Başlanacak. Retrieved from: https://www.meb.gov.tr/yuz-yuze-egitim-ve-sinavlarin-yapilmasina-illerin-salgin-kosullarina-gore-2-martta-baslanacak/haber/22641/tr
- MEB (2021, May 12). Basin Açiklamasi – Yüz Yüze Ve Uzaktan Eğitim. Retrieved from: https://www.meb.gov.tr/basin-aciklamasi-yuz-yuze-ve-uzaktan-egitim/haber/23197/tr
- MEB. (2021). Statistical Yearbook 2020/21. Ankara: MEB
- MEB. (2021, June 01). Bakan Selçuk, "Telafide Ben De Varim" Programini Paylaştl. MEB News. Retrived from: https://www.meb.gov.tr/bakan-selcuk-telafide-ben-de-varim-programini-paylasti/haber/23323/tr
- MEB. (2021, October 13). İlkokullarda Yetiştirme Programı (İYEP). MEB. Retrived from: http://caldiran.meb.gov.tr/www/ilkokullarda-yetistirme-programiiyep/icerik/243
- MEB. (2021). 2020 Yılı İdare Faaliyet Raporu. Ankara: MEB. Retrived from: http://sgb.meb.gov.tr/meb_iys_dosyalar/2021_03/03134336_2020_YYlY_Ydare_Faaliyet_Raporu.pdf
- MEB (2022, May 14) MEB, Öğrenci Başari İzleme Araştirmasi Yapacak. Retrieved from: http://www.meb.gov.tr/meb-ogrenci-basari-izleme-arastirmasi-yapacak/haber/26211/tr
- MEB (2022, May 21) 2022-2023 Eğitim Öğretim Yili Başinda Yardimci Kaynaklar Öğrencilerin Siralarinda Olacak. Retrieved from: https://www.meb.gov.tr/2022-2023-egitim-ogretim-yili-basinda-yardimci-kaynaklar-ogrencilerin-siralarinda-olacak/haber/26297/tr
- Melhuish, E. C. (2010). Impact of the Home Learning Environment on child cognitive development: Secondary analysis of data from 'Growing Up in Scotland'. Edinburgh: The Scottish Government
- Melhuish, E., Belsky, J., Leyland, A. H., Barnes, J., & National Evaluation of Sure Start Research Team. (2008). Effects of fully-established Sure Start Local Programmes on 3-year-old children and their families living in England: a quasi-experimental observational study. The Lancet, 372(9650), 1641-1647.
- Melhuish, E.C., Sylva, K., Sammons, P., Siraj-Blatchford, I., Taggart, B., & Phan, M. (2008b) Effects of the Home Learning Environment and preschool center experience upon literacy and numeracy development in early primary school. Journal of Social Issues, 64, 95-114. https://doi.org/10.1111/j.1540-4560.2008.00550.
- Ministry Interior of Turkey Presidency of Migration Management (2022). Temporary Protection Statistics. Accessed through https://en.goc.gov.tr/temporary-protection27
- Munro, E. (2011). The Munro review of child protection: Final report, a child-centred system (Vol. 8062). The Stationery Office.
- Niehues, W. , Kisbu-sakarya, Y. & Selçuk, B. (2019). Implications of between-school tracking for Turkish students . Turkish Journal of Education , 8 (3) , 196-216 . DOI: 10.19128/turje.453383
- Naguib, M. M., Ellström, P., Järhult, J. D., Lundkvist, Å., & Olsen, B. (2020). Towards pandemic preparedness beyond COVID-19. The Lancet Microbe, 1(5), e185-e186.
- National Children's Bureau. (2020). Recovery planning for Covid-19 Back to School. London: UK

- OECD. (2018). Scaling procedures and construct validation of context questionnaire data. In PISA 2018 Technical Report. Paris: OECD.
- OECD. (2019). Turkey Country Note: PISA 2018 Results. Paris: OECD
- OECD. (2020). Education Policy Outlook: Turkey. Paris: OECD
- OECD. (2020). OECD Policy Responses to Coronavirus (COVID-19): Learning remotely when schools close: How well are students and schools prepared? Insights from PISA. Paris: OECD
- OECD. (2020). The Economic Impacts of Learning Losses. Paris: France
- OECD. (2020). Turkey Country Note: School education During COVID-19-Were Teachers and Students Ready? Paris: OECD.
- OECD. (2021). Education at a Glance 2021. Paris: OECD
- OECD. (2021). Education at a Glance 2021: Turkey Country Note. Paris: OECD
- OECD. (2021). Strengthening Online Learning When Schools Are Closed: The Role of Families and Teachers in Supporting Students During The COVID-19 Crisis. Paris: OECD
- OECD. (2021). The Impact Of COVID-19 on Student Equity and Inclusion: Supporting Vulnerable Students During School Closures and School Re-Openings. Paris: OECD
- OECD. (2021). The State of Global Education. Paris: OECD
- OECD. (2021). Turkey: Overview of the education system (EAG 2021). Paris: OECD
- Orhan Ş. F., Yılmaz M. B. , Zeren Ş. G. (2020). COVID-19 Sürecinde Uzaktan Öğretme Süreci İle İlgili İlk ve Ortaöğretim Öğrencilerinin Algıları ve Duygularına Yönelik Bir Analiz. Anakara: TUBITAK
- Özer, M. (2020). Educational policy actions by the ministry of national education in the times of COVID-19. Kastamonu Education Journal, 28(3), 1124-1129.
- Öztürk, F. (2021, October 19). Covid: Türkiye'de okullarda koronavirüs vakaları artıyor mu? MEB, Eğitim-Sen ve TTB ne diyor?. BBC News. Retrieved from: https://www.bbc.com/turkce/haberler-turkiye-58963394?at_medium=custom7&at_custom3=BBC+Turkce&at_campaign=64&at_custom1=%5Bpost+type%5D&at_custom2=twitter&at_custom4=EAA4B096-30DD-11EC-8680-B77296E8478F
- Parlakkiliç, A.(2021). Turkey Applications to Reduce the Effects of Covid-19 in Education. Osmangazi Journal of Educational Research, 8(1), 286-301.
- Parlakkiliç, A., & Mertoğlu, S. Blended Distance Education During Covid-19: Evaluation Of Turkey's K12 Applications. Ufuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 9(18), 49-61.
- Reimers, F. M. (2022). Primary and Secondary Education During Covid-19: Disruptions to Educational Opportunity During a Pandemic.
- Reuge, N., Jenkins, R., Brossard, M., Soobrayan, B., Mizunoya, S., Ackers, J., ... & Taulo, W. G. (2021). Education response to COVID 19 pandemic, a special issue proposed by UNICEF: Editorial review. International Journal of Educational Development, 87, 102485.
- Reyes, Joel E. (2021). Disclosable Version of the ISR - Safe Schooling and Distance Education Project - P173997 - Sequence No : 04 (English). Washington, D.C. : World Bank Group.
- Rosati, F. Can cash transfers reduce child labor?. IZA World of Labor 2022: 293 doi: 10.15185/izawol.293.v2

- Sabates, R., Carter, E., & Stern, J. M. . (2021). Using educational transitions to estimate learning loss due to COVID-19 school closures: The case of Complementary Basic Education in Ghana. International Journal of Educational Development, 82.
- Sammons, P., Toth, K., & Sylva, K. . (2018). The drivers of academic success for 'bright' but disadvantaged students: A longitudinal study of AS and A-level outcomes in England. Studies in Educational Evaluation, 57(37), 31-41.
- Sarı, T., Nayır, F. (2020). Pandemi dönemi eğitim: sorunlar ve fırsatlar. Turkish Studies, 15(4), 959-975. https://dx.doi.org/10.7827/Turkish Studies.44335
- Save the Children. (2012). Cash and Child Protection: How cash transfer programming can protect children from abuse, neglect, exploitation and violence. London: Save the Children. Retrieved from: https://www.savethechildren.org.uk/content/dam/global/reports/education-and-child-protection/cash_and_child_protection.pdf
- Sayıştay Bakanlığı. (2020). Millî Eğitim Bakanlığı 2019 yılı Sayıştay denetim raporu. Ankara: Sayıştay Bakanlığı
- Schwartz, R. M., Schmitt, M. C., & Lose, M. K. (2012). Effects of Teacher-Student Ratio in Response to Intervention Approaches. The Elementary School Journal, 112(4), 547–567. https://doi.org/10.1086/664490
- Selçuk, Z. [@ziyaselcuk]. (2020, September 14). EBA erişiminde sorun yaşayan çocuklarımız,evde çalışma imkânı olmayan öğrencilerimiz ve öğretmenlerimizin çocukları için kurduğumuz EBA Destek Noktalarımızın sayısı bugün itibariyle 4080 oldu.Size en yakın EBA Destek Noktası'na, http://ebadesteknoktasi.meb.gov.tr adresinden ulaşabilirsiniz. [Tweet]. Twitter. (Accessed: 23 November 2021) https://twitter.com/ziyaselcuk/status/1305563233026179073?lang=eu
- Selvaraj, A., Radhin, V., Nithin, K. A., Benson, N., & Mathew, A. J. (2021). Effect of pandemic based online education on teaching and learning system. International Journal of Educational Development, 85, 102444.
- Şenocak, H. (2006). Korunmaya Muhtaç Çocuklara Sağlanan Bakim Yöntemleri. Journal of Social Policy Conferences (No. 51, pp. 177-228).
- Sensoy Bahar, Ozge. (2014). Should They Work or Should They Not? Low-Income Kurdish Migrant Mothers' Beliefs and Attitudes About Child Labor. Global Social Welfare : Research, Policy & Practice, 1(1), 37-52.
- SETA. (2021). Koronavirüs Sürecinde Türkiye'nin Uzaktan Eğitim Deneyimi. Istanbul: SETA
- SGD, TTM, BSV, & SPI. (2021). Covid-19 Sürecinde İstanbul'un Farklı Yerlerinde Çocukların Haklarına Erişimi- Eğitim Hakkı Yetişkinler için İzleme Raporu.
- Stelmach, B. (2020). It Takes a Virus: What Can Be Learned About Parent-Teacher Relations from Pandemic Realities?. University of Alberta
- Stelmakh, A., Küçükşen, D., & Akman, U. (2021). A Systematic Review of Reports on the Impact of COVID-19 on Refugees- II. Ankara: ASAM
- Süğümlü, Ü. (2021). A case study on teaching Turkish through distance education. International Journal of Psychology and Educational Studies, 8(1), 174-190.
- T24. (2021, October 25). Milli Eğitim Bakanı Özer: Bin 817 sınıfta yüz yüze eğitime ara verilmiştir. T24. Retrieved from: https://t24.com.tr/haber/milli-egitim-bakani-ozer-bin-817-sinifta-yuz-yuze-egitime-ara-verilmistir,988209

- T24. (2021, March 23). Milli Eğitim Bakanı Selçuk: Uzaktan eğitim artık kalıcı olacak. T24. Retrieved from: https://t24.com.tr/haber/milli-egitim-bakani-selcuk-uzaktan-egitim-artik-kalici-olacak,940884
- Talbot, C. (2021). Strategic Mid-term Evaluation of the Facility for Refugees in Turkey 2016-2019/2020 Volume II: Sector Report on Education. Brussels: European Commission
- TEDMEM. (2021). 2020 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 7). Ankara: Türk Eğitim Derneği.
- TEDMEM. (2022). 2021 eğitim değerlendirme raporu (TEDMEM Değerlendirme Dizisi 8). Ankara: Türk Eğitim Derneği.
- TEDMEM. (2021). COVID-19 Sürecinde Eğitim: Uzaktan Öğrenme, Sorunlar ve Çözüm Önerileri. Ankara: TEDMEM
- TEDMEM. (2021). Türkiye'nin Telafi Eğitimi Yol Haritası. Ankara: TEDMEM
- TEDMEM. (2021). Türkiye'nin TIMSS 2019 Performansı Üzerine Değerlendirme ve Öneriler. Ankara: TEDMEM
- TEGV. (2021). Şubat 2021 - Haziran 2021 Etkinlik Raporu. Istanbul: TEGV
- TESEV. (2020). Kovid-19'un Çocuklar Üzerinde Etkisi ve Çocuk Odaklı Sosyal Politikalar. Istanbul: Türkiye
- The Scottish Government. (2010). Impact of the Home Learning Environment on Child Cognitive Development: Secondary Analysis of Data from 'Growing Up in Scotland'.
- The UK Department for Education (2022). Schools COVID-19 Operational Guidance. London: Department for Education
- The UK Department for Education. (2013). Sure Start Children's Centres Statutory Guidance. London: Department for Education
- The UK Department for Education. (2021). Early Years Foundation Stage Profile. London: Department for Education
- The UK Department of Education (2010). Evaluation of the Free School Meals Pilot. London: Department for Education
- The World Bank, UNESCO and UNICEF (2021). The State of the Global Education Crisis: A Path to Recovery. Washington D.C., Paris, New York: The World Bank, UNESCO, and UNICEF.
- Todd, P. E., & Wolpin, K. I. (2007). The Production of Cognitive Achievement in Children: Home, School, and Racial Test Score Gaps. Journal of Human Capital, 1(1), 91–136. doi:10.1086/526401
- Tokyay, M. (2020, April 17). Uzaktan eğitim dijital uçurumu derinleştiriyor mu? İnterneti olmayan öğrenci nasıl eğitim alacak? Euronews. Retrived from: https://tr.euronews.com/2020/04/17/uzaktan-egitim-dijital-ucurumu-derinlestiriyor-mu-interneti-olmayan-ogrenci-nas-l-egitim-a
- Tosun, N., Mihci, C., & Bayzan, Ş. (2021). Challenges Encountered by In-Service K12 Teachers at The Beginning of The Covid-19 Pandemic Period: The Case Of Turkey. Participatory Educational Research, 8(4), 359-384.
- TRC. (2021). Turkish Red Crescent - Situation analysis of children under temporary and international protection access to distance education during the COVID-19 process – 2. Ankara: TRC
- TUIK (2020). Ceza İnfaz Kurumu İstatistikleri, 2019. Retrieved from: https://data.tuik.gov.tr/Bulten/Index?p=Prison-Statistics-2019-33625

- TUIK. (2020). Press release on Survey Child Labour Force Statistics, 2019. Retrieved from: https://data.tuik.gov.tr/Bulten/Index?p=Child-Labour-Force-Survey-2019-33807
- TUIK (2021). İstatistiki Bölge Birimleri Sınıflaması 1.Düzey'e göre evden genişbant bağlantı ile İnternet erişimi olan hanelerin oranı, 2011-2021. Retrieved from: https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2021-37437#:~:text=Geni%C5%9Fbant%20ile%20%C4%B0nternete%20eri%C5%9Fim%20sa%C4%9Flayan%20hanelerin%20oran%C4%B1%202021%20y%C4%B1l%C4%B1nda%20%92,ba%C4%9Flant%C4%B1%20ile%20%C4%B0nternete%20eri%C5%9Fim%20sa%C4%9Flad%C4%B1.
- TUIK (2021). İstatistiklerle Çocuk, 2020. Retrieved from: https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Cocuk-2020-37228
- TUIK. (2021). Hanehalkı Bilişim Teknolojileri (BT) Kullanım Araştırması, 2021. Retrieved from: https://data.tuik.gov.tr/Bulten/Index?p=Hanehalki-Bilisim-Teknolojileri-(BT)-Kullanim-Arastirmasi-2021-37437
- TUIK. (2021). Press release on Survey on Information and Communication Technology Usage by Children, 2021. Retrieved from: https://data.tuik.gov.tr/Bulten/Index?p=Survey-on-Information-and-Communication-Technology-Usage-by-Children-2021-41132&dil=2
- TUIK. (2022). Press release on Address Based Population Registration System Results, 2021. Accessed through: https://data.tuik.gov.tr/Bulten/Index?p=Adrese-Dayali-Nufus-Kayit-Sistemi-Sonuclari-2021-45500
- Tuncer, N., Sözen, Ş., & Sakar, Ş. (2021). Okul öncesi eğitimde deprem farkındalığı: Deprem benden küçüksün" projesi, Tokat ili örneği. International Journal of Educational Spectrum, 3(1), 1-27.
- Türk Tabipleri Birliği. (2020). Pandemide Okul Sağlığına İlişkin Uzman Görüşleri. Ankara: Türk Tabipleri Birliği
- Turkey iHealth. Why Are Turkish Teenagers Victim Of Drug Addiction?. TurkeyiHealth. Retrieved from: https://turkeymedicals.com/teenagers-addiction
- TÜSİAD. (2021). Covid-19 Etkisinde Türkiye'de Eğitim. Istanbul: TÜSİAD
- Uğur, N. G. (2021). Mandatory Digitalization Thanks to or Due to COVID-19: An Empirical Study on Distance Education in Turkey. Bilgi Yönetimi, 4 (1) , 1-15 . DOI: 10.33721/by.841249
- UNESCO Institute for Statistics. (2021). Pandemic-related disruptions to schooling and impacts on learning proficiency indicators: A focus on early grades. Montreal: UNESCO-UIS
- UNESCO. (2021). What's Next? Lessons on Education Recovery: Findings from a Survey of Ministries of Education amid the COVID-19 Pandemic. Paris: UNESCO
- UNESCO. (2021). When Schools Shut: Gendered Impacts of COVID-19 School Closures. Paris: France
- UNESCO, UNICEF and the World Bank. (2022). Where are We on Education Recovery?. Retrieved from: https://www.unicef.org/media/117626/file/Where%20are%20we%20in%20Education%20Recovery?.pdf
- UNHCR. (2016). The case for Accelerated Education. Genève: UNHCR
- UNHCR. (2020). Coming Together for Refugee Education. Geneva: UNHCR

- UNHCR. (2021). Turkey Education Sector Achievements as of September 2021 [Infographic]. Reliefweb. https://reliefweb.int/report/turkey/turkey-education-sector-achievements-september-2021
- UNHCR (2021). Turkey Fact Sheet September 2021. Accessed through: https://www.unhcr.org/tr/wp-content/uploads/sites/14/2021/10/Bi-annual-fact-sheet-2021-09-Turkey-1.pdf
- UNICEF ECARO. (2021). Europe and Central Asia Region (ECAR) Humanitarian Situation Report No. 1. Geneva: UNICEF ECARO
- UNICEF ECARO. (2021). Europe and Central Asia Region (ECAR) Humanitarian Situation Report No. 2 - 2021. Geneva: UNICEF ECARO
- UNICEF. (2019). Education of Children under Temporary Protection in Turkey: Statistical Report. Ankara: UNICEF Türkiye
- UNICEF. (2020). Household Survey on Effects of Covid-19. Ankara: UNICEF Türkiye
- UNICEF. (2020). Supporting vulnerable children in Turkey as they adapt to the "new normal". UNICEF. Retrieved from: https://www.unicef.org/turkey/en/stories/supporting-vulnerable-children-turkey-they-adapt-new-normal
- UNICEF. (2020). Turkey - UNICEF COVID 19 Family Hygiene Kit – 2020. Ankara: UNICEF Türkiye. Retrieved from: https://data2.unhcr.org/en/documents/details/76490
- UNICEF. (2020). UNICEF Türkiye COVID-19 Response End-year Situation Report 2020. Ankara: UNICEF Türkiye.
- UNICEF. (2020). UNICEF Türkiye Covid-19 Strategy. Ankara: UNICEF Türkiye
- UNICEF. (2020). Guidance on Distance Learning Modalities to Reach All Children and Youth During School Closures. Kathmandu: UNICEF Regional Office for South Asia. Retrieved from: https://www.unicef.org/rosa/media/7996/file/Guidance%20Continuity%20of%20Learning%20during%20COVID-1
- UNICEF. (2021). Back to School, Hygiene, Masks, Physical Distancing. Next Step: Education (Arabic). UNICEF Türkiye. Retrieved from: https://www.unicef.org/turkey/media/11421/file
- UNICEF. (2021). Back to School, Hygiene, Masks, Physical Distancing. Next Step: Education. Ankara: UNICEF Türkiye. Retrieved from: https://www.unicef.org/turkey/en/media/11411/file
- UNICEF. (2021). Ensuring Continued Learning During the COVID-19 Pandemic in Turkey. Ankara: UNICEF Türkiye
- UNICEF. (2021). Humanitarian Situation Report No. 41 (Syria Refugees) 1 Jan - 31 Mar 2021. Ankara: UNICEF Türkiye
- UNICEF. (2021). Humanitarian Situation Report No. 41 (Syria Refugees) 1 Jan - 31 Mar 2021. Ankara: UNICEF Türkiye
- UNICEF. (2021). Conditional Cash Transfer for Education (CCTE) Programme for Syrians and Other Refugees. Ankara: UNICEF. Retrieved from: https://www.unicef.org/turkey/media/11731/file
- UNICEF. COVID-19 Education Response in Turkey - Concept Note. Ankara: UNICEF Türkiye
- UNICEF. (2022). Back to Learning Study 2021: Access to Education and Learning During COVID-19. Findings Report. Ankara: UNICEF Türkiye.

- US Department of Education. (2021). Education in a Pandemic: The Disparate Impacts of COVID-19 on America's Students. Washington, D.C.: United States
- Usher, K., Bhullar, N., Durkin, J., Gyamfi, N., & Jackson, D. (2020). Family violence and COVID-19: Increased vulnerability and reduced options for support. International journal of mental health nursing, 29(4), 549–552. https://doi.org/10.1111/inm.12735
- van Cappelle, F., Chopra, V., Ackers, J., & Gochyyev, P. (2021). An analysis of the reach and effectiveness of distance learning in India during school closures due to COVID-19. International Journal of Educational Development, 85, 102439.
- Villegas, C. C., Peirolo, S., Rocca, M., Ipince, A., & Bakrania, S. (2021). Impacts of health-related school closures on child protection outcomes: A review of evidence from past pandemics and epidemics and lessons learned for COVID-19. International journal of educational development, 102431.
- World Bank. (2020). Estimates of COVID-19 Impacts on Learning and Earning in Indonesia: How to Turn the Tide. Washington, DC: Unites States
- World Bank. (2020). Safe Schooling and Distance Education Project. Ankara: World Bank Türkiye
- World Bank. (2020, June 25). Responding to Covid-19 and Looking Beyond: Turkey Invests in Safer Schooling and Distance Education with the World Bank Support. World Bank Türkiye. Retrieved from: https://www.worldbank.org/en/news/press-release/2020/06/25/responding-to-covid-19-and-looking-beyond-turkey-invests-in-safer-schooling-and-distance-education-with-the-world-bank-support
- World Bank. (2021). A Simulation of COVID-19 School Closure Impact on Student Learning in Bangladesh. Washington, DC: Unites States https://openknowledge.worldbank.org/handle/10986/35043 License: CC BY 3.0 IGO
- Yalova Rehberik ve Araştırma Merkezı. (2021). Öğrenclern Covd-19 Pandemsnden Etklenme Düzeyler Araştırması. [Infographic]. Yalova Rehberik ve Araştırma Merkezı. https://yalovaram.meb.k12.tr/meb_iys_dosyalar/77/01/363601/dosyalar/2021_06/04142335_OYrencilerin_SalgYndan_Etkilenme.pdf
- Yaman, B. (2021). Covid-19 Pandemisi Sürecinde Türkiye Ve Çin'de Uzaktan Eğitim Süreç Ve Uygulamalarının İncelenmesi. OPUS International Journal of Society Researches, Pandemi Special Issue, 3298-3308. DOI: 10.26466/opus.857131.
- Yao, H., Memon, A. S., Amaro, D., Rigole, A., & Abdou, Y. D. (2021). Public health emergencies and school attendance: What the Ebola crisis can teach us about the coming post-COVID education landscape. International Journal of Educational Development, 85, 102457.
- Yalçın, A. ve Korkmaz, N. (2021). "Çalışmalıyım, çünkü para lazım" pandemide artan çocuk işçiliği araştırma raporu Diyarbakır örneği. Rengarenk Umutlar Derneği.
- Yaşam Hakları Derneği. (2021). Anneleriyle Birlikte Mahpus Olan Çocuklar. Istanbul: Yaşam Hakları Derneği
- Yazcayir, G., & Gurgur, H. (2021). Students with Special Needs in Digital Classrooms during the COVID-19 Pandemic in Turkey. 6(1).

- Yılmaz, A. B. (2020, September 23). EBA yetmedi. Milliyet. Retrieved from https://www.milliyet.com.tr/gundem/eba-yetmedi-6312839
- Yilmaz, M. B., Orhan, F., & Zeren, S. G. (2021). Adolescent emotion scale for online lessons: A study from Turkey. Education and Information Technologies, 1-18.
- Yüksel, E. A. (2021). Sınıf Öğretmenlerinin Covid-19 Salgını Sürecinde Çevrim İçi Ders-Uzaktan Eğitim Deneyimlerinin İncelenmesi. Ulakbilge Sosyal Bilimler Dergisi, 9(57), 291-303

DEVELOPMENT ANALYTICS
Tools for Evidence Based Policy Making

unicef
for every child