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Male Attitudes and Behaviours Towards Women and Digital Technologies in Pakistan

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ABSTRACT

This paper reports on qualitative research undertaken to explore men’s attitudes and behaviours towards women and technology in Pakistan (in Azad Kashmir, Islamabad, Punjab and Sindh) in January-February 2020. It is premised on a concern that much research and practice on gender digital equality is based on ideas emanating mainly from North America and Europe, and may not be nuanced enough and sufficiently culturally appropriate to be relevant in different contexts, such as an Islamic state in South Asia. It builds on our previous research on mobile ‘phones and identity, as well as the use of mobiles for sexual harassment in Pakistan. Four main conclusions are drawn: first, wider aspects of Pakistan’s society and culture would need to be changed before substantial gender digital equality (as conceived in most “Western” literature) is achieved; second, there was considerable diversity in the views expressed by our participants about gender digital equality, and whilst we do draw some general conclusions these should not mask the importance of such diversity; third, despite the challenges, the last decade has seen substantial changes in the use of digital technologies by women, especially in urban areas and among the higher classes, with many more girls now studying STEM subjects and a small but growing number of women taking jobs in the tech sector; and finally, it highlights complex and difficult questions about universal and relativist approaches to gender digital equality.

Introduction

Gender digital equality has become an issue of major global concern in recent years, reflected not only in substantial amounts of empirical and theoretical research (Hafkin and Huyer, 2006; Nguyen *et al.*, 2017; Bailur *et al.*, 2018), but also in attempts by international agencies such as the International Telecommunication Union (ITU) and UN Women to support governments in implementing policies to achieve it (<https://equals.org>), as well as the efforts of countless civil society organisations,

foundations and donors to support women in becoming empowered through digital technologies (GSMA, 2019, 2020).

Two important observations can be made about this plethora of work. First, the word “gender” has traditionally been used primarily to refer to “women”, rather than the rich diversity of genders now recognised in the initialism LGBTIQ (lesbian, gay, bisexual, transgender/transsexual, intersex and queer/questioning). In part this reflects the difficulties that the UN system has in addressing such diversity, but it also results from a long period of research and practice when gender was indeed equated almost exclusively with inequalities between men and women (see, for example, Momsen and Townsend, 1987). This is problematic not only because it reduces the importance of research and practice at the interface between digital technologies and those who identify themselves within the LGBTIQ community (although see Beyene and Frost, 2019), but also because it actually downplays the need also to focus very explicitly on women’s experiences of digital technologies. Second, most initiatives designed to reduce gender digital inequalities (or gaps) have been undertaken largely by women for women. The role of men in creating and reinforcing such inequalities has consequently been under-researched (although see Chant and Gutmann, 2000).

It is also important to recognise that the term “gender digital equality” is itself contested and difficult to define, with it frequently being conflated with other terms such as “gender divide” or “gender gap” (see Unwin, 2017, for a critique of such concepts). One of the very real problems in exploring this field, especially from a quantitative and statistical perspective, is that there is often insufficient gender-disaggregated data relating to digital technologies to be able to reach definitive conclusions (Sey and Hafkin, 2019; see also GSMA, 2020). Most measures therefore focus on things that are indeed measurable, such as access to digital devices or the Internet. These give only a partial picture, and in order better to understand the factors giving rise to such inequalities, it is important to explore a much wider range of issues such as the usage of technology by boys and girls at home, access to science and technology subjects at school and university, employment prospects and conditions in the tech sector, and career progression.

There is, nevertheless, widespread agreement that gender digital equality is actually getting worse globally, although there are significant regional and national differences. This situation is especially worsening in the least developed countries (LDCs) where the Internet use gender gap increased from 29.9% in 2013 to 42.8% in 2019 (ITU, 2019), although when low- and middle- income countries are grouped together the gender gap for mobile Internet is now beginning to narrow (GSMA 2020). Gilwald (2018) thus highlights that of a range of 17 countries studied in Asia, Africa and Latin America, India, Pakistan and Bangladesh have the highest gender gaps in terms of mobile ‘phone ownership, whereas Bangladesh, Rwanda and India have the biggest gaps in the use of the Internet.

Numerous global initiatives have sought to reduce such inequalities, and claim to be empowering women in and through technology; around 70 of these have come together in the EQUALS partnership (<https://equals.org>) to try to speed up the movement to equality. The vast majority of these initiatives have been led and developed by women for women, although in recent years there has been a slow increase in the number of

what are increasingly termed “male allies” (see for example, Manry and Wilser, 2016; Accenture, 2020; HeForShe <https://www.heforshe.org/en>; for an extended list of links see: <https://teqtogether.org/initiatives/>). These initiatives frequently see “men” and patriarchal power structures as being the problem, but few directly seek to change men’s attitudes and behaviours to women and technology and thereby redress the balance. A small group of academics and practitioners therefore created TEQtogether (Technology Equality Together; <https://teqtogether.org>) in 2018 in response to this lacuna, with the aim of undertaking high quality research upon which practical actions can be taken to assist men in changing their behaviours, thereby helping to reduce the underlying constraints and structures that may be limiting the participation of girls and women in the digital tech sector. TEQtogether thus goes far beyond most ally-based initiatives, and advocates that since men are a large part of the problem they must also be an integral part of the solution (see also Caprino, 2019). Most research in this field is derived from experiences in North America and Europe, and challenging issues arise simply in trying to share advice and guidance in other languages and cultural contexts (Real Academia Española, no date; Unwin, 2018). TEQtogether is now therefore specifically exploring male attitudes and behaviours towards women and digital technologies in different cultural contexts, so that new culturally relevant advice can be prepared collaboratively and used to help change such behaviours.

Given the high reported levels of gender digital inequality in Pakistan, we therefore decided to undertake qualitative research in the country in January and February 2020 to explore how men’s attitudes to women and technology there varied from the generally accepted evidence and advice given by international organisations already in existence (Sey and Hafkin, 2019). As noted above, Pakistan is widely acknowledged to be one of the countries that has furthest to go in attaining gender digital equality (Siegmann, no date; Tanwir and Khemka, 2018; OECD 2019). Gilwald (2018), for example, emphasises that in 2017 Pakistan had a 43% gender gap in the use of the Internet and a 37% gap in ownership of mobile ‘phones. Its South Asian cultural roots and Islamic religion also mean that it is usually seen as being very strongly patriarchal (Chauhan, 2014), and is therefore a particularly interesting place in which to explore these issues. This work also builds on our previous research in Pakistan that has examined the different ways in which men and women use mobile devices (Hassan and Unwin, 2018) as well as work on the use of mobiles for sexual harassment (Hassan *et al.*, 2019).

Research Methods

The central purpose of this research was to explore what men thought about, and behaved with respect to, the interface between women and digital technologies in Pakistan. Given how little research has yet been undertaken on this topic, with to the best of our knowledge none having ever been done like it before in Pakistan, we chose to adopt a very flexible qualitative approach that encouraged groups of men to share and reflect on their attitudes and behaviours. Partly in order to validate their responses, we also decided to try to find out what women thought the men would say in response to our questions, and tentatively to try to understand from them how men’s behaviours affected their use of digital technologies. We had a practical intention subsequently to use this information with some of the participants to design guidance

notes and workshops that could be held to influence Pakistani men's attitudes and behaviours positively, and thereby enhance opportunities in the country for women to engage with digital technologies more effectively at all levels from school through to their subsequent careers. As will become clear, the research raised much broader concerns that required us also to reflect deeply on whether the "Western" approach to gender digital equality that dominates existing literature and practice is indeed appropriate in all contexts. Ethical approval for the research was obtained through the standard procedures at Royal Holloway, University of London, and throughout the research process we acted in accord with the wishes and preferred practices of our local contacts who largely determined the progress of our work on the ground.

Designing the group discussions

A standard template was prepared for use in all of the discussions and was largely similar for use with both men and women, although the latter were asked how they thought that men would answer each of the questions. The overarching principle adopted was to begin with very broad and open questions, and then focus down into particular topics of interest in more depth, thereby hopefully reducing moderator bias in the discussions. Prompts that could be used if necessary were also identified in advance so as to ensure consistency in the ways in which the questions were asked.

The discussion format began with a very short overview of the purposes of the research that sought to provide participants with sufficient information to understand what to expect, while trying not influence how they might answer the questions. It was then divided into four main sections:

- The first asked very broad questions about men's attitudes and behaviours to the use of digital technologies by women and girls, culminating in the key question of whether they thought that these had an influence on women's access to and use of digital technologies.
- This was followed by focusing down in more detail into their attitudes to women's access and use of these technologies in three different contexts: home, education (both at school and at university), and work, placing emphasis particularly on the question of why behaviours might differ in each context between men/boys and women/girls.
- The third section then explored whether they felt that men's attitudes and behaviours should change, and how this might be achieved, concentrating towards the end on what they thought we could actually do practically together to make a difference in Pakistan.
- Finally, there was an option for more general and open discussion.

The discussions were, as far as possible, restricted to about an hour in length, so as to minimise the inconvenience and disruption to the participants' routines. In addition, informal interviews and discussions were held with 15 other individuals (both men and women) over the period of two weeks, both to validate the comments received in the formal discussion groups, and also to explore wider issues of interest relating to gender digital inequality in the country.

Sample size and characteristics

We sought to hold discussions with diverse groups of people in different parts of the country, so as to get as wide a range of views as possible within the fortnight available for the research. We therefore undertook 12 discussion groups (7 for men only, 4 for

women only, and one mixed). In one group a female colleague sat in on the discussion with her male colleagues, and was then interviewed separately afterwards. This provided very interesting insights, not least around her disagreement with some of the claims that her male colleagues made about their behaviours. The sample included university students and staff studying and teaching STEM (Science, Technology, Engineering and Mathematics) subjects, tech start-up companies, staff in small- and medium-sized enterprises, and also in an established engineering/IT company. These formal discussions as well as informal interviews were held in the very diverse contexts of Azad Kashmir, Islamabad Capital Territory, Punjab and Sindh. Throughout we worked closely with our local contacts to arrange the discussion groups, and we relied heavily on their interpretations of what we were looking for in arranging the logistics. We had ideally wanted each group to consist of c.8-12 people, but we did not wish to reject people who had volunteered to participate, and so two groups had as many as 19 people in them. Despite the large size of some of the groups, it was remarkable how involved most of the participants were, and many of the discussions were extremely lively and could have gone on for very much longer than the hour allocated for them. A total of 141 people participated in the discussion groups. The men varied in age from 20-41 and the women from 19-44 years old.

Implementation

At the beginning of the discussions all participants were invited to sign a consent form, which affirmed that they were participating voluntarily, could withdraw at any time and were not being paid to participate. It also included an option to indicate whether they preferred to remain anonymous or would like to have their names mentioned in publications resulting from this research. Interestingly, all of the women and 79% of the men ticked the box indicating that they would like their names mentioned (see acknowledgements). This is particularly important for our approach, since the empirical evidence in this paper has all been co-created with them through our discussions. As facilitators and authors, we are merely the vehicle through which their views are being shared more widely. The discussions were held in diverse locations: university libraries, the meeting room in a school for the blind, offices, and a company board room. Participants in all but one of the groups were asked whether they would mind being recorded so that we would have an accurate record of the discussions, and they all gave consent; in one case we chose not to offer the option for recording because of security concerns. All of the discussions were held in English, but participants were also encouraged to speak in Urdu if they preferred, and their peers then translated their comments into English. This incidentally often provoked particularly interesting discussions about what was actually being meant by a particular comment. After some initial shyness and uncertainty, all of the discussion groups were energetic and enthusiastic, with plenty of laughter and good humour, suggesting that they were enjoyed by the participants

Analysis

Detailed notes were taken during the discussions, concentrating on the main issues raised by participants. These then served as a useful guide to the recordings, which were all subsequently transcribed in English, taking particular note of non-verbal contributions, such as laughter and pensive silence. After each discussion, we also usually had a follow up conversation with the local facilitator(s), and this proved

particularly helpful in focusing our thoughts on the main issues raised as well as correcting any mistakes of interpretation on our behalf.

As far as possible, we then adopted a largely inductive approach, trying very hard not to let our own notions and prejudices influence our conclusions. By citing several of the actual comments made by the participants in this paper, we are deliberately trying to let their voices be heard. We have also tried to choose comments from each of the different discussion groups, again to represent the diversity of our participants. To distinguish between their voices and our own, we use italic font whenever citing a direct quotation. Some of these comments may not be attuned to the ears and eyes of academics brought up within European and North American academic institutions, and we must stress that citing them here does not necessarily mean that we agree with the comments made. Some of these certainly challenged our previous understandings, based largely on the gender equality and equity literatures that have emerged from Western bourgeois traditions.

Our initial tentative findings were also discussed in informal interviews held in Pakistan with academics and practitioners to help validate their veracity and relevance. These interviews proved very helpful in focusing our subsequent thinking. Our formal analysis was subsequently based primarily on a two-pronged approach: seeking to draw generalisations that had some validity across the groups, but also highlighting the great diversity of opinions on some topics. Hence, we sought to identify recurring themes and ideas in response to each of the questions raised, but then also to reflect the multiple voices and opinions expressed on certain issues. It was often a single dissenting sentence spoken by someone who had previously been very shy in the conversations that proved to have most insight and subsequently provoked the most interesting discussions.

This paper summarises the main findings from each section of the focus group discussions: broad attitudes and behaviours by men towards the use of digital technologies by women; how men's attitudes and behaviours influence women's and girls' access to and use of digital technologies at home, in education, and in their careers; whether any changes in men's attitudes and behaviours towards women and technology are desirable, and if so how might these be changed.

The attitudes and behaviours of men towards the use of digital technologies by women in Pakistan

One of the most striking features of our discussions was that to begin with most respondents had little idea of how to respond to our initial very open question which asked what first came into their minds when they thought about "women" and "digital technologies". As noted above, we had deliberately begun the discussions in a very open way to try to understand how men structured their thoughts about these two categories. Several men commented that this was something they had never actually thought about. After some moments of silence and requests for clarification, though, a wide range of responses was slowly elicited. In general, men spoke a little more positively about this than the women expected them to. Men thus suggested that:

“Technology and the women, both are intelligent – and I am Shahid” (male)

“They can earn money sitting at home” (male student)

“What I see is a bright future for Pakistan” (male student)

There were, though, some more challenging male views

“In Pakistan, there is a perception that women cannot progress in this field” (male start-up)

“We are blind to poorest families, they are thinking about that mobiles are not a benefit to our girls” (male student)

Women, in general, did not have particularly high hopes about what men might say about their interactions with digital technology:

“they would say like these are two opposite polls that cannot meet anywhere” (female student)

“they see us [women working in the tech sector] as someone who wants to destroy culture and traditions” (female SME)

“they [women] don’t have anything to do with technologies” (female student)

“they must answer that woman is born to take care of house, a home and then their children ... and about technology they must say that technology is something that belongs to us [i.e. to men]” (female student)

One woman interestingly summarised the thoughts of many when she said that all of the men would say in public that they encourage women in the technology field, but when it comes to their own sisters, they would not allow them to work in the tech sector. She suggested that the overwhelming male view would be that women should stay at home and not travel to work, because in Islam women are not allowed to earn money.

As the discussions developed, it rapidly became clear that the overall “culture” of Pakistan was seen by both men and women as having a significant impact on the different ways in which men and women used digital technologies. Interestingly, whilst some claimed that this was because of religious requirements associated with women’s roles being primarily in the sphere of the home and men’s being in the external sphere of work, others said that this was not an aspect of religion, but rather was a wider socio-cultural phenomenon. As men working in a SME, commented

Male 1: *“That’s the cultural history of the country”*

Male 2: *“Yeah, it’s basically society”*

Male 1: *“It’s society”*

Male 2: *“and the culture, and the expectation of the people about us, you know, we have a family system, and we, you know, tend to stick to it, and we are much more, you know, umm, err, we put much more attention to what the other people would think about us, and that has a negative side as well”*

Male 3: *“There’s another thing, I think religion plays a vital role in this as well, because being the man of the house is kind of the thing that you have to take care of, the needs of your family”.*

This emphasises the cultural context where women’s roles are still seen by many, if not most, people in Pakistan as primarily being to manage the household and look after the children, whereas men are expected to work, earning money to maintain their families. It is very important to stress that variations in usage and access to technology

were not always seen as an example of *inequality*, but were usually rather seen as *differences* linked to Pakistan's culture and social structure. Some men even argued strongly that Pakistani culture was not male dominated. Such views are changing, but both men and women seemed to value Pakistan's cultural context, with one person saying that "*it is as it is*".

Moreover, there were strongly divergent views as to whether this was a result of patriarchy, and thus dominated by men. Many people commented that although the head of the household, almost always a man, provided the dominant lead, it was also often the mothers who supported this or determined what happened within the household with respect to many matters, including the use of technology and education. As the conversation developed in one of the SME discussions:

Male 1: "*Well culture has defined men to think like that*"

Male 2: "*Yeah*"

Male 3: "*But we have little more defined the culture*"

[Laughter]

Male 2: "*You would definitely, you know, get a lot of bashing from woman, your elder woman who are going to bash you a lot if your woman is going out to work...*"

Several people: "*Mmmm*"

Male 2: "*...so there is the questions, you know, so what are you doing if your wife is going out. So, it's not basically the males, or the females, but it is the society, how it is made and how we are brought up.*"

Both men and women concurred that traditionally there had been differences between access to and use of digital technologies by men and women in the past, but that these had begun to change, especially over the last five years. People in all the groups with whom we spoke referred to the changes that had taken place in recent years, and the greater access that women now had to digital technologies, as well as the larger number of women working in the sector. A distinction, though, was drawn between rural, less well educated and lower-class contexts, where women still tended to have less access to, and used digital technologies less than men, and urban, better educated and higher-class contexts where there was greater equality and similarity between access to and use of digital technologies.

Whilst most participants considered that *access* to digital technologies and the apps used were broadly similar for men and women, both men and women claimed that the actual *uses* made of these technologies varied significantly. There was, for example, general consensus among both men and women, that women would mostly use their devices for shopping, TikTok, shoes, fashion, Snapchat, Facebook, Crush Candy, chatting (WhatsApp) and blogging, whereas men tended to use them more for business, games (especially PUBG), and practical things. Most people also agreed that elderly women at home generally used their mobile for chatting with their neighbours and family, as well as watching dramas (soap operas).

A subtle but important difference commented upon in several discussion was that although men and women might have the same apps, they used and experienced them differently. This was well captured in comments by men at a start-up in Islamabad:

Male 1: "*Basically it's about the content, and what kind of apps we are using and what kinds of apps they are using*"

...
Male 2: *"I live with my sister, and when we both who are using or watching YouTube, if it's my account there will be ads like Netflix, there will be ads on some, you know some mobile applications or movies, and if it is her account using, you will see ads of wheat, or hair removing cream, of fair-n-lovely cream, or shampoo [laughter] or maybe some fashion brands..."*

In a more light-hearted vein, there was widespread agreement among one group of female students that they took more selfies than men. When asked why this was, they responded that digital technologies make them more beautiful. The ensuing conversation caused much hilarity:

Moderator: Do women take more selfies than men?

Students: *"Yes, yes, yes"* [laughter]

Moderator: Why?

Student 1: *"They make you more beautiful"*

Moderator: Why? How does a selfie make you more beautiful?

Student 2: *"Pout!"*

Students: [lots and lots of laughter]

Student 3: *"Snapchat makes you beautiful even if you are not pouting..."*

In the home, at school and university, and in the workplace

Within the home

Most respondents, particularly the men, initially claimed that there was generally equality in the use of digital technology by men and women, boys and girls, within the home, although as noted above they did tend to use them in different ways. When asked, though, who would use the 'phone in a rural setting if there was only one 'phone available, most agreed that it would be the male head of household, and that if they got a second 'phone it would be used primarily by the eldest son. It was frequently commented that women generally had older and less good 'phones than their husbands, although one brow-beaten man said that his wife had insisted on a better 'phone than he had, which led to much berating and laughter from the other men in the group. Many people also mentioned that it was quite common for women to be the ones who used a 'phone most at home, because it meant that they could communicate with their family and friends without having to go out.

Participants suggested that similar restrictions were generally placed on both boys and girls by their parents in the home. However, men acknowledged that they knew more about the harm that could be done through the use of digital technologies, and so tended to be more protective of their daughters, sisters or wives. Participants were generally unwilling to indicate precisely what harm was meant in this context, but some clarified that this could be in the form of harassment and abuse (see Hassan *et al.*, 2018). Some male students though did emphasise that many men did not want women to use social media because,

Male 1: *"There are a lot of matters, there are a lot of cases on social media, how the woman, harassment, or something else, like sir there are a lot of nudity, there are nudity, we are Muslims"*

Male 2: *"Bad relationships, bad relationships"*

Male 1: "Yes sir"

Male 2: "Bad relationships"

Male 3: "Blackmail..."

The perceived threats to girls and young women using digital technologies for illicit liaisons was an underlying, if rarely explicitly mentioned, concern for men. There was little realisation or acceptance, though, that it was men who usually inflicted such harm, and that a change of male behaviours would reduce the need for any such restrictions to be put in place. For example, one group of male students initially commented that their sisters had as much access to 'phones as they did, but following a comment from one man there was then a discussion in which most agreed that sometimes their sisters were not given 'phones because their male relatives know the bad things that technology can be used for.

A further interesting insight is that several of the women commented that their brothers are generally more knowledgeable than they are about technology, and that boys and men play an important role at home in helping their sisters and mothers resolve problems with their digital technologies.

At school and university

There was very widespread agreement among both men and women that there was no discrimination at school in the use of digital technologies, and that both boys and girls had equal access to learning STEM subjects. Nevertheless, it is clear that in some rural and isolated areas of Pakistan, such as Tharparkar in Sindh (Figure 1), only boys go to school, and girls remain marginalised by being unable to access appropriate education. This, though, was not necessarily seen as being something specifically related to digital technologies, but was rather an aspect of traditional society in this part of the country. Moreover, it was pointed out that in various areas of rural Sindh, as indeed elsewhere in Pakistan, there was neither electricity nor connectivity, and so neither men nor women could use digital technologies in their village homes.



Figure 1: Boys in school in Tharparkar
Source: Tim Unwin, February 2020

Furthermore, it was generally claimed that both girls and boys are encouraged equally to study STEM subjects at school, and can be equally successful. Some people

nevertheless commented that girls and boys had different learning styles and skill sets. Quite a common perception was that boys are more focused on doing a few things well, whereas girls try to do all of the tasks associated with a project and may not therefore be as successful in doing them all to a high standard. Women certainly concurred that their learning styles were often different from those of men.

There were, nevertheless, differing views about influences on the subjects studied by men and women at university. Again, it was almost universally claimed that the educational institutions did not discriminate, but parents were widely seen as having an important role in determining the subjects studied at university by their children. Providing men can gain a remunerative job, their parents have little preference over what degrees they study, but it was commonly asserted that traditionally women were encouraged to study medicine, rather than engineering or computer science. Participants, particularly in Islamabad and Rawalpindi, emphasised that this is changing, and this was clearly evidenced by the number and enthusiasm of women computer scientists who participated in the discussion groups. Overall, most focus groups concluded with a view that generally men studied engineering whereas women studied medicine.

Such comments were closely related to people's attitudes to marriage in Pakistani society. In part, as found by Thakar *et al.* (2018) in Indian society where computer science is a popular degree subject among women but few of them continue into careers in the Human Computer Interaction community, parents often encourage their daughters to study particular degrees because these are seen as raising their prospects of making a good arranged marriage. Traditionally in Pakistan, women are expected to study medicine and education, because these can be useful at home when they become married, but also because they enable careers that are seen as being respectable. Boys are likewise encouraged to study engineering and other sciences which are seen as being particularly suitable for gaining good, financially remunerative careers in the future.

Moreover, some women had strong views about men's attitudes to women's education more generally. For example, a group of female academics highlighted that there is generally quite some confusion in men's attitudes and behaviours to empowerment, and women's education. This was well captured by one, who commented that

Female 1: "There is confusion on men's attitudes and behaviour towards women's empowerment. I have seen fathers who would want their daughters to get the best of education, technical education, or medical education or engineering, or whatever, but when she is married to a man who is so fascinated with her intelligent and her careerist approach; when he gets married to such a woman and brings her home, then he probably shifts his interests; now he wants someone who cooks well, who manages the house, who is a good mother and who is a good housekeeper and a whole available wife. That confusion doesn't go from our society"

While men may say that they do care about women's education and their engagement with technology, the reality according to many of the women spoken with is that what matters more to man is that he has a "good" wife who can look after them, and care for his children.

In the digital technology workplace

There is an extremely rapid fall-off in the number of women employed in the digital technology sector in Pakistan, even though participants stated very clearly that they considered that there is little discrimination in the education system against women in STEM subjects. At best, it was suggested that only a maximum of 10% of employees in tech companies were women. Moreover, it was often acknowledged that women are mainly employed in sales and marketing functions in such companies, especially if they are attractive, pale skinned and do not wear a hijab or head-scarf. This is despite the fact that many very able and skilled female computer scientists are educated at universities, and highly capable and articulate women programmers participated in the discussion groups.

It was nevertheless widely recognised by both men and women that there are indeed some very capable women computer scientists now in the sector, but life for them was not always easy.

As was said in a male discussion at a start-up:

Male 1: *"They are really good at designing, they are really good at evaluate, they are really good at..."*

Male 2: *"at quality assurance as well..."*

Male 1: *"They are really good at writing reports, they are really good at doing some marketing, they write a lot of good, umm, like..."*

Male 3: *"Customer support..."*

Part of the reason for the low rate of female employment in the tech sector is undoubtedly simply the cultural expectation that all young women should be married in their early 20s and no later than 25. This means that many women graduates only enter the workforce for a short time after they qualify with a degree before getting married. Over the 2010-2020 decade overall female participation in the workforce in Pakistan has thus only increased from about 21% to 24%, and has stubbornly remained stable around 24% over the last five years (The Global Economy, 2020).

The discussion groups drilled down into some of the reasons why the digital technology sector specifically has even less participation of women in it than the national average. Four main factors were seen as particularly contributing to this:

- The overwhelming factor is that much of the tech sector in Pakistan is based on delivering outsourced functions for US companies. The need to work long and antisocial hours so as to be able to respond to requests from places in the USA with a 10 (EST) – 13 (PST) hour time difference was seen as making it extremely difficult for women who have households and family duties to be able to work in the sector. As one man in a start-up mentioned, *"Take example of my company, a lot of companies are working with offshore companies. For the US, I almost, err, stay away until 6 say 7 a.m. in the morning, because I am working with IBM, that's 12 hour shifts, right, between them. It's harder for the female than to do this, actually understand that they have other responsibilities as well. I can stay up till late and wake up late in the morning, but that wouldn't be the case for the female members, they have to wake up early, they cook for the family, right, so there's a bit of problem in our society".*

This is especially problematic for small companies, who have to follow the requirements of the US corporations for whom they are working.

- Both men and women commented that the lack of safe and regular transport infrastructure made it risky for women to travel to and from work, especially during the hours of darkness. The extent to which this was a perceived or real threat was unclear, and there was little recognition that most threats to women are in any case made by men, whose behaviours are therefore still responsible.
- A third factor was that many offices where small start-up tech companies were based were not very welcoming, and had what several people described as dark and dingy entrances with poor facilities. It was recognised that men tended not to mind such environments, because the key thing for them was to have a job and work, even though these places were often seen as being threatening environments for women.
- Fourth, some women commented that managers and male staff in many tech companies showed little flexibility or concerns over their needs, especially when concerned with personal hygiene, or the design of office space, As some participants commented, men just get on and work, whereas women like to have a pleasant communal environment in which to work. Interestingly, though, some men commented positively that the working environment definitely improved when women were present.

A further general point that is noteworthy in this context is that not only do few women enter the software industry in Pakistan, but there are also even fewer women employed in the retail and service parts of the digital tech sector. This is mainly because these are not seen by their families as being appropriate or safe places for women to work in. Figure 2, for example, illustrates the very male dominated and somewhat alienating environment for most women of the Rawalpindi digital market, unlike the smart modern malls in Islamabad where many women are indeed employed.

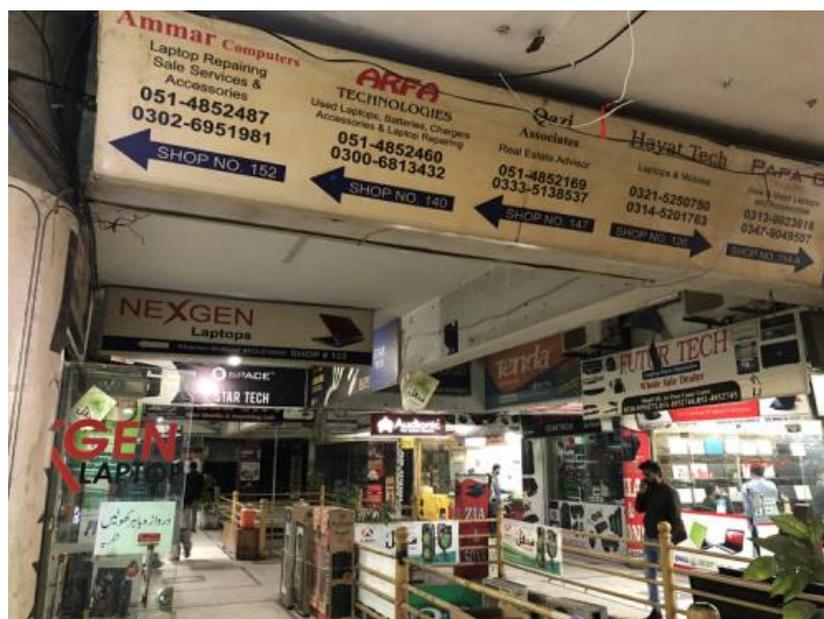


Figure 2: The male digital technology environment of retail and service shops in Rawalpindi
Source: Tim Unwin, January 2020.

Practice: changing men's attitudes and behaviours towards women and technology in Pakistan

The overwhelming response from both men and women to our questions was that it is the culture and social frameworks in Pakistan that largely determine the fact that men and women use digital technologies differently and that there are not more women working in the tech sector. As one man working in a SME commented:

"The narrative has come from culture, religion and the social thinking process of our society"

Moreover, this was not necessarily seen as being a negative thing. It was described as being merely how Pakistan is. Many participants did not necessarily see it as being specifically a result of men's attitudes and behaviours, and several people commented that women also perpetuate these behaviours. Indeed, some of the women strongly suggested that it was up to them to change things, and that too few women were willing to do so. Any fundamental changes to gender digital inequality will therefore require wider societal and cultural changes, and not everyone who participated in our discussions was necessarily in favour of this.

It was, though, recognised that as people in Pakistan become more affluent, educated and urbanised, and as many adopt more global "Western" cultural values, things have begun to change over the last five to ten years. It is also increasingly recognised that the use of digital technologies is itself helping to shape these changed cultural values. As one man in a SME commented,

"In the last ten years we have seen a lot of change. This is mainly because we have got in contact with Western culture, that is the thing. Because of our technology..."

A fundamental issue raised by our research is whether or not the concern about gender digital equality in so-called "Western" societies actually matters in the context of Pakistan. Some, but by no means all of those we spoke with, clearly thought that it did, although they often seemed more concerned about Pakistan's low ranking in global league tables than they did about the actual implications of changing male behaviour within Pakistani society.

Many of the participants, and especially the men, commented that they had never before seriously thought about the issues raised in our discussions. They therefore had some difficulty in recommending actions that should be taken to change matters, although most were eager to find ways through which the tech sector could indeed employ more women. Both men and women were also very concerned to reduce the harms caused to women by their use of digital technologies. Good quality education and training for both men and women were therefore seen as being essential to enabling women and girls to use digital technologies safely and gainfully. These suggestions coalesced into the following two main recommendations:

- *A guidance note on tips for CEOs of digital tech companies who wish to attract more female programmers and staff, which could also form the basis for a series of workshops; and*

- *Guidance for brothers who wish to help their sisters and mothers gain greater expertise and confidence in the use of digital technologies.*

We have subsequently developed these guidance notes in Urdu and English in collaboration with colleagues in Pakistan, and these are available on the TEQtogether site at <https://teqtogether.org/teqtogethers-work-in-pakistan/>

Conclusions

Four main conclusions can be drawn from the above analysis. First, it is abundantly clear that most people with whom we spoke considered that “gender digital equality” was a direct result of the wider character of Pakistani society and culture, and wider culture that this had to change first if women are to become more involved in the country’s digital technology sector. This raises hugely complex and challenging issues. Many people quite clearly articulated that gender differences in the use of digital technologies were a direct result of Pakistan’s culture, but this was often seen as being something separate and distinct from religion. Thus, several participants, both men and women, argued vehemently that these differences were not because of Islam, although our own understandings of culture include religion as one of its integral aspects. Moreover, many men suggested that they were not actually the cause of gender digital inequalities, and that Pakistan’s culture was the collective creation of all the country’s people. A few men even claimed that it was not patriarchy *per se* that caused gender digital inequalities, even though most people acknowledged that Pakistani society was indeed patriarchal. Both men and women often articulated the view that older women played a very important role in maintaining cultural traditions, and so it was not just men who needed to change their attitudes and behaviours. Indeed, some women argued forcibly that it was very much up to them, as women, to change their own behaviours, rather than expecting men to do so. Central to the notion of culture that permeated most of our discussions is the deep-seated gender division of roles in Pakistan: a woman’s role is to stay at home and look after the children; a man’s role is to go out and earn enough money for the family to live from. Indeed, several men commented that this need to generate an income placed considerable stress on them, and that they would actually like their wives to contribute to their household finances, while they, as men, would also like to contribute reciprocally to domestic work at home. Nevertheless, we were also told of several incidents where neighbours and family members chastised men who were seen as helping their wives with domestic work.

A second overarching conclusion is that there was considerable diversity in the views expressed by our participants about gender digital equality. We hope that this paper has accurately conveyed the differences in the views that we encountered, while also trying to make some appropriate generalisations and recommendations. Most of the people we spoke with had, or were undertaking, a university education, and lived in urban areas. However, this was by no means always the case, and most of those from elite backgrounds in any case also had close connections with rural areas in other parts of Pakistan. There was widespread recognition among the participants that three main axes contributed to greater acceptance of and support for women studying and having careers associated with digital technologies: being urban, well educated, and from a higher class. Most of the respondents definitely recognised that in rural, traditional, and

poorer areas of Pakistan, cultural factors still undoubtedly served to make it difficult, although not impossible, for women and girls to benefit from the advantages offered by digital technologies. The lives of those eking out an existence in the harsh rural environments of Tharparkar, for example, where many of the schools are still only for boys, contrast very markedly with those of people living and working in the major cities of Karachi or Islamabad.

Third, however, almost all of our respondents affirmed that the use of digital technologies by women, and their involvement in the digital technology sector, has changed significantly over the last decade, and particularly over the last five years. Young women living in urban areas are now very much more likely to study engineering or computer science, and some to enter careers as programmers, than did their older siblings just a few years ago. It was striking that many respondents simply did not believe the official figures for gender digital equality in the country, and suggested either that these were seriously out of date or referred only to rural areas. It should, though, be stressed once again that this was seen largely to be a result of wider societal and cultural changes, rather than any formal processes explicitly designed to encourage women to enter careers in the digital technology sector. Despite this, some women nevertheless suggested that digital technology was itself part of the reason why society was changing, albeit not always for the better.

Finally, our research highlights complex and difficult questions about universal and relativist approaches to gender digital equality. Underlying many of the discussions we held in different parts of Pakistan was a powerful view that “gender digital equality” is an external notion that seems to be being imposed on cultures and societies of countries like Pakistan from outside, and especially from Europe and North America. The people with whom we spoke were almost all very proud of and committed to their country and its traditions. The refrain “it is as it is” (یہ ہے جیسے), said in a positive way, neatly encapsulates the feelings of many with whom we spoke, and can in part be seen to be closely derived from the Arabic Quranic exhortation “God willing” (إِنْ شَاءَ اللَّهُ), which Muslims are commanded to use when speaking of the future. “Western” intellectual traditions often decry these notions as being fatalistic, but they do provide an important framing element that helps people in Pakistan to make sense of their lives. Recognising many of the negative aspects of the use of digital technologies, some resistance to the overwhelming economic push by global technology companies, intent on creating universal and uniform markets, and thereby “modernising” and changing societies in their own image, may not necessarily be such a bad thing.

This raises very fundamental questions about what we mean by gender digital equality, and emphasises the need to engage seriously with the works of Islamic feminists (see Ahmed, 1992; Mernissi, 1975, 1991; Wadud, 2006) alongside the now widely accepted arguments emanating from “Western” dominated discourses and agencies concerning gender digital equality. Our research suggests that gender digital equality should not so much be about getting equal numbers of young men and women to study engineering and computer science, or to ensure equality of employment in the digital technology sector, but rather to enable and encourage those girls and women who want to pursue such roles to be able to do so without any kind of prejudice or harm befalling them. At the same time, our participants did not universally feel that young women should be forced into careers in the digital tech sector. Those who want to remain home-makers

and fulfil the idealised notion of a “good woman” in Islamic beliefs, should also be applauded for doing so. To achieve this, we still need all men and boys fundamentally to change their attitudes and behaviours, not only in Pakistan but also across the world.

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This paper is above all, though, an expression of our efforts to share the views of the many people who contributed so passionately and openly to our questions. These people (listed in alphabetical order of first names) are therefore, in practice, the originators of the views that we have sought to combine and share more widely: Aakash Kumar, Abdul Bari, Abdul Maalik, Abdul Manan, Abdul Rehman, Abdul Saud, Afsheen Altaf, Ahmed Bilal, Ali, Ali Shah, Dr. Alina Zeeshan, Amir Gohar, Amna Anwar, Anam, Andleeb Ismail, Anmol, Anzalna, Arslan Ahmad, Asad Malik, Atia-Tul-Karim, Awais Ahmed, Awais Rahat, Ayesha Kayani, Dr. Azhar Mahmood, Babar Ali, Balaj Chaudary, Bilawal Ali, Bushra Kanwal, Ch. Hussain, Ch. Murtaza, Danish Shoukat, Danyal Malik, Darima Habib, Darshana, Fahad Saleem, Fahim, Faiza Kanwal, Faiza Shah, Faizan Abrar, Fatima Seerat, Ghazala Tabbassum, Heba Mariyam, Habibullah, Hafeez ur Rehman, Hafsa, Hamid Nawaz, Hamza, Hassan, Hina Akram, Humna Ikhlaq, Ihtisham Ijaz, Kainat Aslam, Kainat Malik, Khuda Bux, M. Hamza Tahir, M. Hassan, M. Riaz, M. Wajahat, M. Hassan Zehri, Maira, Manzoor Ali, Maryam Rehmat, Mehmoona Akram, Memoona, Mishkat, Mohsin Tumio, Muhammad Ali, Muhammad Sarwar, Muhammad Zeeshan, Munawar Gul, Muqadas Saleem, Muqaddas Abid, Noman Javed, Noor Nabi, Noor ul Ain Maroof, Osama Osmani, Paras, Qayoum, Rajesh, Ramsha, Rashid Ali, Rashid Shah, Raza Asif Ali, Rehan Arshad, Renuka, Rohit Kumar, Rumaisa Feroz, Saeed Ahmed, Saima Mehar, Dr. Sajjad Manzoor, Saleha Kamal, Sameen Rashid, Saqib Hussain, Sara Shahzad, Sarfraz, Sarmed Javed, Sarwan Nizamani, Shahid Sohail, Dr. Shahwawa, Sharjeel, Shehrol Asmat, Sonia Khan, Sumaira Tariq, Syed Ahmed, Talha, Tasneem, Tehmina Yousaf, Tehreem, Usama Basharat, Usama Nasir Khan, Usama Thakur, Usman Farooq, Waleed Khan, Waqas Masood, Yasir Iqbal, Yousif Khan, and Zahra Ali. We hope that we have done them justice. All of them ticked the box indicating that they wished for their names to be recorded in material that we wrote; those few who chose to tick the box saying that they did not want their names recorded are not mentioned here, but we are very grateful to them nonetheless.

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TEQtogether Guidance Notes

Ten tips for CEOs of SMEs and startups who wish to benefit from employing more women

- 1. Avoid gender bias in job advertisements and recruitment processes**
- 2. Use more images of women scientists and programmers on company websites**
- 3. Create systems to avoid gender bias in pay-scales, performance appraisals and promotion processes**
- 4. Encourage flexible working hours for all staff**
- 5. Provide technical infrastructure (especially Internet access and laptops) for staff to work from home**
- 6. Support initiatives to provide or share safe transport (such as shuttle services) between home and work**
- 7. Provide well-lit and welcoming entrances to office spaces**
- 8. Provide a comfortable working environment (including clean washrooms and appropriate disposal facilities for menstrual products) and let women contribute to decisions about how this is designed**
- 9. Create roles where some technical staff can work only during daylight office hours**
- 10. Encourage and support women to take on challenging projects and tasks.**



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Annex 2

TEQtogether Guidance Note: *Eight tips for brothers who wish to support their sisters in STEM subjects and the tech sector in Urdu and English*

آہٹان بلوئیں، بکھولیں اور اپنی بہنوں کی سہولتوں کو بڑھانے کے لیے کوشش کریں۔
عام و فراہم کیتاہا بتوی ہ۔

1. رہنمائی اور توجہ سے اپنی بہنوں کی ترقی کے لیے کوشش کریں۔ آپ اپنی بہنوں کی سہولتوں کو بڑھانے کے لیے کوشش کریں۔
2. ٹیکنیکل سہولتوں کو بڑھانے کے لیے کوشش کریں اور اس کے لیے ضروری سہولتوں کو فراہم کریں۔
3. جو آپ سے اپنے بہنوں کی سہولتوں کو بڑھانے کے لیے کوشش کریں، اسے اپنی بہنوں کی سہولتوں کو بڑھانے کے لیے کوشش کریں۔
4. ٹیکنیکل سہولتوں کو بڑھانے کے لیے کوشش کریں اور اس کے لیے ضروری سہولتوں کو فراہم کریں۔
5. لگاؤ اور سہولتوں کو بڑھانے کے لیے کوشش کریں اور اس کے لیے ضروری سہولتوں کو فراہم کریں۔
6. اس بات کو یقینی بنائیں کہ سہولتوں کو بڑھانے کے لیے کوشش کریں اور اس کے لیے ضروری سہولتوں کو فراہم کریں۔
7. اعلیٰ ترین سطح کی سہولتوں کو بڑھانے کے لیے کوشش کریں اور اس کے لیے ضروری سہولتوں کو فراہم کریں۔
8. سہولتوں کو بڑھانے کے لیے کوشش کریں اور اس کے لیے ضروری سہولتوں کو فراہم کریں۔

TEQtogether Guidance Notes

Eight Tips for brothers who wish to support their sisters in STEM¹ subjects and the tech sector

- 1. Treat every woman or girl online as you would treat your sister – with respect**
- 2. Help your sister learn more about the safe use of digital technologies**
- 3. When she asks you to do something technical for her, help her instead to learn how to do it for herself**
- 4. Help your sister with domestic work at home so that she also has time to work in the tech sector if she wants to.**
- 5. Drive her to and from work if you are able to, or find her safe public transport**
- 6. Make sure that she has as good access as you do to the same digital technologies that you use.**
- 7. Support her in the life choices to which she aspires (including education and working before and after marriage)**
- 8. Don't force her to marry someone who does not support her life goals.**



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¹ STEM = Science, Technology, Mathematics and Engineering

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