Full report

Real girls, real lives, connected

A global study of girls' access and usage of mobile, told through 3000 voices

Vodafone Foundation | Girl Effect

Preface

"People say that the girl who touches the phone is a bad girl.
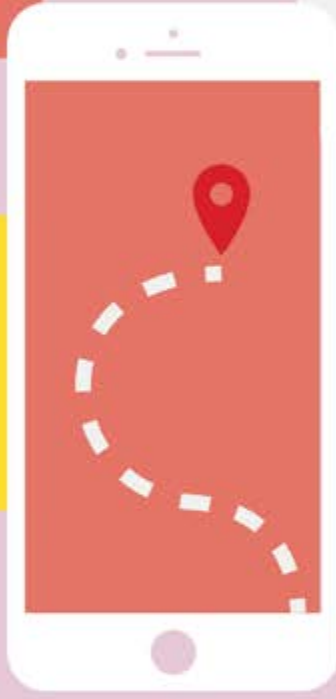
Rosni, 16, Bangladesh

Acknowledgements

This study involved participation, input, and engagement from a range of different groups. In particular, Girl Effect would like to thank the gender, international development, and mobile technology stakeholders for expert opinions; the Review Committee for valuable comments and suggestions during the drafting process; TEGA researchers for carrying out extensive fieldwork; and the 3,000+ girls, boys, women, and men who participated in the research.

Foreword

We know that mobile is transforming the lives of people around the world, but we also know this isn't happening equally. Once again, those who have the most to gain from new technologies, adolescent girls, are being left behind.

Progress is sexist. Girls have less access to mobile than boys, and the access they do have is more complicated than previously thought. Where sons might be getting hold of a mobile phone as a matter of course - accessing and using it independently - daughters are having to seek permission, borrow, or have their activity monitored.

These negative social norms are increasingly leaving girls with a digital literacy skills gap that puts them at risk. When girls do access mobile, and get online, what they find is rarely created with their experience in mind, often reinforcing the very same gender norms that hold them back.

Girl Effect's mission is to empower girls to change their lives. That's why we've come together with Vodafone Foundation, aligned around an ambitious objective to empower seven million girls across eight countries through mobile and technology.

Before we can begin to transform lives with the power of mobile, we need to understand the daily reality for vulnerable girls. Our partnership with Vodafone Foundation starts with this report, the world's **first comprehensive global study** into adolescent girls' access and usage of mobile.

The report shows how incredibly pervasive many social and gender norms are when it comes to technology. And yet, we can see that girls are aware of the positive impact mobile technology can have on their lives, and are devising creative strategies to access it.

This research presents the technology and development sectors with the chance to create solutions for and with girls that can have a real and lasting impact on their lives. Together, we have the opportunity to reach girls and meet their needs at scale, contributing towards the United Nations' Sustainable Development Goals. We can rewrite literacy for the digital age, address the mobile gender gap, and challenge our own norms.

Let's work together to give girls what they need to achieve their potential and transform their lives.

Claire Tavernier,
Interim CEO, Girl Effect

1.5x more likely to own a mobile phone than girls

Based on sample of 1210 respondents in 6 countries

1.5x

Key takeaways

Limited global research exists about girls' and boys' access to and use of mobile phones

For girls, access is much more diverse and colourful than simply whether they 'have' or 'have not' got a phone. Access is often transient, and diverse ownership, borrowership and sharing practices are flourishing

Boys are 1.5 times more likely to own a phone and 1.8 times more likely to own a smartphone. They're also more likely to use phones in more diverse and internet-enabled ways than girls

Girls are going to great lengths to gain access. They are active agents in achieving their own access, and in some cases have 'secret phones'

When girls have less access to mobile, they have fewer opportunities to learn to use mobiles in ways that benefit them - and they perceive the phone as being more dangerous than girls who have more access

Boys are more likely to use a phone for a wider range of activities than girls

Affordability can be a major barrier for girls and boys; however, girls often face a range of social barriers which can overtake affordability as an issue

Girls worry about the risks they might be exposed to through phones, particularly when it comes to social media

The phone is a paradox: girls see a positive for every negative. However girls who experience a range of social restrictions appear more likely to internalise ideas that phones can be unsafe and girls can not be trusted with the phone

Phones, apps and digital platforms are not currently designed for the ways in which girls use them (which includes shared use and borrowing) or might want to use them in future

More needs to be done to equip parents and young people with the knowledge of how to stay safe online

3,000

Introduction

Around the world, mobile[1] and internet access is rapidly increasing. Unique mobile user penetration reached 68% in January 2018, up 4% year on year and internet penetration reached 53% – up 7% year on year (Kemp 2018).

However, mobile and internet access is not growing equally. In low and middle income countries, women are on average 10% less likely than men to own a phone. Globally, 184 million fewer women own a mobile phone than men. This gap is even wider with regard to mobile internet, with women 26% less likely to use it than men in these countries (Rowntree: 2018).

If this gendered access gap is to be effectively addressed it needs to be understood. In particular, little is known about mobile access for adolescent girls.

This was reaffirmed through the expert interviews that were a component of this study. Experts in international development, gender, and mobile technology noted that adolescent girls are generally subsumed within the broader category of 'women'. However, they often experience different and additional challenges. This difference could affect their knowledge, attitudes, and behaviour regarding mobile phones. This study was born out of the need to understand the intricacies of girls' access and usage of mobile phones.

This report relies on girls' own understandings and definitions of mobile technology. Mobile handsets could be defined differently by different girls, however prior research has highlighted that girls tend to define 'smartphones' as those which have some combination of a large touchscreen, apps, and internet access.

In contrast, basic phones tend to be defined as those with small screens, keypads and no internet access. Girls generally don't consider 'feature' phones as a discrete category, but instead see them as better or worse versions of basic and smartphone handsets. For this reason the 'feature' phone definition is not used in this report.

[1] 'Mobile technology' can refer to a wide range of technologies and portable devices, however for the purpose of this report, we use 'mobile' and 'mobile technology' to mean phones (basic, feature and smartphone devices), that use cellular Global System for Mobile communications (GSM) and Code Division Multiple Access (CDMA) standards for wireless communication i.e. calls, SMS, IVR, and for some devices, internet access.

Literature review

At the outset of the study, a literature review was undertaken to identify relevant sources exploring girls' access to and usage of mobile phones.

A single reviewer searched Taylor & Francis Social Science and Humanities Library, ProQuest Education Database, Elsevier ScienceDirect Journals Complete, EBSCOhost Academic Search Premier, Gale Cengage Academic OneFile and grey literature databases, and identified more than 30 relevant qualitative and quantitative reports, articles, and academic studies. Using a bespoke data extraction tool, each source's aim, key questions, sample size and location, methodology (and limitations), data collection instruments, findings and implications were collated.

Many of the grey literature and academic studies explored women and girls' access to mobile phones and internet access - as well as the impact of access, and the importance of closing the digital gender gap. However, despite studies noting that increased access to information and technology can lead to better learning outcomes for children, girls disproportionately continue to face barriers to access (Plan International: 2018).

Studies also highlighted that outside high income countries, there is a lack of data on girls and women in the technology sector (Plan International: 2018).

More specifically, UNICEF notes that access to information is a right and depriving children can lead to increased and cyclical poverty (UNICEF: 2017).

Several of the sources highlight the complexity of mobile phones. By using mobile phones, girls can face scrutiny from their communities, but they can also use the device to provide emotional support by calling friends and family. Girls can be distracted by phones in school, but can also use the internet for research and to advance their studies. They can pursue boys, as well as pursue jobs and opportunities. Girls can be harassed online, or report harassment using a mobile phone without fearing for their safety.

Amongst all the studies reviewed, none featured data collected by girls themselves regarding how they are accessing and using mobile phones. Many of the qualitative studies focused on a single or small number of countries studied and they were also limited by the extent to which they explored the consequences and repercussions that adolescent girls face when caught with a phone. In addition, there were gaps in the literature regarding how girls hope to use phones with internet access if granted the permission to do so.

This literature review reaffirmed the importance of this current study. There is a clear data and insights gap in this area, and an urgent need to hear directly from girls about the challenges and realities associated with how they are accessing and using mobile phones.
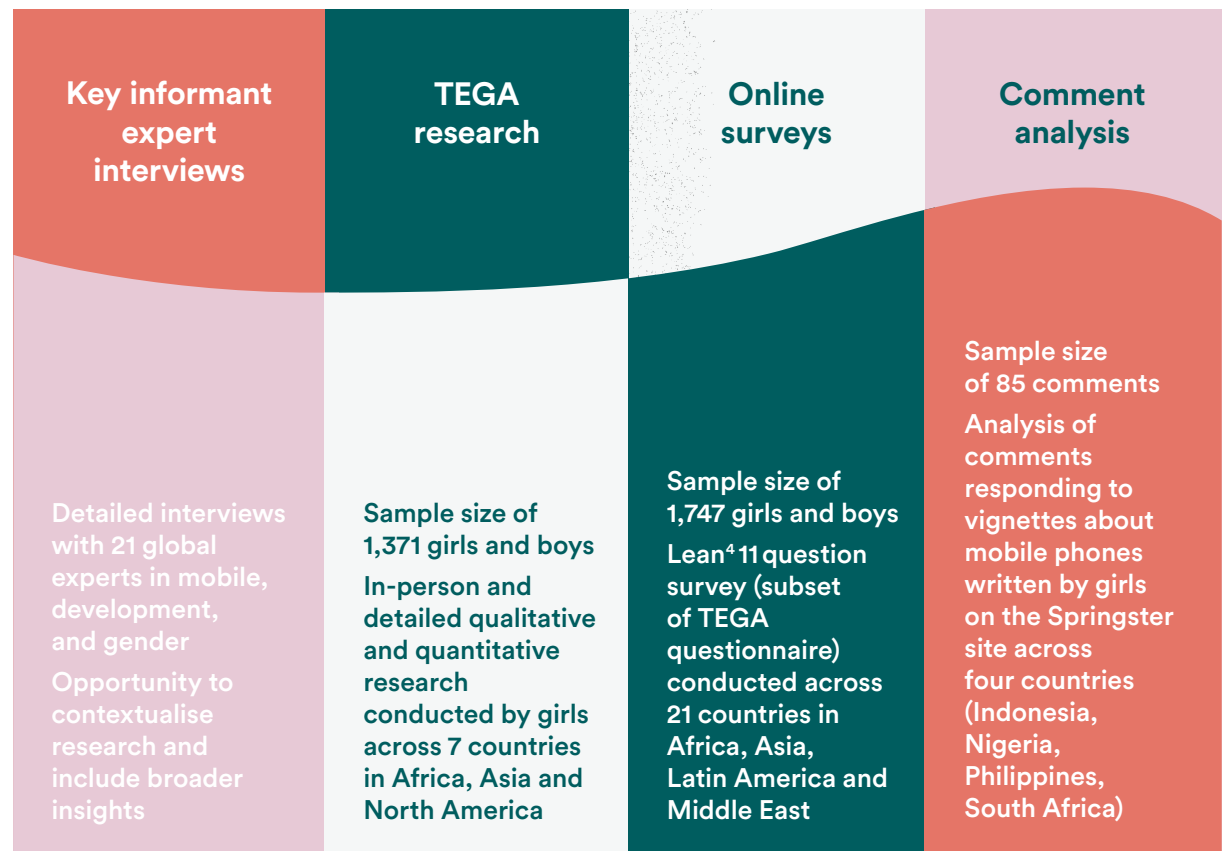
Summary of research methodology

This research, designed in collaboration with MIT D-Lab, employed a mixed methods approach, utilising key informant interviews to establish context. The field research included three principal components: TEGA interviews[2], online surveys delivered via Girls Effect's Springster[3] platform and analysis of comments responding to mobile phone vignettes also published on the Springster platform.

(See page 63-66 for more details on the study methodology)

The study includes girls from 25 countries, however the girls that we spoke to do all have some level of mobile access, so we do not claim to represent the views of all girls, or to provide a complete global picture. Rather, this qualitative study aims to inform programme design and bring attention to the knowledge, attitudes and behaviours of girls as a particular subset of women, and to include their voices in the global conversation about mobile access and use.

Key informant expert interviews	TEGA research	Online surveys	Comment analysis
Detailed interviews with 21 global experts in mobile, development, and gender	Sample size of 1,371 girls and boys	Sample size of 1,747 girls and boys	Sample size of 85 comments
Opportunity to contextualise research and include broader insights	In-person and detailed qualitative and quantitative research conducted by girls across 7 countries in Africa, Asia and North America	Lean[4] 11 question survey (subset of TEGA questionnaire) conducted across 21 countries in Africa, Asia, Latin America and Middle East	Analysis of comments responding to vignettes about mobile phones written by girls on the Springster site across four countries (Indonesia, Nigeria, Philippines, South Africa)

[2] Technology Enabled Girl Ambassadors are trained adolescent girl researchers who conduct face to face interviews using a bespoke app to collect audio, video and survey data.

[3] A mobile-first global platform, Springster digitally connects marginalised and vulnerable girls around the world.

[4] Lean Research is an approach to field research in the context of development work that seeks to maximize benefit and minimize burden and waste for all stakeholders in the research process. Building on human-centered development and design, Lean Research places the experience of the research subject at the centre of the research activity. https://d-lab.mit.edu/resources/publications/lean-research-framework.

This research methodology provides an opportunity to engage more than 3,000 respondents in 25 countries

124 TEGAs

(Technology Enabled Girl Ambassadors) conducted interviews with girls and boys aged 15-19

Lahore

Kano

Lima

Kigali

Findings

From Kano to Kigali and from Lima to Lahore, girls are getting their hands on mobile phones

1. Girls are getting hold of phones by many means

This research looks at mobile access and usage from the perspective of adolescent girls[5] in 25 countries.

It adds to literature demonstrating that access is much more complex than a simple binary division between those who 'have' and those who 'do not have' phones. It also challenges ideas that a person's journey to full mobile access and usage is largely linear, moving from not having access, through to ownership of a basic phone, and finally to ownership of a high-end phone. Instead the results of this study demonstrate how girls' relationships with mobile phones are much more diverse, rich, and colourful than often assumed.

Whilst the extent of access and usage varies across countries and even within countries and communities; from Kano to Kigali, Lima to Lahore, girls are getting their hands on mobile phones. In fact, girls who stated that they 'don't have a phone' are often still gaining access through other means.

Girls might own phones outright, they might borrow phones, and they sometimes possess a secret phone. The avenues to access vary, but the desirability and utility of phones mean that girls often make efforts to access phones in a range of creative ways.

I don't have a phone because my parents cannot afford to buy me one. And as my parents do not allow me to have a phone or to use internet I take my friend's phone if I have to fill forms or for any other purpose. Many people have a phone but don't know how to use it. Some people who do know how to use a phone borrow someone else's. I think everyone should have a phone regardless of their financial status. In today's time everyone should have a phone.

(Girl, 17, India)

I didn't have a phone before because mum said we didn't have the money to buy this thing, nevertheless I still saved money so I could buy my own mobile. Mum got mad nevertheless she accepted this already, you can't bring back the past besides it's already here.

(Girl, 15, Philippines, Springster comment)

Complexity of access

"Access is political and social. It's financial and institutional. There is no such thing as homogenous access".

Technology expert

Key informants emphasise that the topography of the mobile gender gap needs scrutiny because it is highly context dependent. There are a multitude of factors that can limit access to mobile, and these often come together differently depending on the context. They also observe that the term 'access' needs scrutiny, as different types and levels of access offer a very different quality of experience, and initial indications from previous research has suggested that girls are often gaining access by borrowing and/ or sharing friends and relatives' phones, which will have implications for use. However, they observe that more data is needed to understand this situation and the quality of girls' access.

[5] In this report, 'girls' refers to adolescent girls age 13-19.

1. Girls are getting hold of phones by many means (cont.)

Ownership levels vary by gender and age

TEGA[6] interviews with girls revealed variety in ownership levels. 37% of girls in the Nigeria TEGA sample owned a mobile phone, compared to 61% of girls in the Tanzania sample (compared to 99% in the USA sample). Across all of the TEGA sample, just under half of all girls owned a phone.

Levels of ownership vary across both gender and age. Overall, girls are less likely to own phones compared to their male peers. When excluding the USA from analysis, boys are almost 1.5 times more likely to own any type of phone and 1.8 times more likely to own a smartphone than girls.[7]

The TEGA data indicates that levels of phone ownership increase with age, for both girls and boys. Amongst phone owners across the seven TEGA countries[8], the average age at which girls first own a phone is 15 years old and 14 years old for boys. Excluding the US, 32% of 15-17 year olds in the TEGA sample own a phone, compared to 62% of 18-19 year olds.
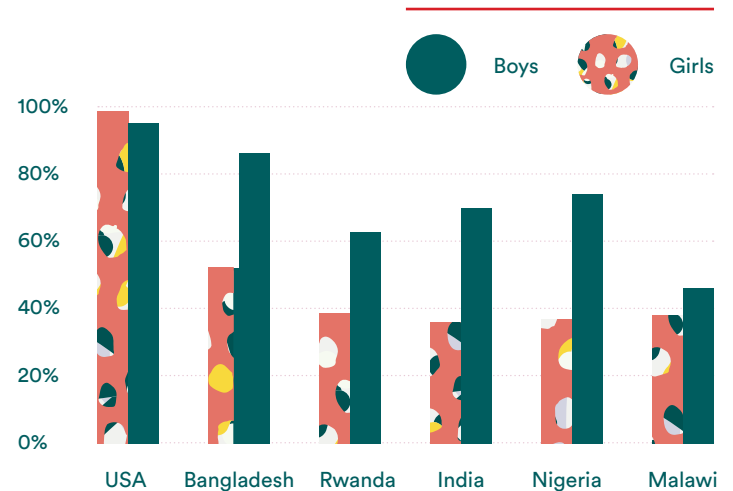

Figure 1. Overview of respondents who own a phone, by gender and country (TEGA data, n=1,165)

| Type of ownership	Girls (n=896)		Boys (n=315)	
	15-17	18-19	15-17	18-19
Owns any phone	32%	62%	57%	79%
Owns a basic phone	18%	32%	22%	36%
Owns a smartphone	14%	30%	35%	43%

Table 1. Overview of respondents who own a phone, by gender and age. Data from USA respondents excluded (TEGA data, n=1,211)

> It's hard for girls to have phones because of poverty and sometimes parents do not allow them. Boys have phones because they can do piece work and buy phones and it's rare to prohibit a boy from having a phone.
>
> (Girl, 16, Malawi)

[6] Technology Enabled Girl Ambassadors are trained girl researchers who conduct face to face interviews using a bespoke app to collect audio, video and survey data. 124 TEGAs conducted interviews with girls and boys in Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore); USA (Adams County, Colorado).

[7] The research team anticipated that social desirability bias may play a factor in how many girls and boys report owning phones so all respondents in the TEGA sample were asked to show their phone to be photographed during their interview with a TEGA. 64% of boys and 43% of the girls had a phone to hand that they could show, demonstrating that reported use was nearly consistent with use that could be shown and captured with a photo.
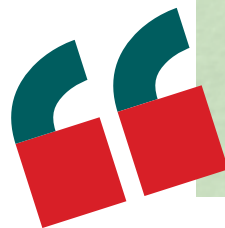
Smartphone ownership is relatively common

Data from across the TEGA sample and online survey suggests that among adolescent girls who have at least some access to mobile phones, those who own a phone are nearly as likely to own a smartphone as a basic phone. 21% of all girls in the TEGA sample and 74% of all girls in the online survey own a smartphone and in countries like the US and Nigeria[9], these predominate.

Girls (n=896)

Do not own **56%**

Owns a basic phone **23%**

Owns a smartphone **21%**

Boys (n=315)

Do not own **33%**

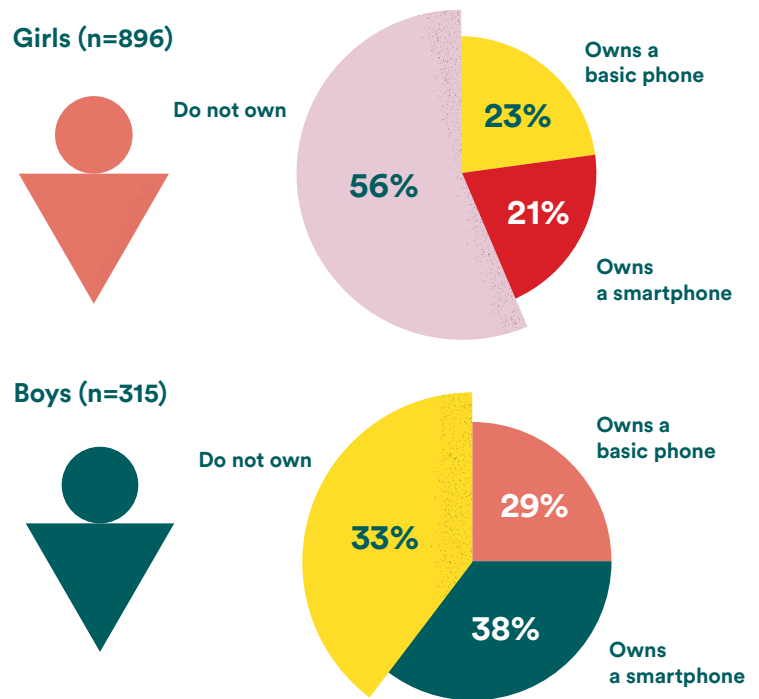Owns a basic phone **29%**

Owns a smartphone **38%**

Figure 2. Overview of respondents who own a phone, by gender. Data from USA respondents excluded (TEGA data, n=1,211)

Girls are more likely than boys to borrow phones

Even when girls don't own a phone, many manage to get access to one by borrowing from someone else. In the TEGA sample 52% of girl respondents only access a phone by borrowing. An additional 13% of girls also borrow a phone even if they own their own phone. A significantly higher proportion of girls borrow phones compared to boys. Girls' levels of borrowing vary considerably: 49% of girl respondents in Malawi borrow a phone compared to 95% in Bangladesh.

Type of ownership [10]	Girls (n=809)	Boys (n=294)
Owns a phone and doesn't borrow	33%	52%
Owns a phone and borrows	13%	19%
Borrows only	52%	28%
Doesn't own or borrow	2%	2%

TEGA data: Girls and boys ownership and borrowership excluding USA (n=1,103)

[8] Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore); USA (Adams County, Colorado).

[9] Online survey respondents were also asked if they own a basic or smartphone. As the survey required internet access, there is likely to be selection bias favouring smartphone ownership: amongst girls, 81% of the online survey respondents owned a smartphone, versus 19% owning a basic phone.

[10] Notably, the number of research participants choosing to answer the question as to whether or not they borrow a phone was much lower than those who chose to respond to the question about owning a phone. Previous Girl Effect research has highlighted that girls often feel a sense of shame when borrowing devices. The borrowing rate might actually be higher if research respondents under-reported borrowing due to social desirability bias.

1. Girls are getting hold of phones by many means (cont.)

Girls can be phone owners and borrowers at the same time

Being a phone owner and borrower are not exclusive states. In TEGA interviews[11], 13% of girls in six countries reported being owners and borrowers at the same time. In some countries, and particularly Bangladesh where SIM card[12] registration presents a challenge for girls, there is a larger proportion of girls who are simultaneously owners and borrowers. Here 53% of girls own a phone whilst at the same time, 95% of girls say they borrow a phone from someone else.

The reasons for borrowing a phone whilst also owning one vary. Whilst a girl may own a phone herself, it may not have a registered SIM, her parents or other family members may be primary users of the phone, she may have run out of data on her own phone, her phone may be broken, or a friend may have a phone that is better and more fun to use instead of her own. All of these situations result in girls returning to borrow phones, from both friends and family.

Interestingly, the proportion of smartphone owners who still borrow is very similar to the number of basic phone owners who borrow.

This implies that borrowership is not simply about accessing 'better' phones, and equally that smartphone ownership is not necessarily the end of a linear access journey.

Whilst boys are more likely to own a phone and are less likely to exclusively borrow, boys who own phones in the TEGA sample also borrow at a slightly higher level than girls, although this difference is too small to be considered significant given the sample sizes.

Parents are the main source of phones

Girls often obtain phones from their parents. In the group of girls who own their own phone, half were given the phone by their mother or father. However, this varies by country. Amongst girls in the TEGA sample from Rwanda and the USA, girls' mothers are the main source of a phone – 46% of girls in the USA were bought a phone by their mothers.

In India, male family members are a girl's main source of a phone. This could include their husband, boyfriend, brother or father – as also reported in Bangladesh.

Similarly, when focusing on girls who borrow phones, family connections are key. Often, mothers are a vital gatekeeper to girls' access to mobiles. This is particularly the case in settings where personal ownership of phones among girls is low, and where borrowing is high.

30% of female TEGA respondents borrow a phone from their mother – compared to just 10% who borrow from their father. In the TEGA Africa sample, girls were most likely to borrow from their mother for access.

It gives me confidence even though I do not have a phone, I borrow from my Mum and use it to call my relatives and talk to them, if they have something I want, I then go to collect it.

(Girl, 19, Nigeria)

The picture around borrowing was different in TEGA data from Asia. In India, male family members are the main lenders of phones to girls. Here, 31% of girls borrowing phones borrow from their older brother – whilst 29% borrow from their father.

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[11] The online Springster survey asked whether respondents where phone 'owners' or 'borrowers'. The in-person qualitative TEGA interviews allowed respondents to discuss that they are often both owners and borrowers and this result is drawn from the sample in Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore).

[12] SIM (or Subscriber Identification Module) cards have a series of electronic circuits on a silicon 'chip'. SIM cards authenticate users on a mobile network - allowing users to make calls, or transmit data.

	Mother	Brother	Sister	Father	Other	House phone	Friend	Male partner
India & Bangladesh	11%	39%	10%	18%	4%	10%	4%	4%
Rwanda, Malawi, Tanzania & Nigeria	48%	8%	20%	4%	10%	4%	5%	1%

Table 4. Source of phones, for girls borrowing phones (TEGA data, n=528)

In comparison, only 17% borrow from their mother. Similarly, in Bangladesh, brothers are a key source of phone access, with 42% of girls borrowing phones from a younger or older brother - compared to 15% who borrow from their mother or father.

Across all countries surveyed, borrowing from friends is uncommon. Just 4% of girls who borrow said they borrow from a female or male friend.

I think I need to have my own mobile so I can connect with my friends this can also be used for doing homework because it's embarrassing if I borrow a phone from my friends I may be bothering them more, if I have a phone I don't need to borrow or bother my friends.

(Girl, 15, Philippines, Springster comment)

1. Girls are getting hold of phones by many means (cont.)

Girls go to great lengths to gain access

The picture of mobile access amongst girls varies substantially at a regional, country and individual level. Yet across the TEGA and online survey samples, girls demonstrate that they are engaging in all sorts of strategies to gain access.

In countries where the mobile gender gap is less visible, and where girls appear often to have less restricted access to phones, such as the Philippines, they are frequently given a phone by family members. They can also often openly borrow a phone from family and friends, and may employ sophisticated strategies to do this.

… In my situation all my phones came from my siblings. So whenever they need it, they'll get it back. I'm kinda use to it. But it's hard cause school works, and way of communication is via internet or mobile, that's why having no phone in just a week seems like you've been out a year. But, problems can be solve. Earn then you'll be able to have one. As of now, try borrowing and encouraging people around you to "disconnect" a little bit. Like have a recreational activities outdoor or simply having an open forum without holding their gadgets.

(Girl, 15, Philippines, Springster comment)

Girls will often find clever ways to save up money to purchase a phone. For example, a girl may use school pocket money or skim money from that given by her parents to buy food or clothes.

… If she has been given money to buy clothes, she might get a few and use the rest to buy that phone.

(Girl, 19, Rwanda)

If a girl, for instance, does go to school and they give her school break money, she saves the money until it reaches the amount enough to buy her own mobile phone.

(Girl, 17, Nigeria)

Even in countries and regions where the mobile access gender gap is particularly stark, girls are finding ways to get some degree of mobile access[13]. This includes borrowing and sharing phones secretly. This is the case in Northern Nigeria – where girls are often forbidden access to mobile phones, or allowed only very limited (and monitored) access.

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[13] GSMA data indicates that although the average mobile access gender gap is 10% across low and middle income countries this gap is wider in some parts of the world. The gap is most stark in South Asia, where women are 26% less likely to own a phone and 70% less likely to use more 'transformative' services such as mobile internet. The second biggest gap, which is less stark but still substantial, is in sub saharan Africa, where women are 14% less likely to own a phone and 34% less likely to use 'transformative' services (Rowntree 2018).

Here, girls explained that they could access phones without these restrictions by borrowing friends' or siblings' phones – or even through gifting from boys or older men.

Girls are savvy when using these 'secret phones'. They are often kept on silent, and in households where girls do not have their own bedrooms the phones are kept at friends' or neighbours' houses. In these circumstances, arrangements are made with prospective callers to ensure that the girl has her phone at the time of the call.

She uses it if her parents are not at home or she goes outside or if she has her separate room she can be using it secretly without their knowledge.

She will hide and answer her call or go to her friend's house or she will give her callers a specific time they will be calling her.

(Girl, 17, Nigeria)

Phone ownership is not a permanent state

Phone ownership is often non-linear, and there does not appear to be a path of increasing mobile access over time - with a final end-point of smartphone ownership. Instead girls and boys across several countries[14] noted that mobile access and ownership is transient. Phones break, they get sold when money is tight, they get confiscated or used by other family members, and they get stolen. In addition, a lack of funds to perform repairs, combined with the cost of replacing batteries and other parts also affects the

permanency of use and may lead to owners 'downgrading' or losing ownership status altogether.

My phone was given to me, but as of now I don't have it with me because it got broken and the battery is dead.

(Boy, 18, Malawi)

Young people also face frustration when they are forced to downgrade from a 'big' smartphone to a 'small' basic one. This can happen for a number of reasons including needing the money from the phone sale, having the phone taken by a family member, or having to return the phone to a boyfriend following a breakup. It may also be symptomatic of the systemic or structural inequality faced by girls in these settings, a point which has been explored elsewhere (Faith: 2018).

One 19 year old girl in Kano, Nigeria, explained her ownership journey. She had previously owned a smartphone that allowed her to chat with friends and listen to music.

The phone relieved her boredom, and cheered her up when she felt sad.

However, her phone broke and she was unable to afford a new one and she now owns a feature phone given to her by her brother - which only works for making and receiving calls. 'Honestly', she says wistfully, 'I prefer my former phone'.

[14] Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore).

Case study:
Gaining mobile access in Northern Nigeria

Blessing, 18, Kano, Nigeria

Blessing, 18 years-old, is the oldest of three, with one younger sister, Jol who is 16 years old, and a brother Isaac, 14. Blessing is Muslim and was raised in Kano, Nigeria.

In Blessing's community it is common for boys to have more access to education and technology. She sees Isaac using his phone regularly to call friends, play games and help his studies by using the internet. If Blessing wants to use a phone, she must first ask her mother for permission to borrow hers. Her mother believes that if Blessing was to own her own phone she would be too distracted from her studies.

This frustrates Blessing because she sees the advantages of using the phone. "You know, with the internet you can search for anything! Honestly, if I have internet access I will use it for educational purposes. My wish is to be a midwife because there are few women in that field. I want to be in that field because women should be allowed to assist one another."

With only one month left of schooling, Blessing is hopeful that she can own a phone when she is done. Many of her friends were allowed to have a phone once they turned 17, but convincing her parents she is responsible enough to own a phone is hard, especially when people gossip about girls who have got boyfriends or even fallen pregnant as a result of owning phones.

Rose & Samuel, 15, Northern Nigeria

Rose and Samuel are neighbours whose parents are friends. Both are 15 years old and living in northern Nigeria.

Samuel has been operating a small scale business selling bags of drinking water and used the money he made to buy his own phone. He says that having a phone allows him to make more friends and feel less bored. Overall, it makes life a lot easier!

Rose's parents believe that a phone costs too much and they do not want her to get distracted from school by chatting with friends, especially boys. As a result, Rose does not own a phone. However, whenever they are able to meet, Rose can use Samuel's phone to play games or call her friends. In return he expects sexual favours.

Rose wonders whether Samuel is her boyfriend or whether their relationship would be over if the phone wasn't part of it. She also worries about getting caught using Samuel's phone as she knows her parents would punish her, potentially stopping her from going out or even taking her out of school.

Rose explains the barriers girls face but also says that if girls really want to use a phone, they will find ways to gain access.

'Truly some cannot afford a phone for ten thousand Naira (roughly $28 USD), so their boyfriend buys it for them or lets her use his. Others do not know how to use the phone. If they want to make calls they will give the number to someone to make the call for them, but if they are determined they will learn how to use it.'

2. Access and use are connected

When girls get access to phones, they are using them as much as possible. Over half (53%) of girls in the TEGA sample say they use a phone every day or multiple times a day, and a further 32% say they use a phone at least once a week. This is echoed in the online survey, with 47% of girls reporting that they use a phone 'whenever they have the chance' and a further 36% using one 'all the time'.

47%

of girls report that they use a phone 'whenever they have the chance'

Based on sample of 1606 girls in 21 countries
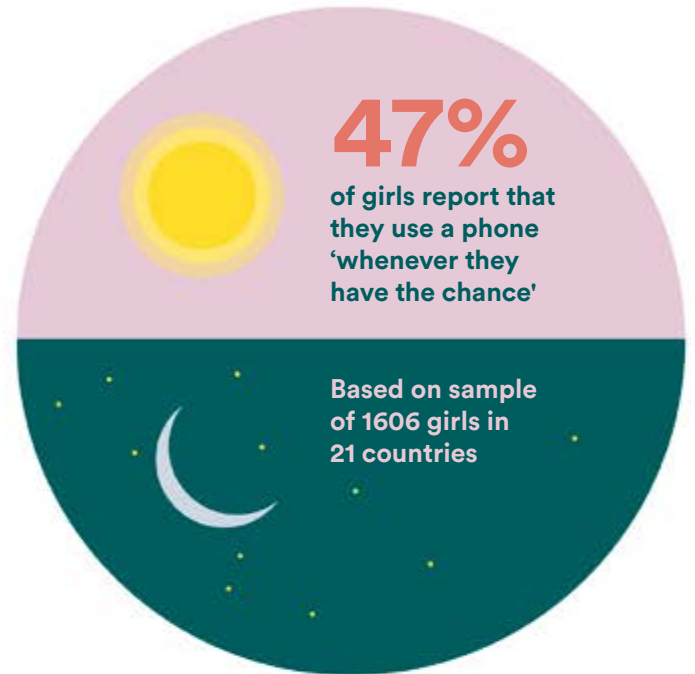
Frequency of phone use	Girls (n=1,337)	Boys (n=269)
All of the time	36%	46%
At weekends	5%	4%
Mainly in the morning	1%	<1%
Mainly in the afternoon	4%	1%
Mainly in the evening	7%	8%
Whenever I have the chance	47%	40%

Table 5. Overview of usage frequency, by gender. Data from respondents without gender information, and those who didn't answer the question, excluded (online survey data, n=1,606)

2. Access and use are connected (cont.)

Different types of access have implications for usage

Whilst some girls are owners *and* borrowers, girls who identify as owners and girls who identify as borrowers have different use patterns. Among the girls in the TEGA and Springster samples, borrowership appears to have various implications for girls' mobile access and use. In the online survey, 54% of all girl borrowers access the phone 'whenever they have the chance', compared to 46% of all girl phone owners. This difference may highlight the unpredictability of phone access, which girls are ameliorating by using phones whenever an opportunity arises.

Phone borrowers interviewed by TEGAs or completing the online survey were also less likely than phone owners to use phones for almost all purposes.

I use it for Facebooking or Youtubing, to browse and to know about different types of news. And I also use it to listen to new songs or to watch soap operas… If the price of the smartphones decreases, then the boys will start using it more…. for example, you can use it to read books, or you can do classes on Youtube! And then you can read new books from browsers or you can discover or learn about new things!

(Boy, 17, Bangladesh)

Truly I don't know how to make of smartphone, I don't know how to check the content inside the phone so as to know the one which is preferable to me.

(Girl, 17, Nigeria)

Boys are more likely than girls to use Internet enabled phone features

This finding supports mobile sector data (Rowntree 2018) highlighting how mobile borrowership amongst women can limit what they do on a phone. In this study, female borrowers across low and middle income countries were less likely to use mobile services other than voice calls, such as SMS, or more sophisticated services such as mobile internet.

In particular, if a woman is borrowing a mobile, she may be less likely to use it for activities that require personal or sensitive information, such as mobile money or health advice. This potentially reaffirms how limited access can prevent girls from exploring how the phone could be most relevant and useful to them.

Phone uses	Girls who own a phone (n=351)	Girls who only borrow (n=418)	Girls who own and borrow (n=181)
Calls	90%	69%	31%
SMS	65%	33%	81%
Games	35%	31%	27%
Entertainment	43%	27%	34%
Radio	40%	29%	26%
Facebook	44%	21%	18%
Internet	42%	15%	42%
Calculator	39%	17%	17%
WhatsApp	31%	27%	17%
Banking	28%	12%	41%
Homework/ school work	31%	15%	23%
Email	24%	9%	34%
Dictionary	22%	12%	33%

Table 6. Overview of girls' phone usage, by ownership status.
Respondents able to select multiple uses (TEGA data, n=880)

2. Access and use are connected (cont.)

Boys use phones more often for more activities than girls

Across most countries in the TEGA sample, boys are more likely to use a phone for a wider range of activities than girls. With the exception of calling, and using the phone as a calculator and radio, boys are more likely to use phones to send text messages, play games, watch videos, use mobile banking, do homework and use the dictionary.

As boys are more likely to own a smartphone, it is unsurprising that they are also more likely to use phones for activities requiring an internet connection. This includes accessing social media, using WhatsApp, and using phones to search for information independently online[15,16].

Basic functions predominate amongst girls' usage, although there are exceptions

As noted previously, where girls are more restricted in their phone access - whether due to physical or social limitations - they are similarly restrained in the ways they use a phone.

Girls in these settings report that they primarily use devices for calling friends and family, and for basic functions such as the calculator[18].

However, there were exceptions amongst girls across the TEGA sample - particularly in settings where girls experience less restrictions in their phone ownership and usage. In these locations, girls use their phones in more sophisticated ways - and this is having a positive impact on their lives. These girls describe phone use as broadening their horizons, allowing them to manage finances, improving business skills and providing a gateway to new opportunities.

After buying a mobile phone I have been able to do a lot of good stuff. I do online exams, fill in application forms, send emails. If I have to travel I find out about the train times. In case I get stuck anywhere, then I contact my family members to tell them that I am stuck at that place. I do a lot of good things on a mobile phone, like studying and using the dictionary.

(Girl, 18, India)

If I'm on my mobile, then usually yes... Just chat with friends. A mobile also helps me find information that you can't get in books. And when you're stressed out, you can play games as well. In short, a mobile's important when you're online. You can find out what's viral, trending and quality information. But if you have a mobile, you have to use it wisely, don't go looking at negative content. In my case, it's just for info.

(Girl, 12, Indonesia, Springster comment)

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[15] This holds true in Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore) but not USA (Adams County, Colorado) and Tanzania (Temeke).

[16] This is reflective of GSMA data showing a significant gender gap in mobile usage amongst adults, particularly for more 'transformative' services, such as mobile internet. They identify women as on average, 26% less likely to use mobile internet than men, and even among mobile owners, women as 18% less likely than men to use mobile internet (Rowntree 2018).

Phone uses	Girls (n=998)	Boys (n=373)	Total
Calls	73%	74%	73%
SMS	53%	60%	55%
Games	32%	38%	34%
Entertainment	31%	42%	34%
Radio	32%	36%	33%
Facebook	29%	44%	33%
Internet	27%	47%	32%
Calculator	26%	27%	26%
WhatsApp	22%	35%	26%
Banking	21%	30%	24%
Homework/ school work	21%	29%	23%
Email	16%	30%	20%
Dictionary	18%	26%	20%

Table 7: Overview of phone usage, by gender.
Respondents able to select multiple uses (TEGA data, n=1,371)[17]

> Life without mobile phone is like the ancient life!
>
> (Girl, 16, India)

[17] Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore); USA (Adams County, Colorado).

[18] As discussed in the Methodology, all data from girls is self-reported. Therefore, there is a risk of social desirability bias across the group - including amongst girls who are constrained by social restrictions concerning mobile access. These girls, who highlight the practical functions of phones, may be reluctant to mention usage that does not align with the expectations of girls in their society. Instead they may avoid mentioning, or may downplay, the role of phones in enabling entertainment and chatting with friends - if these activities are deemed less socially acceptable for girls.

2. Access and use are connected (cont.)

The phone as a paradox: girls see a positive for every negative

Girls across countries view the phone as a double-edged sword. They feel there are a wide range of benefits, but also a number of drawbacks to mobile access[19]. Phones are often seen as a device that can be used for good or bad, depending on what the user decides to use it for. In the online survey, half of all girls felt phones made them more connected, provided access to a much wider education (47%), reduced their boredom (61%)[20], increased access to restricted information (26%), and increased their confidence (20%).

However, the online survey also highlighted some negative aspects of phone access and usage. Several girls noted that they feel more stressed (7%), harassed or bullied due to accessing phones (4%), or felt that phones made them more controlled by others (3%).

coz sometimes phone aren't good :) especially if you are in social media, some people will judge you.

(Girl, 17, Philippines, Springster comment)

don't worry gal of u not having a phone. If I were u I would b happy becz a phone has and bring troubles at home.If I could tel u that when did I get my first phone u won't believe me. So don't worry yourself too much if u don't have a phone less troubles.

(Girl, 22, South Africa, Springster comment)

In the US, girls interviewed by TEGAs were particularly articulate about the darker side of phone use, highlighting the effects of social media and stress caused as a result of online bullying or posts not being 'liked' by friends online. Outside of the US, stress was actually more often related to not owning a phone in the first place and interestingly, the majority of girls who selected 'I feel more stressed' were not themselves phone owners.

61%

of girls asked said phones reduce boredom

Based on sample of 1606 girls in 21 countries

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19 This paradox has been reflected in previous studies, for example amongst potential mobile internet users who saw internet as a 'double-edged sword' (GSMA 2018).

20 Interestingly, in the online survey, more girls than boys reported that phones alleviate boredom (62% of girls, compared to 42% of boys).

OK, so cell phones in my life have helped connect me with others, but it's also had, like, detrimental effects on my life, and just made me feel more stressed.

I've actually taken several months off social media before just because I just realized out how much anxiety and depression it's put into my life. But it can also be used for good, but I feel like mostly it adds more anxiety and stress into my life.

(Girl, 18, USA)

2. Access and use are connected (cont.)

Across countries, girls confirmed the paradoxical nature of perceptions related to phone ownership and use. For each negative association with mobile phones, they often provided a positive counterpoint:

The good thing about mobile phone is that when your loved one is in a far away place, you can call them to greet them and also keep the relationship alive without spending a lot of money. And the bad thing about a mobile phone is that you can get bad friends that will influence you negatively, that's the problem with mobile phones. But it has good sides - if you have good intent towards it.

(Girl, 18, Nigeria)

Reaffirming this point, both girls and boys worry about the potential negative impact that phones can have on education. This includes distracting students from school, and reducing time available for studying. However, both groups also see phones playing an important role in helping them with their homework and providing a way to catch up with missed lessons:

You won't pass because of phone, u will pass because you used your mind and focus, in your books? Just be carefully and aware of things that they don't need your attention.

(Girl, 14, South Africa, Springster comment)

… a mobile phone helps me with different things, doing school assignments because due to the new system we're studying, we do a lot of research and you can't do research without the internet. For example, like people without the computer, because not all people have got equal capabilities of buying a laptop, so if you have got the phone it is very easy to use the internet.

(Girl, 19, Rwanda)

The table on page 29 provides common examples of positive and negative associations with phone use seen in the TEGA data from the African and Asian countries[21]. The extent to which a girl emphasises a positive or negative association is largely dependent on her situation. For example, a girl in school who is not allowed a phone because it 'distracts from school' is often more likely to emphasise that phones are 'bad' for that reason.

Expert interviewees emphasise that mobile phones are neither inherently positive or negative, however they can have a positive and/or negative impact on people's lives, depending on how they are used. Despite this acknowledgement, overall expert interviewees tend to feel that mobile access can provide a net positive in girls' and women's lives. This contrasts with the perspectives of some girls in the sample, who feel more attuned to the risks they face, possibly because the risks are directly relevant and immediate in their own lives.

[21] Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore).

Theme	Positive	Negative
Education	Phones help with schoolwork, for catching up if you've missed school and for finding out when exams are happening.	Distract from school and reduce time spent studying.
Networks	Phones can help you make new friends via social media and by adding friends you meet in real life and then keeping up contact.	Introduce you to 'bad friends' who negatively influence you or teach you bad behaviours.
Friendships	Phones help maintain existing friendships.	Threaten relationships through gossiping and lying.
Freedom	Phones allow girls to have greater mobility as girls can reassure parents that they are safe when outside the home, and can therefore travel without them.	Parents use phones to keep tabs on girls, read their messages and therefore limit their freedom further.
Boys	Phones facilitate relationships with boys, sometimes enabling girls to have secret relationships with boys.	Phones give boys an unmonitored channel of access to girls and boys coerce girls into meeting and use them for sex, potentially leading to pregnancy.
Emotional impact	Phones reduce loneliness, can make girls feel happier, calmer and give girls something to fill their time, which reduces boredom and entertains them.	Overuse can lead to wasting time, addiction and physical symptoms like sore eyes or a 'dry brain'. Phones can also lead to stress due to bullying, and not being able to 'keep up' with what's going on.
Money	Phones can be used for saving and sending money and also help reduce travel costs and wasted trips by allowing you to call ahead or keep in touch with family remotely.	Phones are often prohibitively expensive, particularly for girls who can't find part time or piecemeal employment like boys. Airtime, data, charging and repairs can also all 'waste' money, meaning phones are accessed intermittently.
Social norms	Phones modernise people, because they are a symbol of progress, and they offer access to the 'global' modern world, and all the information it has to offer.	Phones can trigger strong gatekeeper responses that aim to reinforce traditional social norms e.g. early marriage, less mobility (confined to the home, early curfew), often with threats or reality of physical punishment. Using secret phones can lead to draconian responses from parents including beatings, being stopped from going out and even early marriage.
Safety	Phones make girls and boys feel safer, allowing them to call when they need help or to communicate an accident or emergency.	Girls feel more exposed to danger offline (threat of street robbery), and online (risk of online harassment. Boys worry about having phones stolen.

Table 8. Positive and negative attributes of phones, by theme

Case study:
Gaining mobile access in Northern Nigeria

Irene, 15, Temeke, Dar es Salaam

Irene is 15 years old and currently in primary school. She lives in Temeke, which is a densely populated area with poor infrastructure in Dar es Salaam, with her parents, younger sister and two older brothers living together in one room.

Irene doesn't own a phone but instead borrows from her friend, Grace, a few times a week. She uses it to make calls, mainly to her boyfriend but also to friends and relatives who live outside the city.

She says using the phone makes her, '…feel safe and free. If I don't use a mobile I feel lonely. For example, when I miss my boyfriend and I don't have a mobile phone, I'm always down'.

Irene's parents refuse to buy her a phone as they are worried it will compromise her safety as girls do not 'understand themselves' and are not able to look after themselves in the way boys can. They are most concerned that a phone may lead Irene to boys and men and then to sex and are unaware that she uses Grace's phone to contact her existing boyfriend.

Irene herself says girls can become 'silly' when they get a phone and believes girls should use phones responsibly.

Emmanuel, Irene's 16 year old brother, owns a basic phone he bought himself after saving up money when he worked on a local building site. His parents don't keep tabs on his whereabouts like Irene, so he's allowed to use the phone as he pleases.

If she could own her own phone, Irene says she would use it for chatting with friends, family and her boyfriend as well as watching videos and movies. She'd also like to use the phone to help her schoolwork, although she's not totally clear how a phone can do this.

Happy, 19, Temeke, Dar es Salaam

Happy is 19 years old and lives with her husband in Temeke, Dar es Salaam. Her husband bought her a Lenovo A1000 smartphone when they got married last year. Now she stays at home whilst her husband works at a small shop ('duka') selling household items nearby.

Happy uses her phone every day, checking out friends and celebrities on Snapchat, Instagram and Facebook. She reads news and downloads pictures and videos which she shares with her husband and friends. Her phone makes her feel connected, entertained and alleviates loneliness and boredom. It also makes her feel safe, especially as she is often home alone when her husband is working late.

Whilst she loves her phone and says it has made her life easier, Happy believes both girls and boys should be 18 before they own a phone. This is because younger teens are not mature enough to use phones responsibly.

Happy has seen her friends experience pressure to own a phone and recognises that sometimes girls can steal, or start relationships with men in order to gain a phone. She sees the main barrier to phone ownership as cost, which means boys locally are more likely to own a phone as they have more access to 'piecemeal' work and can then save up to buy their own phones.

If she knew how, Happy says she would use her phone to find jobs or start her own business but she's not sure where to go to find the information she wants.

3. The barriers girls face come in many forms

Across all countries, adolescent girls face a broad range of barriers which restrict and complicate their access to mobile phones. This includes barriers that are physical, and more pertinently, social. The predominance of social factors may also be a consequence of the respondents in this study having some degree of phone access. In populations where general phone access and usage is less common, notably in more rural areas, physical barriers may dominate.
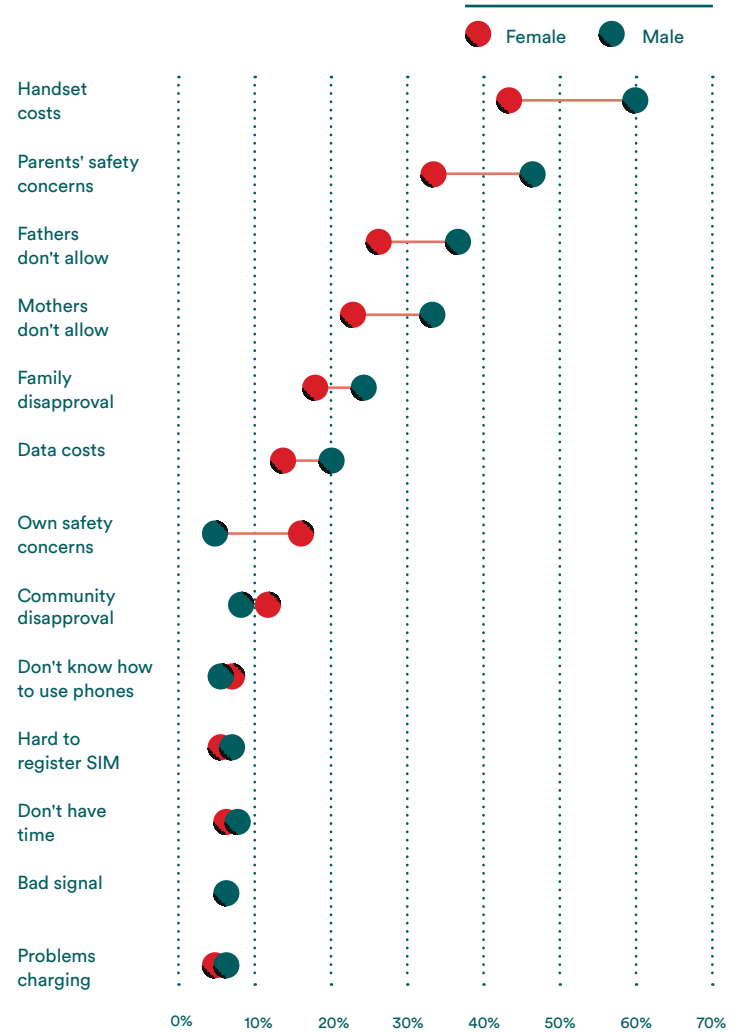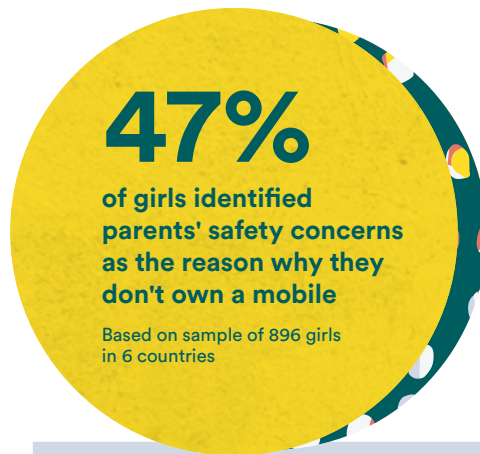

47%

of girls identified parents' safety concerns as the reason why they don't own a mobile

Based on sample of 896 girls in 6 countries

● Female   ● Male

Handset costs
Parents' safety concerns
Fathers don't allow
Mothers don't allow
Family disapproval
Data costs
Own safety concerns
Community disapproval
Don't know how to use phones
Hard to register SIM
Don't have time
Bad signal
Problems charging

0% 10% 20% 30% 40% 50% 60% 70%

Figure 2. Factors preventing phone ownership, by gender. Respondents able to select multiple reasons (TEGA data, n=1,371)

Barriers to access

Key informants highlight that barriers to access are complex and often intertwined differently, depending on the context. Additionally many of the structural barriers that girls and women experience in society, for example around access to income, play into and compound barriers to mobile access. Supply side barriers around cost/affordability and physical infrastructure were frequently the first barriers referenced by key informants, however they also highlight a range of barriers on the demand side that are playing a significant role in limiting girls' and women's mobile access, particularly around restrictive gender norms, digital literacy and relevant local content. However they observe that more data is needed to understand what this means specifically for girls.

Affordability is often the main barrier for girls and boys

TEGA data from girls interviewed in Asia, Africa and the US highlights that the main *physical* barriers girls face are around affordability. 42% of girls consider handset costs as one of the reasons that girls don't own phones, whilst 13% of girls mentioned data costs.

Physical barriers such as a affordability are particularly important for boys and a substantially higher proportion of boys in the TEGA sample note that handset cost is a major barrier to ownership. When boys do own phones, they often express frustration that the type of phone they can afford is not the one that they want.

... If I had the money I would have bought a phone that is more sophisticated the one that I'm using, so that I could use it to chat and do other things, but since God has not given me the opportunity and means to buy another one, I will definitely have to be patient and make use of the one I have.

(Boy, 18, Nigeria)

To a lesser extent, physical infrastructure also affects mobile phone access. 6% of girls mention it being difficult to register a SIM card, 5% note issues with poor quality mobile signal, whilst 3% of girls report problems charging a phone. More broadly, there is an age restriction on the purchase of SIM cards in several countries, preventing adolescents from buying SIM cards. Increasingly, purchasing a SIM card requires the buyer to provide verified identification (GSMA: 2018). This frustrates girls in Bangladesh in particular, as they are less likely to have the required identification documents.

[Girls] do not have parent's permission, do not have relative's permission... parent's national identity card [is] needed for SIM registration that's why they can't use a mobile phone.

(Girl, 18, Bangladesh)

Girls often face a range of social barriers, which can overtake affordability as an issue

Girls across Africa and Asia in the TEGA sample referred to a number of social barriers that they were aware of, or experienced themselves. These were primarily related to parental safety concerns resulting in fathers and mothers not allowing ownership[22] – highlighting the importance of parents or guardians for girls in achieving mobile access.

In contrast a much lower proportion of boys identify social barriers to mobile access, suggesting that boys do not face the same social constraints as girls, or do not see these social barriers influencing them as strongly as girls do. Across the online dataset, 47% of female respondents have to ask permission from a parent to use a phone compared to 36% of male respondents. The number of female respondents reporting they have to ask for permission to use a phone rises to 59% in the TEGA sample when the terms are broadened to include whether girls ever have to ask for permission (whether from parents, siblings, friends, neighbours, or someone else). In Malawi, India, Nigeria and Rwanda, more than half of girls need to ask permission to use a phone, and in Bangladesh just under half of girls need to ask for permission. In all of these countries, girls require permission more frequently than boys.

[22] Safety is such a significant and complicated issue, that a separate section is dedicated to this further on in the report.

3. The barriers girls face come in many forms (cont.)

My parents told me that I'm not going to have phone at least for now, until I finish school, but now I use my elder sister's phone.

(Girl, 19, Nigeria)

	Girls (n=982)	Boys (365)
Having to ask permission (always, most, or some of the time)	47%	36%
Rarely ask permission	12%	11%
Never	41%	53%

Table 9. Overview of permission required for phone usage, by gender. Respondents without gender information, and those responding 'I don't know', excluded (all data, n=1,347)

Mobile phone is not used by girls but boys get freedom to use it. The same is not applicable for girls because her parents do not allow her to use one. They allow boys to use a mobile phone because they have a lot of freedom and for us girls our parents do not allow that much freedom to do things... for instance if a boy returns home late then the parents cannot say anything to him. On the other hand if a girl is even ten minutes late then she is reprimanded by her parents.

(Girl, 15, India)

The online survey data was analysed through a multilevel regression (random intercepts model) to understand the relative importance of the cultural and the structural environment of a country on girls' levels of access to mobile phones. Similar to the results founds in the TEGA sample, in countries with higher gender inequalities (measured by the Gender Development Index), girls tend to have lower levels of access to mobile phones (p<.01).

This finding holds for countries with a higher, medium and a lower number of mobile phone subscriptions in the population, revealing that even if structural barriers were minimised, the cultural barriers inhibit or restrict access.

The influence of cultural and structural factors on girls' access to mobile phones was also analysed with the online survey data through multilevel regression (random slopes model). The analysis showed that for all countries, girls have more restricted access compared to boys, even among mobile phone owners (p<.001). The cultural context also plays a role. In certain countries (e.g., Philippines), girls had more restricted access compared to boys. We also found that the situations of the girls are important to explain differences in access. For example, girls who are in school have more restricted access (access only during weekends or evenings for example) compared with girls who work or who stay at home (p<.01).

Gender development index				
		Highest inequality [0.75-0.85]	Medium inequality [0.85-0.95]	Lowest inequality [0.95-1]
Number of subscriptions	Lowest	Pakistan DRC	Zambia Nigeria Benin Bangladesh	
	Medium	Iraq	Kenya	Myanmar
	Highest		Ghana Guatemala	Colombia Philippines Thailand South Africa

Table 10: Study countries grouped according to mobile phone subscriptions and gender inequality

3. The barriers girls face come in many forms (cont.)

Lack of agency often corresponds with lack of visible mobile access[23]

Girls' wider environments affect how they access and perceive mobile phones. TEGA data highlights that girls living in environments with more freedom within their household and/or community, and with more agency to make their own decisions, tend to have greater levels of access to a phone.

These girls note that the capacity of a phone to act as a 'gateway' to others is a highly appealing benefit. Additionally these girls tend to see the phone's value as a 'gateway' very broadly, as a way to make new connections with people outside their household or community and across the world.

We can connect globally, get to know more about what we are studying, and we can learn many things through the internet... We can know about things that are unknown to us.

(Girl, 19, Bangladesh)

In contrast, girls who live in environments where they tend to have less agency or freedom within their home or community often have less mobile access, in terms of frequency, duration or type of use. These girls are also more likely to describe the phone's value as a 'gateway' much more narrowly, often as a way to communicate with people they are already know. Some also frame the 'gateway' role of the phone more negatively, emphasising the risks that these wider connections can create.

Smartphones have bad videos and other obscene material is there that pollutes their mind. And they talk with boys on over Whatsapp, which they hide from their family.

(Girl, 19, India)

Girls who are restricted internalise norms which see them as unable to use phones responsibly and productively

Girls who are more restricted in their households and communities are more likely to say that the onus is on girls to demonstrate responsible phone use, particularly if they want to have increased mobile access.

I think u can convince your parents by telling them that you can use for phone not only for chatting but for learning things because I also went through the same thing in convincing my parents especially my dad about having a phone.

(Girl, 16, Nigeria, Springster comment)

These girls are also less likely to note that boys' behaviour needs modification or moderation to improve girls' safety online. Instead, they frequently recommend that girls should avoid WhatsApp and social media sites like Facebook to avoid harassment or exposure to negative messages and content.

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[23] Girls may still be accessing phones in secret.

The examples below are typical responses from girls when asked what changes would be needed for girls to increase their phone access, or to find phones more valuable.

To use it appropriately, to maintain self-dignity and to be using it appropriately.

(Girl, 15, Rwanda)

They should stop making use of the internet because some people use it to send inappropriate videos and that is bad. This is also one of the reasons why some parents don't permit the use of the mobile phones...

(Girl, 16, Nigeria)

Girls should avoid using Facebook because on Facebook most people talk badly on Facebook and also girls should avoid giving their phone numbers to men and we should be listening to our parents.

(Girl, 16, Malawi)

Girls in the Africa TEGA sample commonly said girls had less access to phones compared to boys because they could 'not be trusted' to use phones and that the phone would make girls behave in erratic and reckless ways. In India and Bangladesh they were less likely to say girls themselves could not be trusted and would stress that parents' beliefs about girls' levels of responsibility were more likely to impede access.

... boys are able to control themselves that no one can notice but for girls, it is noticeable... It is because girls fall in love more than boys.

(Girl, 15, Rwanda)

A boy can be out until 11pm during night, but girls we are supposed to protect ourselves. [A boy] understands himself well, not like a girl... We are being silly that's why.

(Girl, 15, Tanzania)

It would be different because a girl would use the phone improperly unlike a boy.

(Girl, 16, Malawi)

3. The barriers girls face come in many forms (cont.)

The idea of girls requiring more self-control is also reflected in the differences between when girls think girls and boys should own a mobile phone. Across the seven TEGA countries, girls on average believe that girls should be 16.6 years old before they own a phone, whilst they say boys should be 15.9. Boys' opinions about the age at which girls and boys should own phones almost perfectly matches girls and boys also put the onus on girls to show restraint and self-respect when using phones, rather than reflecting on their own responsible phone use.

… Because how girls use a mobile phone, you understand as well, let us make it open, they use mobile phones for contacting men. Girls can also understand the same but they use less intelligence in comparison to boys. She is more childish. She won't even have exposure to the outside world… She will be less intelligent. Other people can make a fool of her.

(Boy, 17, India)

When broken down by country, it is interesting to note differences in the gap between when girls think girls and boys should be allowed to own a phone. Girls in Nigeria show the largest difference in their opinions when asked at what age phone ownership is acceptable for boys and girls. At the other end of the spectrum, in the US, girls did not appear to internalise norms related to gender and responsible or appropriate phone use and said girls and boys should own a phone from aged 12.8 onwards.

	Age at which girls believe…(n=995)	Age at which boys believe…(n=371)
Girls should own a phone	16.6	16.7
Boys should own a phone	15.9	16
Difference	0.7	0.7

Table 10. Age at which girls and boys believe they should own phones, by gender (TEGA data, n=1,366)

Girls often lack the social support they need to develop their tech literacy and awareness of potential mobile opportunities

A girl's social network often plays a consequential role in teaching her how to use the phone, and broadens her awareness of mobile use possibilities. In instances where girls' social networks do not allow regular access to a mobile phone, and instead she only has infrequent access and/or has to start from scratch with a different person's phone every time she gains access, her overall mobile phone learning trajectory is likely to be compromised.

This issue is compounded when girls are using phones in secret. In this scenario, girls are unable to ask for help in using their phones to tackle challenges they face, for example online. Equally, if the people in a girl's social network also don't know how to use the phone or do know but don't feel she should use one, then she will struggle to gain the necessary skills.

The first [barrier] is that [girls] don't know and even don't have someone to teach them. Another thing is that [girls] don't have time to go on the internet to see what is there.

(Girl, 18, Rwanda)

Previous Girl Effect research has demonstrated the importance of girls' social networks. This includes the role of family, friends and peers as key conduits through which girls often learn the skills to use a phone. It is through these connections that girls also learn the benefits of phone usage, and discover how phones can improve their lives. A small number of girls in the TEGA sample said they could potentially learn how to use phones from friends who were more tech-savvy but the majority recognised that the first hurdle to overcome was increasing parental acceptability of their phone use, as well as parents' tech literacy, which would subsequently help their own tech know how.

Then for a girl, if she is allowed to go out with a phone, even if she doesn't know how to use it, then a friend can teach her how to operate it if she is better than her. She would tell to log onto this web pages if you type in this, and then you would get information, on these things. Even if she doesn't know, she would teach her and tell her she can always communicate with her boyfriend through chatting, without having to make calls that can be easily overheard, she can chat quietly. He can tell her where she can meet up with him, if she meets up with him, then there no telling what can happen to her.

(Girl, 19, Nigeria)

3. The barriers girls face come in many forms (cont.)

Limited awareness of the ways a phone could be used was clear amongst girls with less mobile access in the TEGA sample. This was particularly the case in comparison with their male peers. When discussing mobile use, these girls broadly wanted to keep in contact with friends and family, and frequently stated that they wanted to 'learn new things'[24] whilst not articulating what these were or how they would go about doing this.

In contrast, boys were more likely to want to use WhatsApp, YouTube, read the news, look for jobs, and use the internet. Girls' aspirations related to future phone use were often constrained by low awareness of mobile internet. The comparison between the following female and male respondent is typical of the differences revealed in the study regarding internet awareness.

TEGA: Do you know the internet?

Girl: I hear people talk about it.

TEGA: Do you know how to download videos, music or check things?

Girl: You just open your phone, enter somewhere and start.

TEGA: But you don't know precisely how to access the internet?

Girl: It has a symbol of basket you click on it, you will see music, videos then you click on the one you want and it starts downloading.

(Girl, 19, Nigeria)

The Internet is what I will use regularly and since I'm a student I will use it more for research about my studies, I'll check for further explanation on areas where I need clarification and I will also chat and browse to know what is going on in the society, sport news and other things for entertainment and to keep me company.

(Boy, 19, Nigeria)

In contrast, girls with higher levels of phone literacy amongst the TEGA sample were able to describe specific ways phones could positively impact their lives. For example through consuming information, building connections, and developing skills and knowledge.

Mobile phones are used for so many things, for example giving information, receiving danger alerts quickly and communicating with people close to you. Also it can help in business, for example if you're doing tailoring business… you know many people are tailors, there are so many tailoring businesses. But you can create something and post it online where it may look more attractive than other people's clothes. So you'll get profit and so many customers because some will be attracted by the style… they will be giving you money.

(Girl, 17, Tanzania)

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[24] This was seen in Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore).

Interestingly, however, data from the online survey suggests that girls with less regular access to phones (particularly those who use them primarily at weekends) appear to be using the devices for a narrower range of activities; specifically communicating, helping schoolwork, information, and games. This could be because they are more likely to be using another person's phone, who is allowing them to use it for those activities. However, it is important to note that usage behaviour is self-reported by girls. Therefore, those with less regular usage may feel compelled to emphasise that they are using the phone for more 'productive' or 'acceptable' activities.

Additionally, there may be some selection bias - in completing an online survey, these girls might demonstrate that they have higher levels of tech literacy than girls in the TEGA sample. It is also important to bear in mind that what girls mean when they report that a mobile can be useful for activities such as 'school' or 'finding jobs' can vary, depending on their awareness and understanding of usage and the handsets they have access to.

For example, girls in the Rwandan TEGA sample highlighted the value of a phone in helping to find a job. However, they specifically meant using phones to call to find vacancies or receive phone calls about job openings, as opposed to searching for jobs online.

	Comms	Social media	Money	School	Info	News	Entertainment	Games
All the time	61%	66%	4%	36%	35%	21%	35%	19%
At weekends	69%	44%	5%	56%	42%	13%	35%	29%
Mainly in the mornings	46%	38%	8%	31%	38%	8%	23%	15%
Mainly in the afternoon	61%	34%	2%	46%	41%	15%	37%	15%
Mainly in the evenings	54%	59%	0%	43%	29%	23%	29%	17%
Whenever I have the chance	59%	57%	3%	41%	44%	17%	32%	16%

Table 11. Overview of girls' phone usage by access period.
Respondents able to select multiple uses (online survey data, n=1,707)

3. The barriers girls face come in many forms (cont.)

They may allow you to get a job or get to know friends, that's about it... Let's say a friend of yours works somewhere that happens to have a job opening, they might call you and offer the position if you qualify.

(Girl, 18, Rwanda)

The use of a mobile phone is, for example, you may be looking for a job and someone in Kigali finds it, they may call you on a phone.

(Girl, 18, Rwanda)

Finally, as girls within the TEGA sample appear less likely to have someone able to support them in learning how to use a phone, they appear similarly less able to mitigate the risks that can result from phone use[25]. This includes lacking the critical thinking skills to interrogate and verify information provided through online or other channels. They may also lack the confidence, and support mechanisms, to deal with harassment or bullying and instead see the solution to staying safe as avoiding apps and features that they believe will expose them to danger.

I can use internet to chat but am scared of chatting... I will make use of it but am scared of it because my parents said I should not make use of it.

(Girl, 17, Nigeria)

What should change is avoidance of Facebook, girls should avoid using Facebook because on Facebook most people talk badly, and also girls should avoid giving their phone numbers to men and we should be listening to our parents.

(Girl, 16, Malawi)

Several key informants expressed concern about the lack of awareness amongst girls, and people more generally, that information online needs verification, and their lack of ability to verify it. However many of the girls in our sample did not appear to be at the stage where they were accessing much information online, instead they were focused on who and what they were exposed to through basic phone uses like calling and texting.

'The difficulty is that so many girls will look for information on the internet but may get very dodgy information. When people get the wrong information, it's a massive issue. We need so much more training in schools across responsible phone usage'.

Mobile technology expert

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[25] These girls may potentially also come from more vulnerable backgrounds. Various studies highlight how girls who are more vulnerable offline (due to poverty or other forms of marginalisation) are often also more vulnerable to certain risks online too. (Bailur and Vijay 2017; Kleine, Poveda, and Hollow 2013; Raftree 2016).

Phones play into girls' relationships with boys and men, often leading to negative consequences and associations

Girls across the TEGA Africa sample say that one potentially quick and easy way that other girls gain access to mobile phones is to engage in romantic or sexual relationships with more affluent boys and men, who then provide them with a phone. There are a range of relationships that girls engage in where they can gain a phone. Many girls describe being given a phone by a boyfriend, and in these instances the phone is almost a pleasant sidenote to being in a romantic relationship.

In countries such as South Africa, where there are very few social restrictions around girls having phones, the phone is often emblematic of the relationship itself.

Here, the handset cost is a considerable barrier to girls' mobile access to mobile phones, so the mobile phone is both confirmation that the girl is in a relationship, and that her partner can provide for her financially.

In locations such as northern Nigeria, where girls require parental permission to use a phone, and often are restricted from owning one until they are older, girls report that boys will often give their girlfriend a 'secret' phone. This allows him to contact her privately, and whenever he wants (this is often in the middle of the night).

However, girls in the TEGA sample, particularly in Africa, also report that some of their female peers engage in more transactional relationships with boys or men in exchange for a phone. Some of these girls are coerced, whilst some actively pursue sexual relationships with more affluent boys and men to obtain phones.

She can have a relationship with older men to give her money to buy a phone and also she can steal money or maize and sell it to get money and buy a phone.

(Girl, 17, Malawi)

Adolescent boys in the TEGA sample are also aware that some girls are gifted phones by older men. They express frustration that these girls are able to get access more 'easily', whilst boys such as themselves have to earn money to buy their own phone. These boys feel that girls have more access than them, and are therefore more likely to build up knowledge of how to use a phone.

3. The barriers girls face come in many forms (cont.)

Boy: The reason is that it's hard to get them because many times girls get them as gifts but for a boy to get one he has to use his force and fight for it, to find money and buy it. But many times the girls get them as the gifts and as they have them it makes them know fast how to use them, they are not like someone who is going to get them after a long time by using force.

TEGA: Why are girls the ones who get those more chances to receive them as gifts, a boy can't get the gifts?

Boy: It's because that's what people are after with girls. They can tell her, 'we will sleep together and I'll give it to you as a gift'. But that usually doesn't happen to boys, they don't get those gifts.

(Boy, 16, Rwanda)

However, the ownership data collected as part of this study does not reflect these boys' impressions. In fact, boys report higher levels of ownership across almost all countries – and have greater understanding of how to use mobile phones.

As a result of the way phones play into girls' relationships with boys and men, lower-income girls who own phones, particularly expensive-looking phones, may be assumed to have a boyfriend or to be engaging in a more transactional relationship. This can put them at risk, both physically and in terms of their reputation, from their family and wider community. This is explored further in the following section.

Case study:
The consequences of being seen with a mobile phone for a Malawian girl

Grace, 15, Mzuzu, Malawi

Grace is 15 years old and lives in Mzuzu, Malawi. She has one younger brother and one older sister who is married and lives nearby. Grace is currently in primary school and hopes to start secondary next year. Her parents are keen for her to do well in her end of year exams but even if she does, she is worried that they will not be able to afford for her to attend secondary school because of the fees.

Grace's parents do not allow her to use a phone as they worry it will introduce her to boys and distract her from school. Grace has heard of girls who got pregnant because of owning a phone, or who caught sexually transmitted diseases. She has also heard people in her community say bad things about girls who use phones. Some say girls who use phones start prostitution and because of this Grace thinks girls should be 18 before they own a phone. For boys, life is less risky so 14 feels like the right age for them to own a phone.

If Grace were caught using a friend's phone in secret she says she would be punished and the phone would be confiscated. This is because her parents would think she is communicating with boys, whereas if her brother was found using a phone, her parents would think he was just calling friends, playing games and listening to music. If Grace could have access to a phone with internet, she's not really sure what she would use it for but she knows she would need to act responsibly and not miss her curfew if she wanted to maintain her reputation with her family and neighbours.

4. Perceptions around safety are key to unlocking access

Girls across countries are acutely aware of 'safety' as an issue when thinking about mobile access and use. Almost half of girls (47%) in the TEGA sample identify parents' safety concerns as the reason why girls don't own mobile phones. Although girls ranked their own safety concerns much lower, they were still noteworthy, with 16% of girls mentioning that girls don't own phones because they themselves see them as unsafe. However, many girls also felt that phones can support their safety.

Some parents think that phones distract girls or let me just say kids… they think we can be easily exposed or maybe kidnapped because nowadays we get too excited to meet up with people… so the most important thing is that we need to prove to our parents that we can take care of our selfs and how phones can be important to our lives.

(Girl, 19, South Africa, Springster comment)

I have a mobile because my parents told me to, so we could communicate. Because I'm a mummy's child, they worry that if I go out with my friends I'll be snatched / disappear.

(Girl, 16, Indonesia, Springster comment)

This 'paradoxical relationship',[26] and the role that phones play in girls' conceptions of safety varies across countries. Girls in the Bangladesh and Malawi TEGA sample are overwhelmingly positive about the role of phones in supporting their safety, with 84% of girls in the Malawi sample mentioning that phones make girls more safe. In other countries, findings are more mixed. In Nigeria, girls are divided as to wherever phones make them more or less safe. In Rwanda, a higher proportion of girls see phones as making girls less safe.

84%
of girls in the Malawi sample said phones make girls safe

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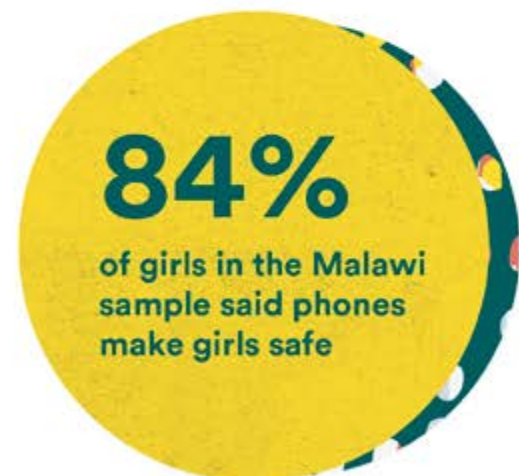
[26] The GSMA note this 'paradoxical relationship' between mobile technology and women's safety. A 2015 GSMA Connected Women survey found that 68% to 94% of female respondents in 11 low- and middle-income countries reported feeling safer with a mobile phone or that they would feel safer if they owned one (Bridging the gender gap: mobile access and usage in low- and middle-income countries 2015). However, GSMA research has also consistently shown that safety concerns related to mobile are an important barrier to mobile ownership and use, with women perceiving safety as an issue more commonly than men (Rowntree 2018).

Phone makes girls...	Own phone (n=418)	Does not own (n=386)
Less safe	33%	47%
More safe	45%	43%
The same	22%	10%

Table 12: Do phones make girls more or less safe by owner/non owner girls (n=804)

Interestingly, apparent perceptions of safety also vary according to phone ownership. For example, girls in the TEGA sample who own phones appear more likely to say they feel more safe with a phone, or the same as if they didn't have a phone. In contrast, girls who do not own phones are more likely to say that having a phone would make them less safe.

This could be as a result of lack of awareness of how a phone can support a girl's safety. For example girls who own phones and who have used them more frequently can pinpoint practical examples of how phones have made them feel safer. In contrast girls across the TEGA countries with lower phone exposure noted more theoretical and sometimes convoluted ways that phones can improve safety. This 19 year old girl in Bangladesh does not own a phone but says the following:

Hmm. I think that girls need to be safe. Suppose they went to a tutor or friend's place. There might be many risks. They might face many problems. Uhm, they might have to face rogue boys or other problems. They can let their families or if not possible, let relatives know. Or friends. Someone. So that they'll know how she is. Okay? So that's why girls really need phones.

(Girl, 19, Bangladesh)

Yet these perceptions could also be the result of high awareness of the risks that can accompany girls' mobile use in particular contexts and situations.

4. Perceptions around safety are key to unlocking access (cont.)

The safety paradox: Girls' and parents' safety concerns are often an extension of 'offline' safety issues

Girls across all countries in the TEGA sample highlight a number of safety concerns and fears that they and their family, friends and peers have about girls accessing phones. Although almost all girls note that their parents have phone related safety concerns, in contrast girls' own fears about mobile phone use vary, and are most strongly felt in more conservative communities and especially by girls who do not own a phone. The fears voiced by girls appear to play directly into parents' and girls' concerns around girls' vulnerability, safety and mobility. This seems to be largely because the threats that girls feel exposed to via mobile phones, are broadly extensions of 'offline' behaviours that girls are already familiar with.

The reason why they don't own mobile phones is that parents are afraid that they might get pregnant because of a phone.

(Girl, 16, Rwanda)

So, I think there's a couple of reasons why in which girls today wouldn't have a cell phone. One would be their parents. Like, this comes from an example of a friend of mine. She got her phone taken away for, like, a solid year and a half that she didn't have one, because she was using it to go out and she got involved with a lot of, like, unsafe, like, activities. So, after her parents, like, took away her phone, she lost those connections and wasn't able to do those things anymore. And yeah, it was, like, hard, but it was better for her.

(Girl, 17, USA)

In many locations[27] girls and/or their parents fear that phones can be a gateway to 'bad people' including boys, men and other girls who might be a bad influence; it can facilitate dangerous meetups; and the phone can lead to girls 'going astray'. Girls and boys also feel that the phone can act as a gateway to dangerous information and imagery, such as pornography and 'bad messages' that can both upset girls and 'corrupt' their moral being.

I was sent a message that really upset me and it was not proper, they are pornographic stuff… it is not proper, phones should not be used for such things.

(Girl, 17, Nigeria)

Boys also recognise that phones can facilitate access to pornography and 'unrecommended content', which they may not always search for themselves but which is hard to ignore when they come across it.

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[27] Malawi (Mzimba, Lilongwe and Zomba); Rwanda; Tanzania (Temeke, Dar es Salaam); Nigeria (Kano); India (Bihar and Rajasthan); Bangladesh (Dhaka and Jessore).

[28] 'Eve teasing' is a common experience of women and girls in India and Bangladesh and involves men and boys making unwanted sexual remarks or advances in a public place.

Viewing content I'm not supposed to look up is not good but I get curious to see why I'm indeed not supposed to view it which then makes me research about it, so that I get to know what it is all about.

(Boy, 18, Rwanda)

However, the biggest concern that girls reported related to the phone's ability to act as a channel to boys and men. Girls across countries in the TEGA sample note that men and boys' use of phones to harass them replicates their experiences in real life. This was particularly evident in India and Bangladesh where girls observed that constant phone calls, suggestive text messages and threats of blackmail through the phone echoed their experience of offline 'eve teasing'[28]

... It will also be problematic for me when somebody harasses me, makes unwanted calls sends weird messages on Facebook... It is for these reasons my parents do not allow me a personal mobile phone.

(Girl, 18, India)
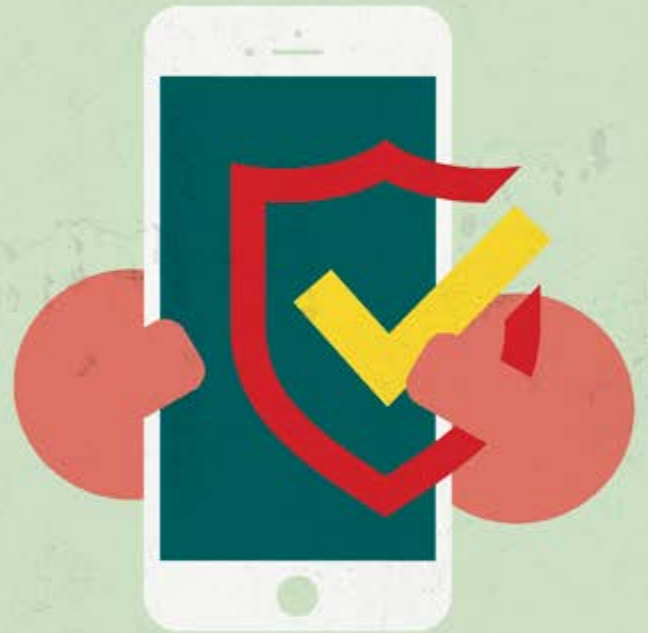
4. Perceptions around safety are key to unlocking access (cont.)

In Malawi and Rwanda, girls were most likely to say that phones lead to contact with boys, which they felt could ultimately lead to unwanted pregnancy. The precise cause of unwanted pregnancy was described by girls as the result of various issues precipitated by the phone. These include exposure to 'sugar daddies'; watching pornography, which 'tempts' girls into trying sex; being tricked into meeting men and boys for sex, or even providing the opportunity for them to be put under a spell and seduced in that way.

She might end up with an unwanted pregnancy when she talks to boys or watches pornography and she also desires to do what she watches.

(Girl, 19, Rwanda)

The disadvantage to the side of boys is that they can be communicating with boys and get pregnant in the process.

(Girl, 15, Malawi)

Many boys also felt that phones can put girls at risk by exposing them to men, boys and sexual relationships.

Through phone girls get involved in relationships and many things happen. A girl's life gets spoiled.

(Boy, 18, Bangladesh)

They have a lot of boyfriends… because they cannot have a phone and have one phone number, they get boys phone numbers and those boys who want her may make their move using the phone. If she is not careful she would get diseases… I she is having multiple boyfriends.

(Boy, 18, Malawi)

Across all countries in the TEGA sample, girls also shared concerns about their photos being used to ruin their reputation. This included the risk of being tempted to send nude photographs, which then get shared by the person they were sent to. Regardless of how conservative the society they live in, it appears that this is a common issue for girls.

Sometimes you can see people's nude pictures and feel the desire to copy what you've seen. In turn, it can ruin your reputation in public. Just because of imitating other people when it's even prohibited in your culture.

(Girl, 15, Rwanda)

People are easily blackmailing others by showing them dirty photos through mobile phones.

(Girl, 19, Bangladesh)

In addition, girls also report risks posed by the presence of a phone, or their association with one, in their offline, physical world. Some of these concerns relate to a very specific context. For instance, in the US TEGA sample, safety concerns often centre around phones being a distraction whilst driving. This was not mentioned by girls in the other locations.

Key informants identified online harassment as a huge risk that needs to be better tackled.

Girls more generally are aware that the way a phone is perceived by others can pose a risk to their own safety. For example, if a girl from a low income community owns a high-end handset in some countries such as South Africa, it can be assumed that she got the phone through transactional sex and is therefore 'asking' for sexual harassment and worse[29].

In other locations such as northern Nigeria, owning a phone can imply she has a boyfriend, which can have similar implications around sexual harassment and risk to reputation.

If her parents find her with a mobile they would think she is a prostitute.

(Girl, 17, Malawi)

The mobile phone can lead you to be at risk, if you are always seen with a phone, there are men that would start looking at you in a way... A look that signifies that he thinks it is inappropriate for a girl to use a mobile phone, and worse still a smartphone.

(Girl, 18, Nigeria)

[29] This is discussed in the previous section 'Phones play into girls' relationships with boys and men, leading to negative consequences and associations'.

4. Perceptions around safety are key to unlocking access (cont.)

Girls and boys across the TEGA countries also report that the phone can introduce the additional risk of being mugged or violently robbed, as smartphones in particular can be highly desirable for thieves. Boys across the African and Asian countries studied are concerned more about phones being stolen, than their own personal safety related to a phone being a 'gateway' for risky access or information.

For all of these reasons, basic or 'small' phones are generally perceived by girls as safer than smartphones and less likely to expose girls to the risks of meeting strangers and untrustworthy people on messaging platforms like Whatsapp and Facebook. Girls also suggest removing internet enabled social features as a way of staying safe on 'big' (smart) phones.

Like the social media, they have to remove it because the WhatsApp is misleading people, so they have to lock the WhatsApp.

(Girl, 16, Malawi)

If I collect a big phone if I say I want to do WhatsApp I don't know with whom I will play, I can do it with people that I don't know, I will do it with many people. You can meet with people some are decent and some are not.

(Girl, 19, Nigeria)

In addition to being seen as safe, small (basic) phones are perceived as easier to hide from parents and use secretly if they have not given permission.

She might buy a small phone by saving money, the she could keep it to her friend, she could talk while going and coming back from school. She might also say that she is going to her friends house and talk over there.

(Girl, 19, Bangladesh)

I think it would be like a really small phone. It wouldn't be anything super expensive, like an Apple product or something. And she would probably hide it. If she went to school, she would keep it in her pocket or something and then she would obviously keep it from her parents. She wouldn't talk on the phone around them, if that makes sense.

(Girl, 19, USA)

Punishment for illicit phone use is a real safety concern for girls

Girls report a personal safety concern at the hands of their parents, in the form of punishment for being caught owning or using an unpermitted phone. In many of the countries in the TEGA sample, girls note more parental restrictions placed upon their mobile access than boys. When these girls are then accessing phones, they are more likely to be transgressing phone restrictions and potentially experience parental punishment.

The severity of punishment varies substantially across countries and households. Girls report that it can range from scolding, beatings, being grounded, kept out of school or forced marriage. The type of punishment appears to relate in part to how restricted a girl is in her daily life, and the public perceptions of girls and mobile phones where she lives. For example, in India and Bangladesh girls can experience strong negative social judgement for being associated with a phone, which often appears to echo the limited mobility that they experience in their daily lives. Here and in conservative households across Africa and Asia, girls also report that the consequences of parents' discovery of illicit access can be enormous. They include being judged by family and friends, beaten, and even married off.

People say that the girl who touches the phone is a bad girl.

(Girl, 16, Bangladesh)

If it's a 15 year old girl, she won't be allowed to go out of her home, she will be beaten and her educational privileges will be taken from her. It can also happen that she is married off.

(Girl, 17, India)

The safety paradox: girls identify many ways that phones keep them safe

Girls across countries highlight how valuable the phone can be for minimising risk in their daily lives, and improving their feelings of safety. The idea that the phone acts as a 'gateway' is also reported by girls as positively supporting their safety. Phones enable girls to contact others, often trusted family members, quickly and easily.

Nearly half (46%) of the girls in the TEGA sample listed safety as the primary justification for having a phone. In these instances, girls say safety is the reason family members allow them to use a phone and is a compelling way to convince parents to allow access.

We can make our parents understand with love and patience that, 'Mum, mobile is beneficial for me and my studies because we go outside and if accidentally something bad happens, if I have a phone then I can call and tell you about what happened'.

That's why mobile is necessary for us. We should keep a mobile and it is very necessary for our safety!

(Girl, 16, India)

4. Perceptions around safety are key to unlocking access (cont.)

Girls' perception of risk appears higher than boys' across all TEGA countries, and this is reflected in the responses that girls provide about the positive value of a phone for safety. Boys are much less specific about how a phone can improve their own safety, presumably because they generally feel safer day-to-day than girls. For boys, it seems that owning a phone on the whole neither adds to nor detracts from safety and unlike girls safety is not a front of mind concern.

TEGA: Why is it that boys are safer when they have a telephone?

Boy: They are safer as they get to do or have what they want on time which gives them peace of mind as it goes according to their wishes.

(Boy, 16, Rwanda)

Amongst the TEGA sample in India and Bangladesh, girls view phones as a 'safety blanket', and they are often permitted to own them, or lent them, by parents to provide protection if they leave the home. Phones are seen as an essential way to stay in touch with parents, reflecting the strong links that girls have with their families – and the need to be accountable for their whereabouts at all times.

Having a mobile phone makes me feel secure because when I go someplace outside and any problem occurs, I call my family members immediately and get the problem solved. My family becomes available wherever I am so I feel secure.

(Girl, 19, India)

Girls in the TEGA Africa sample are less likely to say that their parents lend them a phone to stay in contact when out of the home. Instead, they list a range of diverse ways that the phone can keep them safe. This includes helping them report accidents or illness, or to enable money to be sent in an emergency; calling the police; reporting sexual abuse; and calling for directions when lost.

Girls' responses in the TEGA interviews demonstrate how parents are integrating phones into their own efforts to keep their daughters' safe. However, in some of these instances it appears that parents are using phones to enforce existing social restrictions, particularly in relation to their daughters' mobility and communications.

For instance, girls report that parents who allow phone use do so to keep close tabs on their whereabouts and communications with friends. In these cases, parents can monitor their daughter's movements and ensure that they spend time within or close to home. Girls themselves also report that having a phone can tie them more to the home as the need to go out for entertainment or socialising is reduced.

It makes you stay at home talking to your friends, but when you don't have it you wander around because you are bored and parents don't find you at home.

(Girl, 15, Rwanda)

Well I have my own phone even though my parents still want to know what is inside my phone.

(Girl, South Africa, Springster comment)

Case study: two Indian girls with different levels of mobile access

Riya, 15, Bihar, India

Riya, aged 15, lives in the northeastern state of Bihar, India with her parents and younger brother, Raj (aged 13). Riya has been visiting her neighbour quite frequently lately, since she is able to borrow her phone. 'I use the phone to check my gmail, Instagram, WhatsApp, and look for new dish recipes. Sometimes, we also look up new henna designs on YouTube.' Riya says that using her neighbour's phone helps her feel connected to friends and makes life easier.

Meanwhile, her brother, Raj, finally saved up enough money to buy himself his first phone. Riya, disgruntled by the disparity in her freedoms compared to her brother, asked her parents if she could finally get a phone, but was once again discouraged by their response.

Her father worries if Riya were to own a phone she could get involved with 'a bad group' or 'become spoiled,' which could create problems for her and her family's reputation. Her mother is concerned about her owning a phone because she heard about a girl Riya's age who received several unwanted messages and phones calls from WhatsApp and Facebook. It turned out that the girl's parents were unaware of their daughter owning the phone and as a consequence, not only removed her from school but also arranged for her to marry an older man in a neighbouring village.

Riya is frightened by this news, because if she was married she would have to move into her husband's family's home, outside of her home community. Because of the severe repercussions of getting caught with a phone, Riya keeps her cell phone use hidden. She is not ready to leave her family and friends behind.

Divya, 17, Rajasthan, India

Divya is in class XI at Ashok College Girls' School in Rajasthan, India. At 17 years-old, she is one of the only girls from her community that owns a phone. Before Divya started at Mayo, she thought that girls and boys should not own a phone until the age of 18. This is a common belief throughout her community because parents see the phone as a risk to girls' safety. There is concern that the SIM could get stolen and personal information would be at risk. Additionally, parents do not feel that girls can handle the responsibility of a phone at a younger age.

She explains that parents are one of the biggest barriers to phone ownership in her community, but her parents made an exception. 'I was given a mobile because I was accepted into a top-boarding school, which meant I would be living away from my family. My parents were worried that while going to college to study, I could get harassed by somebody and with a mobile accessible to me, I can inform my family or my elder brother that I am in need of assistance. Many parents worry about girls owning or using phones, but mine see it as a safety measure in case I am in need. To be honest, I use internet on my mobile daily because I miss my family being so far away. Sometimes I watch movies, if I am bored or I will use the dictionary to look up words I am unable to understand.'

Divya feels that cell phones are very beneficial for girls, because even if they are sitting at home and not in school, they can read and continue to learn right from their home. Girls are able to access so much information without leaving home.

Conclusion

This study is a unique examination of the challenges and opportunities many girls experience in relation to mobile phones. For some girls, access to phones is relatively simple and even seen as an inevitable part of their life journey. For other girls, getting access to a phone is a formidable journey in and of itself, and social norms and internalised fears can delay or prevent the journey.

'Access' is a complex concept. Typically, access to phones has been understood as an either/ or proposition – someone owns a phone, or someone does not own a phone. The reality is often quite a bit more complicated for girls – rather than binary 'have' or 'have not', their access is often compromised and transient and closely related to a number of intertwined barriers.

The number, type and size of barriers girls feel they experience in accessing mobile, and their sense of self-efficacy in overcoming these barriers, is key to differences in access. If girls feel that the barriers they face are insurmountable, out-of-their-hands, or carry too much risk to themselves or their families, they are often less motivated to access mobile phones and more worried about the potential risks of owning and using a phone.

In countries where girls are more restricted either due to lack of social permissions or income to purchase a phone, they have to be more creative in finding ways to gain access. This is because they are less likely to be given a phone by other family members, cannot openly borrow from others and often cannot afford to purchase one themselves.

Across countries many girls are actively pursuing greater phone access. However, the characteristics of this access are informed by the agency they already have in their everyday lives. For example, girls across all countries see similar benefits of phone use and in particular they see the phone acting as a 'gateway' to the world outside the physical space of their home. Yet whether they frame this as a benefit or a drawback is largely dependent on the social context in which they live.

The level of mobility and agency that girls have in their everyday lives also appears to influence their perceptions of mobile and the access and use that they are permitted. Layered onto this, girls with limited social support for mobile use can experience tech literacy issues which in turn limit their awareness of potentially relevant mobile phone use cases, and their ability to engage in them. Mobile phones also play into girls' relationships with boys and men in ways that can lead to negative consequences and associations amongst girls and those around them.

Despite these challenges and continued inequitable access in many geographies, mobile phones and digital technology continue to hold great promise for girls and boys. Alongside the risks are opportunities – and a significant possibility for girls, boys, parents and communities to recognise the value of these opportunities for all young people.

We can draw clear messages from our research to expand girls' mobile worlds
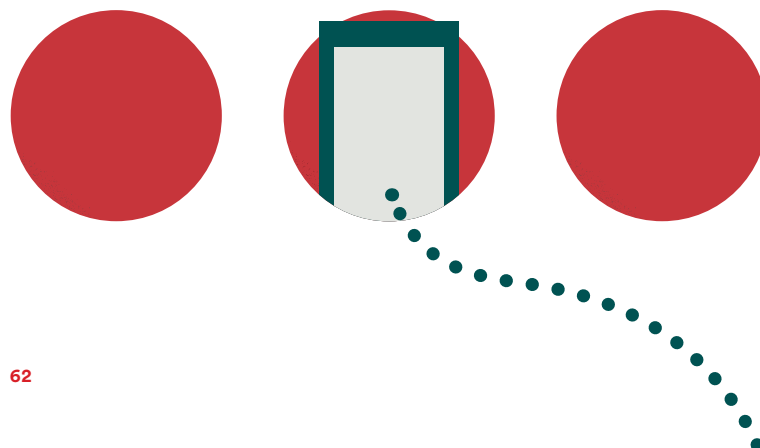
Recommendations

Girls' access to and use of mobile is multi-layered, multi-faceted and complex, but we can draw clear messages from our research for actions to enable and expand girls' mobile worlds. A combination of approaches, including education, research, design, and greater inclusion of girls and those around the girl in these processes, are all key to expanding girls' mobile worlds. This requires engagement and co-operation between actors across the wider socio-economic system, including those in governments, non-governmental organisations (NGOs), Mobile Network Operators (MNOs), the private sector and individuals. Each of the following takeaways may therefore be engaged with differently by different actors within this system.

Forget assumptions about girls – access is changing and we need to keep up with girls' lives

Assumptions about whether girls have or do not have phones should be re-examined, as a girl's journey to full mobile access is often far from linear. There can be multiple pressures on girls to conform to specific norms that influence their mobile access, and girls often play a very active role in navigating these norms to achieve mobiles access. This has a number of implications for research, and product and service design.

When researching girls' mobile access, it is crucial to fully acknowledge the complexity of girls' lives. Instead of focusing on binary questions around ownership or borrowing, there needs to be a broader focus on when and how girls gain access. This must recognise that access to phones is often fluid and related to diverse socio-economic factors.

Products and services need to be designed with the local context in mind and recognise girls as active agents, rather than recipients. Organisations need to invest, either financially or through technical assistance, or both, to address the disparity in girls' mobile access and usage.

Recommendations

Address the mobile gender gap holistically

Mobile phones do not exist in isolation from the societies in which they are used. This research illuminates the wide range of barriers to mobile that girls experience and how these are often intertwined with each other, and with broader structural inequalities. This could be most effectively addressed by taking a contextualised, holistic approach to tackle multiple barriers simultaneously, through a combination of digital and non-digital means.

A further implication of taking a holistic approach involves recognising that digital initiatives do not exist in a vacuum. They can complement existing development agendas, or in a more commercial setting, they can be embedded within the core business strategy, rather than existing as a separate CSR initiative.

"Attributes for success: don't view the programmes as in a vacuum, but as part of a more comprehensive way of empowering girls in different spheres. Any mobile programme paired up with a parallel investment that focuses on stronger outcomes. Financial constraints are one of barriers mentioned for girls accessing mobile, but then we see there are some gender constraints. When addressing those as part of a programme, you see more change. So the importance of parallel work cannot be ignored, alongside the mobile intervention".

Gender expert
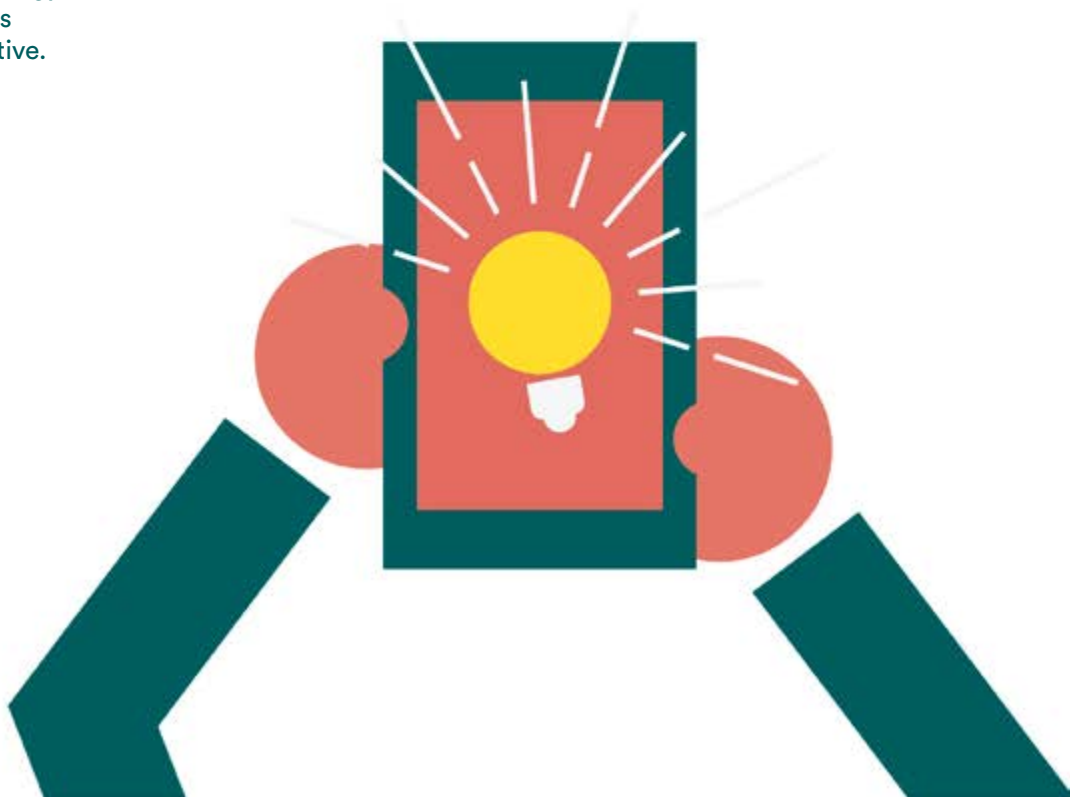
Rewrite literacy for the digital age

Girls everywhere are gaining mobile access, in spite of barriers and restrictions. Many girls are navigating mobile technology in secret and without guidance or skill development. When girls are learning new skills in an environment where they cannot rely on others for social support, there is a risk that they will fall behind their male counterparts, further exacerbating the mobile gender gap. In an increasingly digital world, tech literacy is a crucial component of all education, and girls are at risk of falling behind if we do not invest in this.

Support can take many forms, including integrating tech literacy and digital safety into school lessons for all students, so girls and boys can learn how to use the phone in ways that could promote learning and support positive development outcomes. Support for tech literacy can also involve encouraging broader acceptance of mobile phones amongst families and communities.

Design for mobile safety

Girls everywhere want their online experiences to be safer. However, they often feel they lack knowledge of how to deal effectively with bullying, harassment and unwanted information or content. They can find this highly traumatic and difficult to manage. It needs to be easier for mobile users to block and report unwanted attention, and to feel that they can navigate the technology safely. Tech literacy programmes should include information about blocking callers, deleting unwanted messages and staying safe online, so girls feel able to take their safety into their own hands where needed. They also need to ensure that boys and men are accountable for their actions when using phones to interact with girls. The onus should not be on girls alone to act responsibly and the conversation about mobile safety for girls needs to involve men and boys now.

Borrowing a phone also makes safety and privacy harder for girls to navigate. They may be using different mobile interfaces, that rely on different 'safety' cues each time they borrow.

For example, iconography for 'blocking' and 'deleting' (other users, information, messages, websites) often differs between applications, and even within the same application when using different operating systems. Mobile platforms and experiences need to be designed to be just as safe for a girl who has intermittent access to different devices, as one who has constant access to her own device. This means understanding the safety cues that girls are most familiar and comfortable with in their environment, and incorporating these consistently into product and service design. This also needs to be incorporated into the signing in and out process on girls' social media accounts, to make it as easy and secure as possible for them.

For organisations that use mobile communication channels, it will be important to think about how to design services that do not require the organisation to call or message a girl personally. For borrowers, this may have repercussions if she is using someone else's phone, and she wants to keep the communication private[30].

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[30] This was also observed in research conducted by Caribou Digital, who observed that shared phone use needs to be taken into account for any content girls might like to keep private from other family members. Anubha Singh, who heads up a sexual health phone line in India, found that they could not text any information back to girls who called in because they were never sure if it was a shared phone (Bailur and Vijay 2017).

Recommendations

Involve potential gatekeepers, including men and boys

Special attention needs to be paid to family permissions around mobile phones, as gatekeepers vary across countries. In some places, fathers are the key to girls' access, while in other locations, mothers and older sisters and brothers are pivotal. Yet these people are often left out of the conversation around supporting girls' mobile access, and instead believe restricting access will keep girls safe and protected.

Some restrictions around girls' access can be related to misunderstandings about benefits and fears around the consequences of use. Promoting and reinforcing relevant positive examples of use could be an effective way to increase permissibility. This would need to be directly relevant to local contexts. For example, if people in a location have very little mobile internet access and education is a priority for the community, positive examples of use could be focused around ways in which mobile can support girls in their education, through offline channels. Supporting gatekeepers to understand how to mitigate the risks of access could also help to alleviate concerns. Provision of tech literacy training for parents could upskill the people in a girl's immediate social network, who would better understand the benefits of mobile phone use and could support girls' own use, and mitigation of risk.

What would be needed is for girls to be taught how to use telephones appropriately that would not bear any consequences to them and for parents to be taught that giving a little freedom to their children is not harmful to their children and that they should inform them of the dangers of using their telephones inappropriately instead.

(Girl, 19, Rwanda)

Design mobile platforms from the user's perspective — and remember that a girls' relationships are central to her world

People tend to use phones for what they find most interesting and engaging. From an adolescent girl's perspective, the phone is often a valuable tool for communication, entertainment and information, but not necessarily for learning or behaviour change in line with specific development outcomes. This may be partly due to a lack of awareness, but also because, like many people, adolescent girls often highly value communication and entertainment, and may be less immediately interested in more 'worthy' uses.

It is crucial to design with this in mind and capitalise on the phone's communication and entertainment features – meeting the user where she is on the phone. For example, if she only uses one mobile platform and is uninterested in other platforms, think about how to meet her on that platform rather than create a new one. If she isn't interested in reading long-form content with a serious tone, package content into bitesize chunks that is fun and entertaining.

Also, it is important to remember that adolescent girls are highly attuned to social relationships (Blum 2017). They live within a web of social relationships, and the phone is embedded within this web. Therefore it is valuable to think about how to design in way that supports her within her social network, in the way that she wants to be supported.

Successful interventions that support mobile access tend to hinge on human-centred design principles

Key informants highlight that the interventions that have thus far demonstrated success have generally been developed in collaboration with the target end-users, taking into account what they want and feel they need, and their user experience. Some of the most visibly successful technologies amongst girls are commercial platforms aimed at a much wider audience, yet which have positive user-experience and can meet girls' desires eg Facebook, Snapchat.

Consider lo-tech and hi-tech solutions

One size doesn't fit all; even in communities where some girls have smartphone access, others will be borrowing basic phones for basic functions. The design process needs to take into account the diversity of girls' lives and the ways they access and interact with phones. IVR and other lo-fi solutions might be best for some situations, whereas capitalising on social media or online sites might resonate more in other circumstances. Access and use is continuously changing, as new technologies are introduced and more people gain greater access. Mobile platforms need to be continuously reevaluated and designed to be able to adapt to the new realities that girls are experiencing.

Support girls to expand their digital horizons to increase possibilities for co-creation

Technology can often be put to previously unimagined uses by new users, as they work out how it can be used to meet their needs. Girls may therefore be best placed to feed into the design of tech solutions that can help to support them in their lives. This could present a huge opportunity for the development sector to bring the girl into the development process; designing new digital solutions with and for girls. However, people generally can't imagine new uses for technology, if they don't have the opportunity and the confidence to explore and experiment with it without fear of repercussions. For adolescent girls, at a basic level this might include social support with tech literacy in a safe environment.

At a more advanced level this could involve support with coding, and developing an understanding of the foundations of mobile technology.

When engaging in research and co-creation with girls, it would be valuable to explore innovative techniques and more longitudinal approaches. For example putting phones in girls' hands and giving them as long as possible to explore the technology; enabling access over a period of days, weeks or months around co-creation sessions[31]. It could also involve establishing creative and non-judgemental environments, where girls can expand their digital horizons with people who can show them different affordances, and continue to create without boundaries.

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[31] This would involve wide-ranging safeguarding protocols, including working with the community around technology permissions and consent.
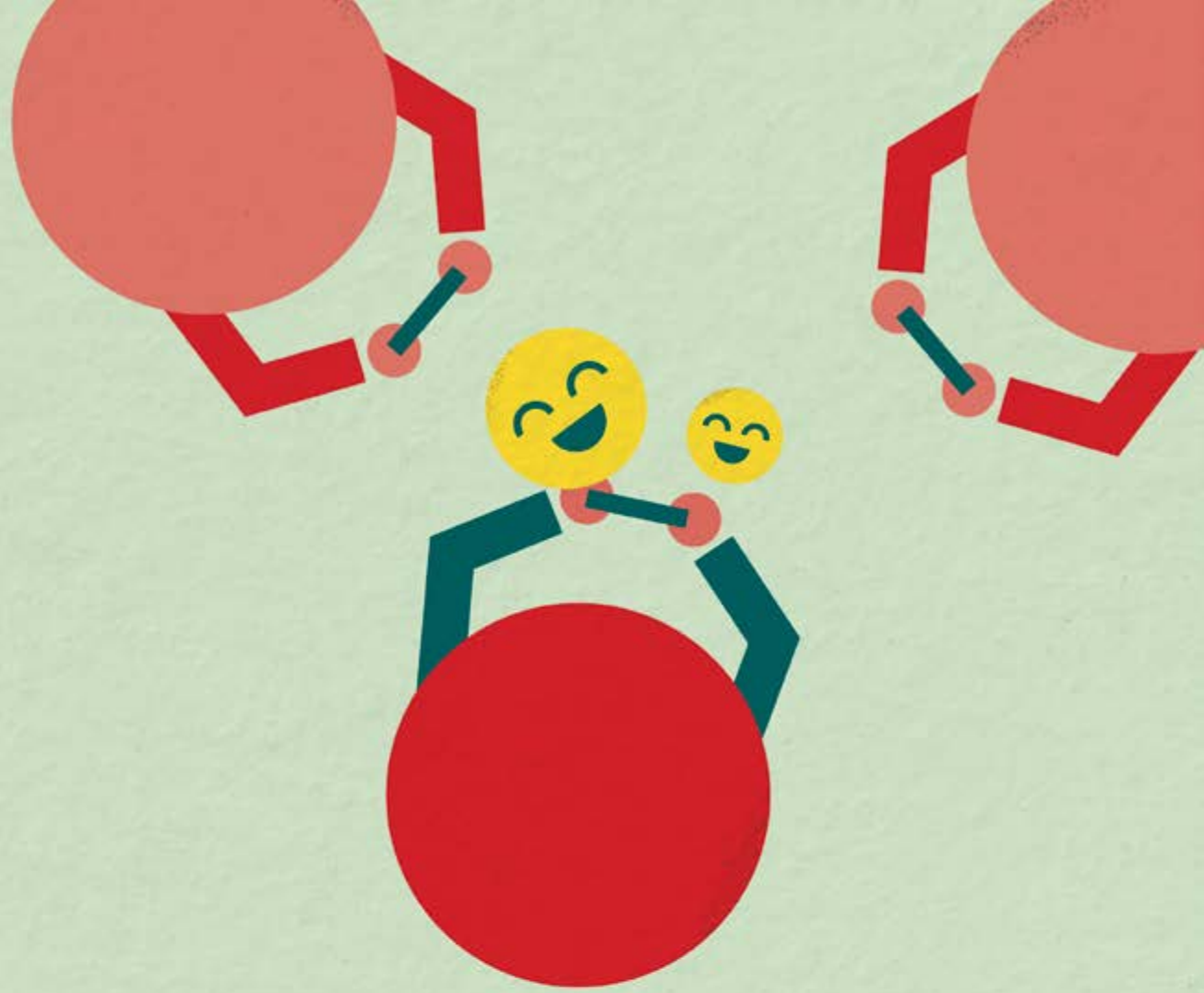
Further information

**Methodology
Analysis
Limitations
Endnotes
References**

Methodology

Girl Effect and Vodafone Foundation gathered the views and perspectives of 2,392 female and 657 male respondents across 25 countries. Although ages of all respondents were self-reported, age groups were broadly verifiable[32]. The study included adolescent girls and boys, as well as adult men and women. These latter groups provide an opportunity to compare attitudes regarding mobile phones, and differences in mobile access and usage, compared to that of adolescent girls. The TEGA sample upweighted the number of respondent girls due to the intentional focus on girls' experiences. A smaller sample of boys (50 to every 150 girls per country) was selected as a reference group, rather than to draw direct comparisons between girls' and boys' experiences.

The study began with a literature review to identify existing insights regarding girls' access and usage of mobile phone.

This review was broadened through 21 key informant interviews with experts across the gender, international development, and mobile technology sectors. These interviews explored how girls across projects and programmes have accessed and used mobile phones – including gender dynamics, the key barriers and challenges faced by girls, and drivers of success in mobile phone projects.

124 TEGAs conducted primary research with girls and boys in locations in seven countries: Bangladesh (Jessore and Dhaka), India (Bihar and Rajasthan), Malawi (Lilongwe, Mzimba and Zomba), Nigeria (Kano), Rwanda, Tanzania (Temeke, Dar es Salaam), and the USA (Adams County, Colorado).

Respondents were purposively sampled and therefore non-representative in nature and came from a mixture of urban, peri-urban and rural locations. (See page 66 for TEGA research locations)

The TEGAs spoke to 1,371 girls and boys across all the locations, with the smallest sample of 102 girls from the USA and all other countries with around 150 girls, using a 30-minute structured quantitative and qualitative interview guide. TEGAs collected demographic data from all respondents including age, marital status and education status.

[32] TEGA interviews were conducted in-person, with respondents recruited according to quotas set for girls and boys aged 15-19. Springster surveys were largely driven by Facebook advertisements targeted at the age groups of interest. The Springster platform is also targeted at adolescent girls, and its reach with this audience has been verified through other research.

Country	Locations	Description
Bangladesh	Dhaka: Mohakhli, Mirpur 11, Beguntila, Kamrangirchor, Hazaribagh Jessore: Union – Chanchra, Union – Fatepur, Union – Noyapara, Union – Norandopour, Isali Union	Dhaka locations were all considered urban slum areas. Common jobs include running small businesses, working in the local tannery. Poverty is widespread. In Jessore locations were small rural and peri-urban villages. Men work as day labourers and farmers. Early marriage is very common and levels of illiteracy are high. Poverty is widespread.
India	Bihar: Munger – Bariyarpur and Jamalpur Rajasthan: Kishangarh Bas, Alwar –Noor Nagar and Mirka Basi	In Rajasthan locations were rural with animal husbandry and agriculture common. In Bihar the locations were peri-urban – small towns with more opportunities for jobs in small industries and more education opportunities for girls
Malawi	Lilongwe: Mitundu, Namitete, Chinsapo, Likuni Mzimba: Boma, Ekwendeni, Mzuzu, Edingeni Zomba: Songani, Mpondabwino, Thondwe, Chinamwali	Locations were all within three districts located in the North, Central and Southern regions of Malawi. Rural, urban and peri-urban authorities were represented in each district. Respondents came from lower income households in every location.
Nigeria	Kano: Nasarrawa, Dala and Badawa, Tokarawa, Rijiyar Lemo, Gezawa	Kano is Nigeria's second largest city and respondents were selected from communities residing on the outskirts of the city. Nasarrawa, Dala and Badawa are urban locations. Tokarawa and Rijiyar Lemo are peri-urban and Gezawa is an hour outside the city and more rural.
Rwanda	Nyarugenge, Raburu, Nyagatare, Bugesera, Huye, Ruhango, Musanze, Karongi, Gasabo	Nine districts in Rwanda were locations for the study. All locations were rural, with the exception of Gasabo and Nyarugenge, which are urban areas within the capital, Kigali. Respondents came from lower income households in every location.
Tanzania	Temeke, Dar es Salaam	Temeke is one of the largest and poorest municipalities in Dar es Salaam. Respondents were from three typical neighbourhoods – Charambe, Azimio and Mbagala.
USA	Adams County, Colorado	Adams County is a highly populated county in Denver, Colorado. Respondents came from across the county including rural, peri-urban and urban areas.

Table 13. Overview of TEGA research locations

The interview guide also included a series of video and photo questions to add further detail and insight, and to provide a deeper understanding of respondents' emotional responses to questions.

The online survey was hosted on Girl Effect's Springster platform[33]. Respondents were recruited to the survey through national Facebook adverts targeted at 13–18 year old girl users, and through banner advertisements placed on Springster websites.
The survey ran in 21 countries with 11 questions, a sub-set of questions from the TEGA questionnaire, and it focused on understanding girls' access to mobile phones, how they use them, and the positive and negative impacts of phones on girls' lives.

The survey captured minimal demographic characteristics – principally, age and gender. Across the countries, a total of 1,772 respondents completed the survey. Completion rates varied significantly.

Finally, three vignettes were posted on four high-traffic Springster sites: Indonesia, Nigeria, Philippines, and South Africa. Each vignette focused on a phone-related fictional scenario: a girl with no phone, who is cut-off from her friends; how a group of girls use their phones in their day-to-day lives; and a girl's frustration that her parents will not allow her to have a phone.

Vignettes have been successfully used in participatory and youth research, and are an effective way of exploring complex and sensitive topics, including gender and social dynamics (Kandemir and Budd 2018). Across the four countries and three vignettes, a total of 85 comments were left by girls and boys (41 in Nigeria, 27 in South Africa, 10 in Philippines and 7 in Indonesia). Duplicate comments were deleted. The unique comments were analysed using semi-automatic analyses for relevant words and expressions, as well as qualitative thematic analysis.

The research began in May 2018 and was completed in September 2018.

33 A mobile-first global platform, Springster digitally connects marginalised and vulnerable girls around the world.

Analysis

Data analysis was conducted with a mixed-methods analysis approach which involved iterative stages of analysis and integration of findings across the data set. In the first stage, each source of data was analysed separately at the country level. Quantitative data was analysed largely through frequency statistics and t-test for independent samples[34]. Qualitative data was coded and then analysed to reveal key themes per country. Once the data was coded and overarching themes established across countries, findings were compared across demographics. Code counts were used to uncover commonalities and differences in findings. Video footage was reviewed to allow for interpretation of respondents' emotions when answering qualitative questions.

Country-level findings were generated by triangulating findings from the quantitative data with thematic findings from the qualitative data and identifying themes. This triangulation process involved identifying areas of agreement, disagreement, and silence between the data from the diverse quantitative and qualitative sources. Key informant interview data was analysed through identification of key themes; codification of topics using the top level of the code tree that was used for TEGA data; and the outcomes used to provide context, potential explanations, and triangulation around specific findings around TEGA and/or Springster data.

The second stage of analysis involved reading across the country-level findings to identify meta-themes that were present in a majority of contexts and returning to the data to query the data sets for specific data related to these themes. Attention was paid to both diverse and common experiences of girls and these findings are noted throughout the report. Where diverse stories were identified, additional queries were run in the data to identify potential explanatory insights and enable the team to gain a fuller understanding into the findings and their significance.

In addition, countries were clustered into groups in order to identify similarities or differences beyond a country level. Three sets of clusters were applied: mobile cellular subscriptions per 100 people, gender inequality, and gross national income per capita. These country indices were used to understand the cultural and structural context on levels of ownership and access to mobile phones, through a series of multilevel regression models. These models are the most adequate to test associations for hierarchical data, when respondents are clustered into countries (Hox, 2010).

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[34] The minimum margin of error for percentages referring to TEGA country samples is plus or minus 7% and for the global TEGA sample is plus or minus 3%. Therefore, two percentages need to differ at least 14% or 6% to be considered significant at 95% confidence level, respectively.
[35] https://www.surveymonkey.com/curiosity/survey_questions_and_completion_rates/

Limitations

The methodology was designed to provide a multi country focus, but does not aim to be globally or nationally representative. Rather, this study aims to bring attention to the knowledge, attitudes and behaviours of adolescent girls, and to include their voices in the global conversation about mobile access and use. It was designed as a qualitative study, despite the large sample size. The study utilised a case study approach, particularly to ameliorate the below limitations.

The online survey is based on a self-selecting sample and was only completed by girls and boys with access to mobile phones, the internet, and Facebook Free Basics. The survey was hosted solely on the Springster website in each country, with the exception of Tanzania, where it was also hosted on SurveyMonkey in order to increase response rates. When discussing access to mobile in the report, only TEGA data is used. This is in order to minimise bias, as the online survey data excludes important segments of the wider population, such as girls without access to mobile phones.

The survey featured 11 questions – as a subset of the TEGA questionnaire. In an online setting, response rates reduce significantly with additional questions[35]. The 11 question survey had the minimum questions needed to provide comparability with TEGA data and to generate useful insights. It is likely that the survey length

negatively affected response and completion rates. As the online survey did not include the full complement of TEGA questions, some sections of the report rely solely on TEGA data. The online survey coding was undertaken manually and random samples of data were quality assured to minimise errors in data coding.

Girl Effect was alert to these biases from the outset, and incorporated the TEGA component of the research to triangulate results from the online survey. The TEGA research intentionally reached a broad sample of girls, including those without regular (or any) access to mobile phones. TEGAs in each of the seven countries reached approximately 200 respondents across a range of different settings.

More widely, this research relied on girls self-reporting mobile access and use. Therefore there is a risk of recall bias and social desirability bias. Girls may not have accurately remembered their access and usage. In addition, when interviewed they may have modified their answers related to their mobile phone access and usage behaviours. This may have been in order to provide interviewers with answers that respondents feel that they 'should' mention – particularly due to social, cultural, or other constraints.
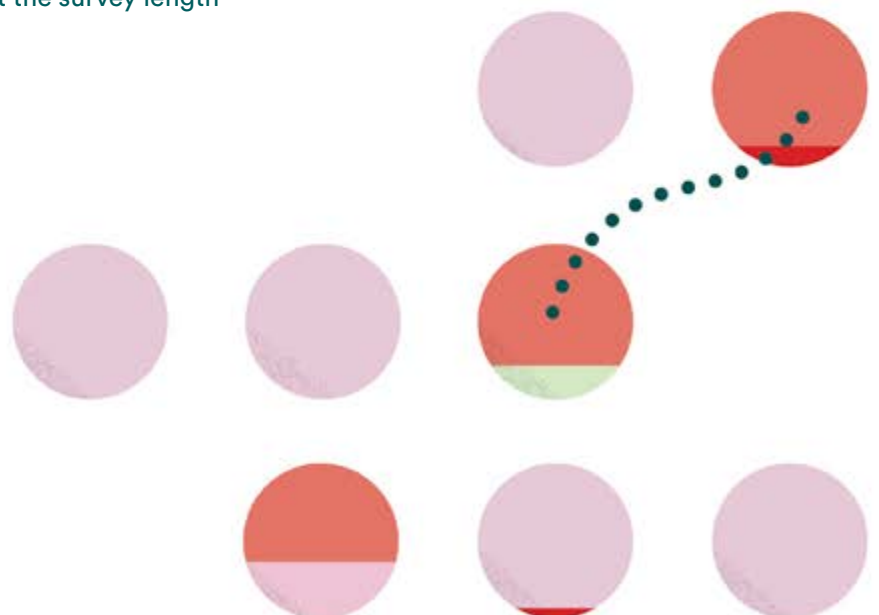
	Female, online survey (n=1,384)	Female, TEGA (n=998)	Male, online survey (n=275)	Male, TEGA (n=370)	Unknown, online survey (n=84)
<=14 years old	235	3	10	2	10
15-17 years old	487	579	40	197	26
18–19 years old	323	415	67	170	23
20+ years old	339	1	158	1	25

Table 14. Respondent characteristics, by research component

Country	TEGA interviews	Springster survey	Comment analysis
Angola		Yes	
Bangladesh	Yes	Yes	
Benin		Yes	
Colombia		Yes	
Ghana		Yes	
Guatemala		Yes	
India	Yes		
Indonesia			Yes
Iraq		Yes	
Jordan		Yes	
Kenya		Yes	
Liberia		Yes	
Malawi	Yes		
Mexico		Yes	
Myanmar		Yes	
Nigeria	Yes	Yes	Yes
Pakistan		Yes	
Peru		Yes	
Philippines		Yes	Yes
Republic of the Congo		Yes	
Rwanda	Yes		
South Africa		Yes	Yes
Tanzania	Yes	Yes	
Thailand		Yes	
USA	Yes		

Table 15. Overview of research components, by country

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Partners

Girl Effect is a creative non-profit that uses media and mobile technology to empower girls to change their lives. Founded by the Nike Foundation in 2004, Girl Effect is active in 66 countries and has reached more than 48 million people through youth brands and mobile platforms that millions of young people love and interact with. Our work helps girls to express themselves, value themselves, and build the relationships they need. Girl Effect is a UK Registered Charity (1141155).

Vodafone Foundation is 'Connecting for Good', combining Vodafone's charitable giving and technology to make a difference in the world. Globally, the Vodafone Foundation (UK registered charity number 1089625) supports projects that are focused on delivering public benefit through the application of technology across the areas of health, education and disaster relief. The Vodafone Foundation invests in the communities in which Vodafone operates and is at the centre of a network of global and local social investment programmes.

Vodafone Foundation has impacted the lives of over 800,000 women and girls through multiple programmes including: life-saving emergency transport for pregnant women; support and surgery to women with obstetric fistula; community health care to pregnant and postpartum women; and access to testing and treatment for HIV+ mothers and children.

The views and recommendations expressed in this report do not necessarily reflect those of Vodafone Foundation or Vodafone Group Plc.

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