FUTURE OF WORK: WOMEN (DIS)CONNECTED

WONDER FOUNDATION INSIGHT REPORT

WONDER FOUNDATION

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ABOUT WONDER

WONDER Foundation is a charity led by women, for women. Fundamentally, we aim to transform the lives of women, girls, and their communities through quality education. In order to achieve this goal, we work with local partners who share our vision of a future where women and girls are leaders in their own lives. In practice, this means giving women and girls with fewer opportunities access to quality education and mentoring. Equipping them with technical, soft and decision-making skills for professional and personal development helps them break the intergenerational cycle of poverty.

Since WONDER was established as a charity in 2012, we have worked with 30 partners in 23 countries to empower over 60,000 women and girls through quality education and training.

We believe in our partners. Their expertise is key to responding to local needs, and it's what makes our work impactful and far-reaching. We have continued to support them through the COVID-19 pandemic, instances of political instability, and natural disasters including cyclones, volcanic eruptions, and earthquakes.

Migrant women studying at the Baytree Centre in London

Authors: Olivia Darby, Alexia Benchimol, and Taitum Caggiano with special thanks to our projects' staff and alumni who contributed to this.

Introduction

As an education charity, we have become deeply concerned about women's exclusion from online learning. **The COVID-19 pandemic has caused governments around the world to close schools, and with school closures, come a whole host of challenges for female students.** COVID shut our partner schools and projects around the world at different times and for varied durations. Students have been affected in a variety of ways. Some have faced curfews and restrictions that continue to disrupt their plans for the future, whilst others have been able to take their skills and quickly start small businesses amidst economic uncertainty. Throughout the pandemic, WONDER has been in dialogue with our partners, trying to understand the impact of COVID on organisations, staff, students, and alumni. We have used this dialogue to look for resources for our partners – from emergency food, to technological devices, to training for staff. As the pandemic evolves, our work is still continuing.

Exclusion from online learning is just the tip of the iceberg of a pervasive social problem known as the gender digital divide. This phenomenon describes how women are marginalised in digital spaces, such as: online learning, online job-hunting, internet research, jobs requiring technological skills, online banking, etc. In a world that is increasingly only accessible online, women's marginalisation from digital spaces has led to many women being totally excluded from services that others take for granted.

Throughout the pandemic – whether in working with migrant women at the Baytree Centre in London, or training women in hospitality with Wavecrest in Nigeria, or engaging culinary students with FPTI in the Philippines– **we have seen people with fewer opportunities be the most affected by COVID.** They have not been able to work from home, nor have they been able to learn online. They've been, simultaneously, most financially affected and unable to access the education that they had dreamed would transform their futures.

Student from WONDER's vocatonal training partner, BCPD, in the Phillipines studying at home on a donated tablet

To find out more about the impact of the pandemic on women and girls, and reflect on the lessons learnt, we hosted a Webinar called Women (Dis)connected on the 30th of November 2020.

Rosie Afia Ford (Senior Market Engagement Manager at GSMA Mobile for Development), Vivian Isichei (Lecturer at Wavecrest College of Hospitality, Nigeria), Esther Kodjo and Mary-Cynthia Adinuba (Students at Wavecrest College of Hospitality, Nigeria) shared their experiences with the gender digital divide.[1]

We now want to share these stories from Nigeria and the UK with you, along with insights from our projects in the Philippines, the Democratic Republic of Congo, Cameroon, Kazakhstan and Kenya. We hope that they will inspire you to think about the effects of digital exclusion during the COVID-19 pandemic and beyond, and most importantly, what can be done to build more resilience through quality education for the future.

1 You can watch our Webinar here https://wonderfoundation.org.uk/2020/12/11/learning-online-pandemic/.

Defining the Gender Digital Divide

Although there are several ways of defining the term digital divide, we find the following definition to be the most comprehensive: **the digital divide is a social issue that refers to the differences in resources and capabilities to access and effectively utilize information and communication technologies (ICTs)** within and between countries, regions, sectors and socio-economic groups.[2] The gender digital divide refers to inequalities between men and women, or boys and girls. In our view, the divide has three key components: access inequalities, use inequalities, and quality of use inequalities.[3]

Access inequalities: women and girls tend to have fewer possibilities to access ICTs than men and boys. Today, about 327 million fewer women than men have a smartphone and access to the mobile internet.[4]

Vivian Isichei at Wavecrest, WONDER's partner in Nigeria

Access inequalities as a challenge in education

Ifeoma Nwabachili, the Head of Academics at our Nigerian partner Wavecrest College of Hospitality believes that giving women access to technology is critical. Ifeoma has explained:

"My biggest challenge in teaching online has been teaching students who do not have the resources to engage. Many students don't have phones that support apps for learning, or have no phone, let alone a laptop and data to sign into class or internet connectivity. Another challenge was having to spend a lot more on data. Being the person in charge of academics, it was awful to see that most teachers had to use their phones as they didn't have laptops to teach with."

Vivian adds:

"While on one hand it was not an appropriate tool to use, on the other hand we have had to commend the lecturers that used their phones for teaching. It showed their high sense of commitment to the College and girl-child training.

In fact, one of the lecturers that used a phone to teach had the best feedback from the students. Why? She went out of her way to find ways to provide the students with study materials. She spent more time with the students online engaging them and making the course more interesting."

2 OECD (2018), "Bridging the Digital Gender Divide" http://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf . Kiran Q. (2018), "Gender Digital Divide; Does it Exist?", https://wpmu.mah.se/nmict181group1/gender-digital-divide/#:~:text=Gender%20Digital%20Divide%3A%20Throughout%20the%20world%2C%20economic%2C%20social,phenomenon%20referred%20to%20as%20the%20gender%20digital%20divide.

3 Iberdrola (2020), "Digital divide throughout the world and why it causes inequality", https://www.iberdrola.com/social-commitment/what-is-digital-divide.

4 OECD (2018), "Bridging the Digital Gender Divide" http://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf.der%20digital%20divide.

Wavecrest students doing socially-distanced learning

In view of these difficulties, WONDER has worked with Wavecrest College to provide data for 110 young women as well as laptops for teachers.

Use inequalities: women and girls lack digital skills in comparison to men and boys, and this deficiency impedes them from handling technology[5].

It's important to consider use inequalities, because giving women and girls access to technology is not enough to level the playing field.

Ensuring that women and girls have the necessary ICT skills to effectively use technology when they have access to it is also a fundamental concern.

Research shows that although ICTs allow people to live more productive and rewarding lives, ICT skills are underdeveloped among women.

5 OECD (2018), "Bridging the Digital Gender Divide" http://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf . Kiran Q. (2018), "Gender Digital Divide; Does it Exist?", https://wpmu.mah.se/nmict181group1/gender-digital-divide/#:~:text=Gender%20Digital%20Divide%3A%20Throughout%20the%20world%2C%20economic%2C%20social,phenomenon%20referred%20to%20as%20the%20gen

For example, it has been shown that in both developing[6] and developed[7] countries, women and girls benefit less than men and boys from having a computer at home because they face barriers to skills access. In developing countries, the issue tends to be that women and girls lack ICT skills entirely. In contrast, in developed countries, researchers have highlighted the issue of "splinter skills", or fragmented ICT abilities.[8] In other words, some women have enough skills to command some basic IT actions, but they face difficulty completing other seemingly related, simple digital functions. For example, a woman with such "splinter skills" might be able to type on a keyboard, but she is unable to turn off Caps Lock or navigate autocorrect options.

Fragmented ICT abilities in developed countries

Christina Christofi, the Academic Manager and a Literacy Tutor at Baytree Centre, has remarked her students' struggles **with "splinter skills"**:

"Many of my students have an email address. They might use it to receive information. But they might struggle with sending an email themselves."

Quality of use inequalities: some women and girls are unable to make good use of ICTs. This could be because they do not have the necessary knowledge to do so, or because there is a lack of relevant content. For instance, there may be a lack of content in some languages.[9]

Barriers to access key public health information

Brenda Osieyo, Co-Founder and Public Health Advisor at WONDER, has elaborated on her experience during the pandemic:

"As a GP, I have noticed that **there can be a disconnect between available information and guidance from the various public agencies and accessibility of that information to lay persons.**

This is due to multiple factors including the use of technical language or jargon, how the information is presented, and the choice and accessibility of platforms that the information is present on (internet, leaflets, outreach programmes, social media, religious groups).

For example, **some people, especially the older generation, new migrants and refugees are not as confident navigating the internet.** Equally, a proportion of people from BAME and other marginalised communities where English is not the main spoken language can struggle with accessing information that is not pitched and presented in way that is easy to understand and accessible.

In considering this, it's easy to see how **mis-information, mistrust, or fake news can lead to people making poor health choices."**

Digital learning at the Baytree Centre in London

6 Amaro D. et al, (2020), "COVID-19 and education: The digital gender divide among adolescents in sub-Saharan Africa", UNICEF, https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/.
7 Goedhart N. et al. (2019), "Just having a computer doesn't make sense: The digital divide from the perspective of mothers with a low socio-economic position", Sage Journals, https://journals-sagepub-com.gate3.library.lse.ac.uk/doi/full/10.1177/1461444819846059.
8 Goedhart N. et al. (2019), "Just having a computer doesn't make sense: The digital divide from the perspective of mothers with a low socio-economic position", Sage Journals, https://journals-sagepub-com.gate3.library.lse.ac.uk/doi/full/10.1177/1461444819846059.
9 Indigenous Peoples of Africa Coordinating Committee (2020), "Podcast: the Impact of COVID-19 on Indigenous Women in Africa", https://www.ipacc.org.za/blog/2020/07/27/podcast-the-impact-of-covid-19-on-indigenous-women-in-africa/.

The Baytree Centre distributed many laptops and tablets to young women and girls, who were struggling to access online learning from home during lockdown

The Root Causes of the Digital Divide

Factors affecting women and girls' experience with ICTs

As mentioned in the previous section, Christina Christofi is the Academic Manager and a Literacy Tutor at Baytree Centre, one of our partners in the UK. Baytree provides personal development activities, English classes, and specialised support to newly arrived migrant women and refugees. Christina has told us about their experience during lockdown:

"When we were first told that we were going into lockdown and we would need to find alternative ways to teach our students, my first reaction was to worry. I worried because **many of our students did not have access to computers or to an internet connection** where they live. Unfortunately, this is a reality for many girls and women around the world – especially those **without literacy skills.**

However, from what we could see, most of our students had smartphones and were comfortable using WhatsApp. This turned out to be the most accessible option for everyone: students and teachers with **limited computer skills,** those living in crowded accommodations that felt overexposed during videocalls, and those that had to adapt to new schedules. In particular, with school closures, mothers had to take care of their children at home. This was a challenge in itself because **mothers had to devote more time** on their children's education, and as a result, they had less time to spend on their own. It also meant that when there was only one laptop available in the home, it would invariably go to the children as opposed to the adults.

Thanks to WhatsApp, we were able to continue teaching our classes, but we still faced several challenges. One of the issues we noticed was that the students had **fragmented technological skills,** so even though they were able to use some functions on their smartphones, they still struggled replying to messages, turning the sound on/off, or accidentally leaving group chats. We often take these skills for granted, but not knowing how to handle technology effectively made them anxious about their learning. We tried to be attentive and support them through these difficulties.

Another challenge that some of our students faced **during the pandemic** was **domestic violence.** We have coaches at Baytree that act as mentors and can help students if they have welfare or housing issues. Our coaches have had to address cases of domestic abuse and help women access the services of the local authority. Technology has been very important. Without it, these women wouldn't have been able to tell us about their circumstances at home and access the help they need."

Christina has alluded to many of the factors conditioning women and girls' experience with ICTs. From her narrative as well as those of other women, we have identified the following root causes of the gender digital divide:

Geographic isolation: in rural areas, the investment and installation of infrastructures such as broadband infrastructures and cell phone towers is less economically profitable than in large cities. This disproportionally affects women in developing countries, as women seem to be more often located in rural areas, whereas working-age men tend to be mainly in urban areas.[10] Furthermore, women and girls in rural areas of developing countries face persistent structural constraints. For instance, they are more likely to be out of school than boys, more likely to do unpaid work for the family, and when employed, more likely to have shorter term and more precarious jobs than

10 UN Statistics (2016), "Table 7: Population by age, sex and urban/rural residence: latest available year, 2007-2016" in Demographic Yearbook – 2016 (database), United Nations Statistics Division, https://unstats.un.org/unsd/demographic-social/products/dyb/index.cshtml.

men and boys.[11] Ultimately, these constraints result in women being confined in technology-poor environments.[12]

Students are trying to beat the odds

Marybeth, a Teacher at Punlaan School in the Philippines, has noted that despite the lack of adequate infrastructure, students have proved their determination to continue learning:

"Even though **students are** struggling with poor connectivity, they are **willing to leave their house, climb hills, or go to different towns just to find good signal.** Their hunger to learn and desire to build their future is moving."

Ariana, a Student at Anihan Technical School in the Philippines, has been trying to overcome the issue of underdeveloped infrastructure. Her father has made remarkable efforts to help her and her brother study:

"Internet signal is very poor in my house… **To help my brother and I attend online classes, my father built a treehouse where we could have access to a better internet connection.** Sadly, the treehouse was recently destroyed by a typhoon, but my father is determined to rebuild it."

Poor infrastructure: the paragraph above has described the difficulties experienced by women and girls living in rural areas with weak technological infrastructure, but the effects of having underdeveloped infrastructure, whether it be technological or otherwise, are wide-reaching and cannot be encapsulated in just a few lines. For example, think about the effects of having unreliable sources of electricity. In both rural and urban areas of poor countries, power outages are common. This means that women and girls using battery-powered devices like smartphones, laptops or tablets for school will not know when they'll have the opportunity to charge their device. As a consequence, they will avoid using battery-draining apps or features, and when their battery eventually runs out, they will be unable to study, miss out on lessons, and submit assignments late.

Poor infrastructure as a persistent challenge

Esther, a Student at Wavecrest College of Hospitality in Nigeria, has shared her experience with online learning during the pandemic:

"I didn't have a phone or a laptop when the lockdown began. I started borrowing phones to attend classes and write my assignments, but I lost a lot of information. I didn't have a device where I could keep my notes and revise, so it was impossible for me to prepare for exams. **Charging the phones was difficult too, because electricity is patchy.** Until Wavecrest were able to lend me a smartphone while I was out of school, I had to miss classes, and I was always late submitting assignments."

Unaffordability: unaffordability is a key challenge for people of all genders[13], but it affects women and girls disproportionately.[14] The unequal division of paid and unpaid work and the gender wage gap impact the affordability of ICTs for women. Furthermore, economic dependence on male relatives often results in women having less control over their finances.[15]

11 UN Women Watch (2018), "Facts & figures: Rural women and the millennium development goals", www.un.org/womenwatch/feature/ruralwomen/facts-figures.html.
12 Owuato A. et al. (2016), "Kenya Digital and Cultural Divide", ICEGOV '15-16: Proceedings of the 9th International Conference on Theory and Practice of Electronic Governance, https://dl.acm.org/doi/10.1145/2910019.2910077.
13 International telecommunication Union (ITU). (2021). The affordability of ICT services 2020. ITU Publications, Alliance for Affordable Internet (A4AI). Retrieved from https://www.itu.int/en/ITU-D/Statistics/Documents/publications/prices2020/ITU_A4AI_Price_Briefing_2020.pdf
14 OECD (2018), "Bridging the Digital Gender Divide" http://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf.
15 Kiran Q. (2018), "Gender Digital Divide; Does it Exist?" https://wpmu.mah.se/nmict181group1/gender-digital-divide/#:~:text=Gender%20Digital%20Divide%3A%20Throughout%20the%20world%2C%20economic%2C%20social,phenomenon%20referred%20to%20as%20the%20gender%20digital%20divide.

A BCPD Student studying in a treehouse that her father had built for her to study at home, as she couldn't get a signal in their house

Above and below: BCPD staff hiked out to villages in the Philippines, to ensure that their students had the tablets that they needed to continue studying while schools were closed

Unaffordability as a central concern

At the start of the pandemic, 17-year-old student Maxinne wasn't sure that she could continue her culinary arts course at Anihan Technical School:

> "My family can't afford to support my studying online because they have to spend money for my cell phone prepaid load for me to connect to the internet using cellular data".

With WONDER's support, our local partner The Foundation for Professional Training Incorporated (FPTI) has been distributing tablets and data to 359 young women like Maxinne.

Lack of awareness of the potential benefits that ICTs may bring: women are significantly more likely than men to not use the internet because they think they *"do not need it"* or they *"do not want it"*.[16] Research has shown that most women who do not engage online believe that accessing the internet would not bring them any benefit.[17]

The "leaky pipeline" phenomenon: women may choose taking care of their families and other domestic responsibilities over their own personal development. Men are significantly less likely to make this choice.[18]

Socio-cultural perceptions and biases: socio-cultural perceptions of women may dictate that boys' education should be prioritized over girls' education. If there is only one computer in the house, families may be inclined to give it to the boys. Additionally, biases may prevent women from obtaining senior roles in digital companies to the same extent as men.[19] For example, in the mobile industry, women worldwide are 20% less likely to hold a senior leadership position than men. In Africa, the percentage of women holding senior positions in the mobile industry falls to a mere 10%.[20]

Negative perceptions of women using ICTs

An anonymous international student at the Open University, in the UK, has explained:

> "In my country, **many men still believe the internet is their domain and women shouldn't be participating alongside them.** I've taken part in open discussions before and had a terrible experience – threats, abuse – real hatred. From a standpoint of initially feeling confident and excited about making connections across the world, now I feel fearful and out of my depth. I'm happy to participate in closed discussion forums but feel scared about doing so more openly, especially if I'm required to show my true identity."[21]

Lack of family support: negative social perceptions associated with women and girls' use of ICTs and lack of acceptance by family members are discouraging for women and girls. In India, around 12 % of women report not using the internet because of the negative social perception associated with its use, and 8% report avoiding internet use due to the lack of acceptance by family members. Conversely, family is a key enabler when it comes to using the internet. Active female internet users are three times more likely to have families who are "very supportive" of their internet

16 Fallows, D. (2005), "How Women and Men Use the Internet", Pew Internet and American Life Project, www.pewinternet.org/2005/12/28/how-women-and-men-use-the-internet/.
17 Intel and Dalberg (2012), "Women and the Web. Bridging the Internet and Creating New Global Opportunities in Low and Middle Income Countries", Intel Corporation and Dalberg Global Development Advisors, https://www.intel.com/content/dam/www/public/us/en/documents/pdf/women-and-theweb.pdf.
18 Sumanjeet S. (2017), "Bridging the gender digital divide in developing countries", Journal of Children and Media.
19 Farrell, D. and F. Greig (2017), "The Online Platform Economy: Has Growth Peaked?", JP Morgan Chase Institute, https://www.tandfonline.com/doi/abs/10.1080/17482798.2017.1305604?journalCode=rchm20. The New York Times (2017), "Push for gender equality in tech? Some men say it's gone too far", The New York Times, https://www.nytimes.com/2017/09/23/technology/silicon-valley-men-backlash-gender-scandals.html. Seetharaman, D. (2017), "Facebook's female engineers claim gender bias", The Wall Street Journal, https://www.wsj.com/articles/facebooks-female-engineers-claim-gender-bias-1493737116. WEF (2017), "The Global Gender Gap Report 2017", World Economic Forum, Geneva, http://www3.weforum.org/docs/WEF_GGGR_2017.pdf.
20 GSMA and ATKearny (2015), "Accelerating the Digital Economy: Gender Diversity in the Telecommunications Sector", https://www.atkearney.com/documents/10192/5580445/Connected+Women+2015-WDReport.pdf/d3c08b0a-fab6-431c-80c0-0d332b9e882d.
21 Commonwealth of Learning (2021), "Digital Inclusion: Addressing Cyberviolence and Online Hate against Women", https://www.youtube.com/watch?v=MVkuZBh0VbQ .

use, whereas female non-users are six times more likely to be exposed to family opposition.[22]

The burden of household duties and unsupportive environments

Vivian Isichei is a Lecturer at Wavecrest College of Hospitality, our partner in Nigeria. She has told us about her students' struggles balancing online school and household responsibilities during the pandemic and about the importance of family support:

"In the bid of following up one of my Tutees during the lockdown, she told me over the phone that she had just had a surgical operation and at the same time while healing up, she had to battle with housechores on one hand and the phone on the other while trying to attend classes."

In the words of another student of mine, she says

"Ma'am, once I am at home, no one cares about the fact that I need to attend lectures, they take it for granted that I am available and so I have to do all the chores leaving me no time to attend classes or study".

Wavecrest's Ifeoma adds:

"Not all the students could come online because they had duties at home. Women and girls have additional responsibilities. We realized that they would often come in the beginning of the class but they wouldn't stay for long, because they were expected to do chores. **On the flipside, many guardians called us to congratulate us on the initiative,** because we were one of the few institutions to continue teaching during the pandemic. **This was very encouraging,** both for us and for the girls. Overall, teaching online made us see that women are disconnected, and we need to get them connected."

Illiteracy: about 83% of women worldwide are literate[23], compared to 90% of men.[24] Illiterate women only appear to be using online platform services (such as Skype and YouTube) that are more familiar to them or are easier to use.[25] For immigrants in particular, lack of foreign language skills presents an additional barrier.

Digital illiteracy: lack of ICT skills or inadequate ICT skills are a major hurdle to women and girls' quality use of technology. Studies show that girls face disadvantages in acquiring ICT skills. In Ghana, for example, 16% of adolescent boys possess ICT skills compared to only 7% of adolescent girls.[26] [27]

"In Wavecrest College of Hospitality, Computer Application is compulsory for students at all levels and it is so sad to see young girls coming from secondary education where ICT is taught and yet do not know how to put on a computer nor know how to handle a mouse to click on icons - not to talk of working with Microsoft packages. The majority are taught every single thing from scratch." Vivian Isichei.

22 Intel and Dalberg (2012), "Women and the Web. Bridging the Internet and Creating New Global Opportunities in Low and Middle Income Countries", Intel Corporation and Dalberg Global Development Advisors, https://www.intel.com/content/dam/www/public/us/en/documents/pdf/women-and-theweb.pdf. European Commission (2018), "Increase in gender gap in the digital sector - Study on Women in the Digital Age", https://ec.europa.eu/digital-single-market/en/news/increase-gender-gap-digital-sector-study-women-digital-age. 22 Intel and Dalberg (2012), "Women and the Web. Bridging the Internet and Creating New Global Opportunities in Low and Middle Income Countries", Intel Corporation and Dalberg Global Development Advisors, https://www.intel.com/content/dam/www/public/us/en/documents/pdf/women-and-theweb.pdf. European Commission (2018), "Increase in gender gap in the digital sector - Study on Women in the Digital Age", https://ec.europa.eu/digital-single-market/en/news/increase-gender-gap-digital-sector-study-women-digital-age.

23 The UNESCO Institute for Statistics measures literacy "according to the ability to comprehend a short, simple statement on everyday life," (UIS (n.d.) Literacy Rate. UIS. Retrieved from http://uis.unesco.org/en/glossary-term/literacy-rate) This means that the percentage of women considered literate by these measures is much higher than the percentage of women who are literate enough to read and write at levels which would allow them to function within society easily.

24 UNESCO (2017), "Literacy rates continue to rise from one generation to the next", Fact Sheet No. 45, September, FS/2017/LIT/45, http://uis.unesco.org/sites/default/files/documents/fs45-literacy-rates-continue-rise-generation-to-next-en-2017.pdf.

25 UNESCO (2017), "Literacy rates continue to rise from one generation to the next", Fact Sheet No. 45, September, FS/2017/LIT/45, http://uis.unesco.org/sites/default/files/documents/fs45-literacy-rates-continue-rise-generation-to-next-en-2017.pdf.

26 Amaro D. et al, (2020), "COVID-19 and education: The digital gender divide among adolescents in sub-Saharan Africa", UNICEF, https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/.

27 Chair, C., Brudvig, I., Cameron, C., Thakur, D., Iglesias, C., Rodriguez, A. (2020). Women's Rights Online: Closing the digital gender gap for a more equal world. World Wide Web Foundation. Retrieved from http://webfoundation.org/docs/2020/10/Womens-Rights-Online-Report-1.pdf

"As a newly opened ICT training centre, Port Bell Academy (PBA) was challenged at the very first hour. Indeed, we started the first short course in mid-February 2020 and in mid-March 2020 the Cameroonian government declared the lockdown. By then, we had not taught to our girls [university students] how to follow the class online and unfortunately 4/5 knew nothing about Zoom, Google Meet, or Microsoft Teams… as a teacher I had to spend the whole morning calling one student after another and spend some 30-45min with each explaining how to download the app, install it on their smartphone or computer to try to join a meeting I had just created…" Geraldine Foualem, Port Bell Academy, Douala.

Cyber-violence can deter women and girls from using ICTs: research shows that women are disproportionately the targets of some forms of cyber-violence, such as sexual harassment and cyber-stalking.[28] In poorer countries, such as Nigeria, Kenya or the Philippines, lack of capacity and digital infrastructure to find evidence and go after perpetrators presents an additional challenge.

In February 2020, the Web Foundation conducted a global survey of young people's experience of online abuse and harassment.

52% of young women and girls claimed to have experienced online abuse, including threatening messages, sexual harassment, and the sharing of private images without consent. 87% of young women and girls thought the problem is getting worse.[29] These forms of violence can be traumatic, and deter women from continuing to use ICTs. They are also a key reason for families' opposition to women and girls' use of the internet or ownership of a mobile phone.[30]

Relatedly, in the context of COVID, it is important to note that government restrictions have left millions of people from all genders vulnerable to a growing "shadow pandemic" of violence.[31] This includes cyber-violence, domestic violence, and exploitative grooming of children. Technology enables victims of abuse to seek help discreetly, which makes access and the ability to use ICTs vital during these times.

Therefore, it can be seen that women and girls are being excluded from the benefits that online connection brings while they are also the most vulnerable to the risks of exploitation through internet use. Beyond this, the exclusion of vulnerable women from education and services via the internet excludes them not only from employment through being inadequately qualified, but also from amplifying their voices due to an inability to communicate through technology. If women and girls do not have equal access, their voices and talents will not contribute to the design of online services going forward, and the internet, often seen as a 'great leveller' in allowing people to be heard from all over the world, will perpetuate and even deepen existing inequities.

A girl studying at the Baytree Centre during the pandemic

28 EIGE (2020), "Cyber violence against women and girls", https://eige.europa.eu/publications/cyber-violence-against-women-and-girls.
29 Web Foundation (2020), "Survey – Young People's Experience with Online Harassment", http://webfoundation.org/docs/2020/03/WF_WAGGGS-Survey-1-pager-1.pdf.
30 OECD (2018), "Bridging the Digital Gender Divide", http://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf.
31 UN Women (2020), "COVID-19 and violence against women and girls: addressing the shadow pandemic", Public Policy Brief No. 17, COVID-19 Response, UN Women, https://reliefweb.int/sites/reliefweb.int/files/resources/policy-brief-covid-19-and-violence-against-women-and-girls-en.pdf.

COVID, Education and the Gender Digital Divide

The need to ensure digital inclusion has been recognised globally in the Sustainable Development Goals[32], the EU's Digital Single Market Strategy[33], and the African Union's Digital Transformation Strategy.[34]

It is crucial that we address the gender digital divide because digital and social inequalities are interrelated. **On one hand, the digital divide can exacerbate existing social inequalities, becoming an extra barrier for women and girls' empowerment.** The gender digital divide means that women are under-represented in ICT jobs, top management, and academic careers.[35] It also means that, with the increasing digitalization of the economy, women will have difficulties participating in an increasing number of industries.

On the other hand, greater access and use of digital technology can help correct existing gender inequalities in education, employment, and other areas. Greater access and use of digital technology can also offer additional educational or employment opportunities, improved access to financial services (such as online banking) and improved access to valuable information (such as information on women's health).[36]

Wavecrest teacher Veronica Esode at the wash station set up at the school's entrance

32 UN (2020), "Sustainable Goals Report", https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf.
33 European Parliament (2018), "Gender equality in the EU's digital and media sectors", https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2018)614695.
34 African Union (2020), "The Digital Transformation Strategy for Africa", https://au.int/sites/default/files/documents/38507-doc-dts-english.pdf.
35 OECD (2018), "Bridging the Digital Gender Divide", http://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf . For European statistics, see European Commision (2018), "Increase in gender gap in the digital sector – Study on Women in the Digital Age", https://ec.europa.eu/digital-single-market/en/news/increase-gender-gap-digital-sector-study-women-digital-age.
36 Hannah H. (2018), "5 ways tech can help to close the gender gap", https://www.weforum.org/agenda/2017/07/to-fix-the-gender-gap-fix-the-digital-divide/. 32 UN (2020), "Sustainable Goals Report", https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf.
33 European Parliament (2018), "Gender equality in the EU's digital and media sectors", https://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2018)614695.
34 African Union (2020), "The Digital Transformation Strategy for Africa", https://au.int/sites/default/files/documents/38507-doc-dts-english.pdf.
35 OECD (2018), "Bridging the Digital Gender Divide", http://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf . For European statistics, see European Commision (2018), "Increase in gender gap in the digital sector – Study on Women in the Digital Age", https://ec.europa.eu/digital-single-market/en/news/increase-gender-gap-digital-sector-study-women-digital-age.
36 Hannah H. (2018), "5 ways tech can help to close the gender gap", https://www.weforum.org/agenda/2017/07/to-fix-the-gender-gap-fix-the-digital-divide/.

Furthermore, it is crucial that we address the gender digital divide now, in light of the COVID-19 pandemic.[37] [38] The last year has highlighted the great challenges that the women and girls studying in WONDER's projects face. In both rich and poor countries, vulnerable women and girls have struggled to move their learning online during COVID, and **access to digital technology is no longer seen as a luxury – but a necessity for all.**

We stand at a crossroads

Phumzile Mlambo-Ngcuka, the Executive Director of UN Women has argued that connectivity is a vital lifeline and should be a human right. She noted:

"We can allow the coronavirus crisis to reinforce the worst impacts of the digital gender divide, or we can use the crisis to accelerate change, expand horizons, and get millions of girls and women online."

In 2020, as COVID-19 spread across the globe, over 190 countries implemented nationwide school closures.[39] About 90% of all students (1.57 billion students!) were out of school. Distance learning solutions were provided in four out of five countries.[40]

Hence, access and capabilities to use ICTs have emerged as critical factors that will determine whether teachers and students across the world can continue teaching and learning in times of emergency. This is of special urgency considering the impact of climate change on the frequency of communicable disease and natural disaster.[41]

Education during the pandemic

Assina is in charge of development and life learning at Lycée Liziba, our partner in the Democratic Republic of Congo. She has explained:

"**We want students to be able to study, but families do not have the funds to pay for much data. Out of 265 families, 40 have laptops at home,** and the rest only have access to mobile phones. So, we have chosen to teach using Eteylo, a platform for online learning designed by an education start-up here, and WhatsApp."

Thanks to the teachers' creativity and resilience, Lycée Liziba is among the handful of Congolese schools continuing to deliver learning during lockdown. Similarly, our partners in the UK and Nigeria, Baytree Centre and Wavecrest College of Hospitality, have also demonstrated a deep commitment to their student's education. **In order to make learning accessible, teachers decided to use WhatsApp** and continue offering support during lockdown. Voice notes, videos, and texts on WhatsApp can be opened from smartphones, and they can be opened at any time of the day. Thus, the platform has proved to be convenient for women and girls who cannot afford to pay for a computer or for much data, as well as for women and girls who are expected to do chores in the house.

37 Blaskó Z. et al. (2020), "How will the COVID crisis affect existing gender divides in Europe?", European Commission, https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/how-will-covid-19-crisis-affect-existing-gender-divides-europe. Marsan G. and Ruddy L. (2020), "'Digital gender divide' is getting wider", Bangkok Post, https://www.bangkokpost.com/opinion/opinion/1915812/digital-gender-divide-is-getting-wider.

38 United Nations, Asian Development Bank, and United Nations Development Programme. (2021). Responding to the COVID-19 Pandemic: Leaving No Country Behind. United Nations. Retrieved from https://www.unescap.org/sites/default/d8files/knowledge-products/SDGReport_Responding%20to%20the%20COVID-19%20Pandemic.pdf

39 United Nations Educational, Scientific and Cultural Organization (UNESCO). (2021). When schools shut: Gendered impacts of COVID-19 school closures. UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000379270, p. 29

40 UN (2020), "Sustainable Goals Report", https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf. 37 Blaskó Z. et al. (2020), "How will the COVID crisis affect existing gender divides in Europe?", European Commission, https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/how-will-covid-19-crisis-affect-existing-gender-divides-europe. Marsan G. and Ruddy L. (2020), "'Digital gender divide' is getting wider", Bangkok Post, https://www.bangkokpost.com/opinion/opinion/1915812/digital-gender-divide-is-getting-wider.

38 United Nations, Asian Development Bank, and United Nations Development Programme. (2021). Responding to the COVID-19 Pandemic: Leaving No Country Behind. United Nations. Retrieved from https://www.unescap.org/sites/default/d8files/knowledge-products/SDGReport_Responding%20to%20the%20COVID-19%20Pandemic.pdf

39 United Nations Educational, Scientific and Cultural Organization (UNESCO). (2021). When schools shut: Gendered impacts of COVID-19 school closures. UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000379270, p. 29

40 UN (2020), "Sustainable Goals Report", https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf.

41 Karn, M., & Sharma, M. (2021). Climate change, natural calamities and the triple burden of disease. Nature Climate Change, 11(10), 796–797.

Nursing students at WONDER's partner ISSI in Kinshasa, DR Congo

When women and girls are expected to do chores, they cannot keep to a strict online study schedule. Esther and MaryCynthia have emphasized that, in Nigeria, when they are at home they are seen as available for housework:

> "when girls are at school they are understood to be studying, but when they are at home their time is not respected."

WhatsApp, together with the continuing support from their teachers, gives female students some much-needed flexibility.

Nevertheless, the mobile messaging app is not a complete solution to the problem of exclusion from distance-learning. For some women and girls, the **cost** of smartphones and data is still too high, **infrastructure** is still too poor, and **socio-cultural conditions** still make it too difficult to study from home without distractions. Furthermore, recordings and texts are not perfect substitutes for live interactions – they must be understood as short-term fixes to the far-ranging problem of digital inequality.

On a positive note – as WONDER's partner project leaders and educators have grown ever more confident in their digital skills and ability to innovate in the last year, this learning can also be seen as an opportunity.

In Lagos, Nigeria, it is not unusual for people to commute for 3 hours each way in the city's overwhelming traffic. This loss of 6 hours a day to travel creates barriers to learning when time is also needed to earn money or care for family members.

Incorporating well-planned digital learning into established programmes could enable more women to advance their studies, especially those in more remote areas, through blended learning.

Opportunities for digital learning post-COVID

MaryCynthia, a Student at Wavecrest College of Hospitality, has explained how the opportunity of learning from home could be very beneficial to students:

"We wouldn't have to worry about traffic or the cost of transportation to Wavecrest and to cafes for printing. Many of us travel about 5 hours a day to get to Wavecrest, **so remote learning can make studying more comfortable and accessible for women and girls that live far away."**

Similarly, Kai and Maxinne, Students at Anihan Technical School in the Philippines, are hopeful:

"Online classes help us save money and time in transportation, and they give us a way of accessing learning materials and asking questions when we are at home, for example, because of an illness."

In Kazakhstan, the move online has meant that our local partner, KFCSED, has been able to make their programme for vocational school teachers accessible from all over the vast country. In DR Congo, WONDER has worked with our partner ISSI, recognised as DR Congo's best nursing school, to develop opportunities for online learning for trained nurses. The internet is out of reach for most people in DRC as many parts of the large and poorly connected country do not even have mobile phone coverage.

However, the need to make training available to nurses to prepare them to address COVID and repeated Ebola outbreaks, combined with our own confidence thanks to our newfound reliance on online working, helped us to develop a partial solution for which we have already gained some funding. We are working with them to install 'learning stations' in hospitals where nurses, who might not be able to access online learning from home, will have access to an internet-connected computer, and therefore, to the online training being developed for them.

However, in order for online learning or blended learning to be effective, the capacity of educators needs to be developed. Teaching online requires a different pedagogy than teaching in the classroom, and if learning, especially if it's skill or competence-based, is also to be measured remotely, new methods of testing need to be established. These require educational institutions to be open to new ideas and devotion of resources to upskilling teachers so that they can better serve their students and potential students.

Students at WONDER's partner Anihan, in the Philippines

CONCLUSION

The gender digital divide presents tangible risk to the health, education and wellbeing of women and girls around the world, regardless of their nation's GDP. Inequalities within access, use and quality of use of digital resources threaten to further marginalise already marginalised populations of women. These inequalities will only be exacerbated as the root causes of the gender digital divide remain unacknowledged and unaddressed.

We have also remarked that the gender digital divide is rooted in gender inequalities that have existed for many years – socio-cultural perceptions of women and their roles, geographical isolation, poor infrastructure, income gaps, etc. However, digital inequalities are not invariably rooted in society. There is hope for women and girls to become more connected to the digital sphere, and consequently, to the knowledge and opportunities found within it. WONDER's partners have shown that it is possible to take this challenge as an opportunity, and we believe in their vision.

Bridging the gender digital divide will open new doors for women and girls. It will give them the freedom to continue their education, seek employment in industries requiring digital literacy, create digital tools and online content, and speak out on issues that affect them. We believe that with the appropriate action on the part of policy-makers and government leaders, women and girls can move from disconnection to connection.

RECOMMENDATIONS

The gender digital divide is having severe impacts on women and girls worldwide. The divide's continued aggravation of existing inequalities related to education, employment, protection from different forms of cyber-violence, and ultimately quality of life, demonstrates its significance. This report provided concrete examples of how minorities and the poor are being left behind as we rely increasingly on digital resources. **Policy-makers must ensure that those who cannot afford to be online or do not have the skills to engage with this technology are not further excluded. Free or subsidised internet and devices for those most in need should be considered as essential.**

Funders and policy makers should ensure that, as they address the ongoing, long-term impact of COVID, the digital divide is recognised and remembered. Prior to COVID, access to the internet was often seen as a luxury. As increased numbers of essential services rely on citizens to access them online, we can see that those women and their families who cannot access them could be further marginalised. **Developers of essential online services must create online platforms that are accessible to those with minimal ICT skills, and in addition, provide easy to follow video tutorials on platform use. Where possible, resources should be allocated to facilitate the use of online services by women and girls with minimal and splinter ICT skills.**

Those designing and funding projects should take advantage of the growth in digital awareness and competence amongst educators and communities. For example, in cities and countries without good transport or long commute times, courses could be made more accessible through blended learning. **Essential professionals in typically low-paid roles such as nurses and teachers, who may not be able to afford data or laptops, should be enabled to learn in the workplaces through the setting up of online learning stations.** This approach would also enable those living in areas with poor mobile internet signals to learn online. **Workplaces and training centres should provide online access to training courses and workshops to ensure inclusive participation.**

WONDER's partners have shown that challenges presented by the gender digital divide have also been opportunities to expand access to their courses and to reassess their approach to teaching and self-study. There needs to be continued investment in educators' digital skills and understanding how people learn best online in different contexts. This will ensure that online learning is effective, rather than simply taking place. **Locally effective pedagogies and digital literacy programmes for educators need to be developed and funded.**

Small organisations have been left to discover effective methodologies in the face of minimal resources. Their work demonstrates their capacity for change and leadership. The innovation led by them should be studied to ensure that new digital tools meet their needs, recognising the expertise that local practitioners have developed. **In working towards closing the gender digital divide, policy-makers should consult leaders within small organisations to compile best practices and allow for bottom-up knowledge sharing.**

The importance of personal contact between educators and students must be recognised. Whether remote or in person, personalised support between teachers and students is essential, particularly for those with low-skilled or low-educated social network. Teachers do not simply transfer knowledge to students, they recognise that each student learns in a different way and faces different challenges in and outside of the classroom. Keeping students' personal needs in mind, they identify the best way to help them to learn and adapt this to students' needs as they change. Digital learning cannot replace this personalised attention, especially for those learners who have the highest support needs. However, personalised attention and mentoring can be made more accessible using digital tools. **Funding must be allocated to teachers so that essential personalised support, whether online or in the classroom, can be accessed, especially by those students who are most in need.**

While discussions with our partners have revealed that the one-on-one support from teachers is crucial to making online learning accessible to women and girls with minimal ICT skills, teachers have a limited amount of time and capacity to respond to individual needs even when funding for personalised support is available. However, our partners have noted that ICT skill sharing through formal and informal mentoring relationships has been successful. **In order to meet the need for individualised technical support without overburdening teachers, the funding and development of ICT skill mentoring programmes should be prioritised by policy-makers.**

Wavecrest student on her first day of attending classes at the school

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