

Privacy, Patriarchy, and Participation on Social Media

Naveena Karusala
University of Washington
Seattle, Washington, USA
naveenak@cs.uw.edu

Apoorva Bhalla
IIIT Bangalore
Bangalore, Karnataka, India
apoorva.bhalla@iiitb.org

Neha Kumar
Georgia Tech
Atlanta, Georgia, USA
neha.kumar@gatech.edu

ABSTRACT

Technology use in India is highly gendered across diverse socioeconomic backgrounds, and women have only recently come to widely adopt smartphones, mobile internet, and social media—even in urban India. We present an in-depth qualitative investigation of the appropriation of social computing technologies by women from urban, middle-income households in New Delhi and Bangalore, India. Our findings highlight the additional burden that these women must contend with, on account of gender, as they engage on social media. We discuss these findings to make three contributions. First, we extend conversations on gender in Human-Computer Interaction (HCI) by discussing how design in patriarchal contexts might be rooted in existing efforts towards change and appropriation. Second, we expand understandings of privacy in HCI as being situated in the relationship between the individual and the collective. Third, we discuss how looking at our participants' social media use across multiple platforms leads to greater insight into the link between social media engagement and privacy.

Author Keywords

Women; Social Media; India; HCI4D; ICTD

CCS Concepts

•Human-centered computing → Empirical studies in HCI;

INTRODUCTION

Human-Computer Interaction (HCI) research has engaged deeply with the intersection of culture and technology, examining how culture shapes (and is shaped by) technology use, and fostering design that supports cultural preferences and interactions (*e.g.*, [17, 41, 89, 104, 128]). This research frequently takes place against the backdrop of an increasingly globalized world. As literature on transnational and cross-cultural HCI suggests [75, 103, 113, 120], the flow of technology and people across borders results in encounters between different cultures and the technologies designed to support them—encounters that can shed light on processes of appropriation of technology. Research in the field of

HCI for Development (HCI4D) has also been exploring how individuals from different cultures appropriate the same technology, ranging from smartphones and interfaces of different languages to social media and selfies (*e.g.*, [3, 33, 64]). We build on this work as we examine how cultural norms rooted in patriarchal values restrict technology use—even in relatively privileged settings, and how individual and collective agencies push against these limiting norms to make way for transformation. In particular, we ask *how privacy is negotiated in response to impositional patriarchal values, as seen through the lens of participation on social media, and how this might inform change through technology design.*

Our treatment of patriarchy in the context of technology design and use draws on recent conversations in HCI focused on women in the Global South. Sultana et al., Kumar, and others (*e.g.*, [108, 67, 25, 83]) have examined women's engagement with technology in diverse contexts, highlighting various manifestations of a gender divide that shapes access to mobile technologies, even as they become increasingly affordable across the globe [95]. At the same time, recent work has also sought to emphasize how many of these women exercise their individual and collective agencies in response to the afore-mentioned gender divide, as they access and engage (*e.g.*, [26, 54, 61, 67]). Seeking to better understand this process and go beyond access, we investigate the use of social media among women in urban India as a case of the transnational flow of technology between the Global North to the Global South, backgrounded by the limitations women face in Indian society due to their gender. Not only is such engagement with social media by women in India and the Global South underexplored, it also provides a window into the forms and levels of self-expression, communication, online interactions, content creation, and content sharing that are currently unfolding.

We conducted 32 semi-structured interviews with women in Bangalore and New Delhi, two major Indian cities. We spoke to women who had relatively privileged access to technology and social media platforms, delving into how and why they first started using various social media platforms and their patterns of use over time. Our findings highlight the extra burden borne by these women on account of cultural specificities, as they adopt social media channels, appropriate them, and navigate across them, through a constant negotiation of privacy boundaries. These findings lead us to insights regarding prevalent gender norms and design in HCI, when seen through the lens of women's privacy and participation on social media.

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from permissions@acm.org.

DIS '19, June 23–28, 2019, San Diego, CA, USA

© 2019 ACM. ISBN 978-1-4503-5850-7/19/06...\$15.00

DOI: <https://doi.org/10.1145/3322276.3322355>

We situate our research in an extensive body of literature on culture and HCI, gender and technology use—particularly in relation to social media and in the Global South, and privacy on social media platforms. Based on our findings, we extend conversations on gender and HCI, particularly on change through design in patriarchal contexts. We also discuss how our research enriches understandings of individuals' privacy in collectivist contexts. Finally, we make recommendations for social computing technologies based on what we learn from women's self-presentation within whole social media ecosystems as against single channel behavior. Through these contributions, we specify mechanisms through which design might better engage with women's particular intersections of culture, struggle, and resistance, and how a focus on these specificities can open up further opportunities for design.

RELATED WORK

We build on research on culture and the appropriation of technology, gendered use of technology in the Global South, and self-presentation and visibility on social media (in relation to gender and beyond), as outlined below.

Culture and Technology Design

We view women's adoption and use of social media in terms of culture, though there exist several theoretical definitions of culture. HCI has drawn heavily upon Hofstede's cultural dimensions theory, which shows how culture, in diverse dimensions, affects human values and behavior [49, 50]. Hofstede's deterministic view of culture, however, has been critiqued [82] and given rise to more generative perspectives. For instance, Transnational HCI looks at how cultural differences arise in the flow of goods and people across borders (*e.g.*, [75, 120]), while a postcolonial lens examines culture and the use of technology in light of colonialism and imperialism (*e.g.*, [19, 121, 125]). To better understand how people engage with different cultural values, we turn to Swidler's work on cultural sociology in the United States (US), which argues that culture actually presents a toolkit, of say values or ideas, that individuals can draw on to then inform behavior, or in Swidler's words, create "*strategies of action*" [109]. She differentiates between settled periods (such as older age) in which people are likely to draw on the same ideas out of habit, and unsettled periods (such as younger age or politically unstable times) in which people more deeply examine the ideas they want to draw on [109]. She also highlights how the ideas that win out in unsettled periods are determined based on whether there are structural opportunities available to enact those ideas [109]. Our work engages with transnational HCI and Swidler's theory of culture to understand urban Indian women's appropriation of social media, as a case of the flow of new technology from the Global North to the Global South.

Prior work has empirically documented the transnational flow of technology, whether it is to understand how technology might be culturally tailored (*e.g.*, [38, 58, 78, 94, 98]), how culture affects and is shaped through technology use (*e.g.*, [38, 58, 78, 94, 98]), or how design might support cross-cultural interactions (*e.g.*, [17, 41, 89, 104, 128]). Most relevant is HCI4D-aligned research that explores the appropriation of technologies designed in the Global North by users

in the Global South, studying factors such as information-seeking, entertainment, social networking, language preferences for user interfaces, and more (*e.g.*, [8, 9, 37, 42, 64, 66, 93]). For example, Kumar's study of Twitter use among urban, lower- and middle-class Indians points out how non-use of a technology is not always indicative of exclusion of new potential users, but sometimes the mere lack of desire to engage with what the technology offers [68]. In our work, the transnational flow of social media presents a case of certain technological affordances being newly engaged in different contexts. We draw on Swidler to understand how the ideas held by women or their communities interact with the design of new technologies.

Gender and Technology Use in India and the Global South

Our exploration of gender and privacy in social media use is situated in the specificities of patriarchy and women's technology use in India. Most broadly, patriarchy is a social system in which men hold dominance over women in many arenas of life, including the social, political, and economic; this system is situated and intersects with others, such as racism, imperialism, and capitalism [84]. Prior work has studied patriarchy in India across socioeconomic groups, such as the practice of demanding dowries from women during marriage [30], stereotypes around respectability and identity imposed upon both high- and low-income women in professional arenas [96, 97], the socially embedded nature of women's health that can limit patient empowerment (*e.g.*, [56]), or the physical and online safety concerns that women of all backgrounds face daily [115]. Against this backdrop, work in HCI(4D) has examined the limited or slowly increasing access that women from different socioeconomic backgrounds have to mobile phones. Prior work has studied use patterns such as intermediated use and co-learning, and women's use of phones for communication and entertainment, preserving physical safety, health information-seeking, data collection as healthworkers, and more (*e.g.*, [61, 67, 88, 54]). These studies describe the range of barriers that women come across in using ICTs, as well as the number of ways that women utilize them according to their personal goals.

We focus on the Indian context, but prior work on gender and ICTs in other parts of South Asia and the Global South speak to the similar but unique struggles that women face across many patriarchal societies [7, 23, 25, 36, 44, 48, 67, 83, 86, 105, 108]. A re-occurring finding in African and South Asian cultural contexts is intermediated mobile phone use and sharing [23, 25, 67], and the gendered factors such as societal expectations of modesty and devaluing of women's communication that affect women's desire for and access to phones [36, 44, 86, 105]. A growing body of work is also exploring women's conceptualizations of privacy in diverse cultures (*e.g.*, [3, 4, 100, 112, 126]). Sambasivan et al.'s study of multiple South Asian countries found that phone sharing has led women to identify app locks, phone locks, private browsing modes, and other features to maintain device safety [100]. Abokhodair and Vieweg discuss how culture in the Gulf Coast creates expectations that women "be private" and maintain honor, briefly describing design recommendations for meeting gender-related values around privacy [3].

Considering the diverse ways that gendering affects women's technology use, prior work has suggested pathways for technology design in such patriarchal cultures. Bardzell's early work on feminist HCI suggests following principles such as participation, plurality, and self-disclosure as starting points for accounting for diverse perspectives [11]. Prior work has developed to engage with Global South contexts specifically, suggesting that gender dynamics be viewed in the context of local culture and feminist values [18, 52] and that women's voices be heard and connected with other women [26]. Further principles suggest that interventions work with the restrictions placed on women by patriarchy [108], and that intersectional and holistic perspectives are necessary to grapple with the multiple marginalizations at play in the experiences of women (and communities more broadly) [124, 55]. We aim to advance and complicate the conversation on design in patriarchal contexts by offering nuanced mechanisms for uncovering design opportunities that specifically build on women's strategies of resistance.

Privacy and Gender as Factors in Social Media Use

By broadening our understanding of women's technology use in the Global South, particularly with respect to privacy, we contribute to work on situated understandings of privacy among diverse populations. Reports of social media use have shown general trends in how women are more concerned about privacy, choosing stricter privacy settings or populating profiles with inaccurate data to maintain privacy [76, 92]. Women's use of social media and other information and communication technologies (ICTs) is also affected by gendered issues, such as intimate partner violence, domestic violence, and online harassment (e.g., [20, 35, 39, 40, 117]). Privacy has also been explored among LGBTQ+ populations [21, 27, 32, 34, 45, 119], whose privacy concerns are uniquely colored by the social stigma and visibility concerns they face. Blackwell et al.'s study of LGBT parents, for example, found that their social media use is purposefully and incidentally tied to participation in social movements and that parents were not just concerned about their own privacy but how their disclosure of identity might affect other people in their life [21]. Similarly, we describe how gender dynamics in Indian society affect women's priorities around and engagement with privacy to offer takeaways for the design of social computing platforms.

Finally, our work also overlaps with literature on privacy on social media more generally, including multi-party or collective privacy management, privacy across multiple social media platforms, and development of privacy literacy. We engage with Nissenbaum's broad definition of privacy and notions of multi-party privacy that consider how users control the way *other* people use, manipulate, or view their personal information [90, 107, 110] and how that affects users' relationships with each other [111] (dynamics that have been studied offline as well [5, 6]). Prior work has explored this type of privacy in situations such as tagging of images or use of Internet-of-Things devices [16, 71, 87, 106], and such a collective view of privacy has been found to differ across cultures [29]. Prior work has also increasingly looked at privacy and participation on social media over time [70, 111], across multiple platforms [31, 57, 59, 91], and with different

audiences [79, 80, 116, 118, 122], finding that users' privacy attitudes change over time and that users use social media and privacy settings differently depending on platforms' content type and audiences. This work has also engaged with users' privacy literacy, looking at how people start thinking about privacy [46], what happens when privacy settings change or become more granular [73], and strategies for protecting privacy, such as providing false information [101]. We offer an understanding of how privacy plays out in participants' cultural contexts, focusing on how community values affect notions of multi-party privacy.

METHODOLOGY

Our goal was to understand how women in urban India are beginning to engage on social media, and the expectations and challenges imposed on them on account of gender. Below we describe how we collected and analyzed our data, before conveying our own positionality in conducting this research.

Data for our research was collected from March to May 2018 in Bangalore and New Delhi, both major Indian cities. Our participants included early adopters (among Indian women) of internet and social media, also women with relatively greater privilege operating in technology-rich spaces. We conducted semi-structured interviews with 32 women from middle-income families, all 20-34 years old (see Table 1). We solicited participation from women with varying digital literacies. We also included women from different cultural backgrounds within India, representing the 11 states of Gujarat, Punjab, Tamil Nadu, Karnataka, Andhra Pradesh, Kerala, Uttar Pradesh, Rajasthan, West Bengal, Haryana, and Madhya Pradesh. This gave us a pool of research participants who experienced different cultural practices within their households. The interviews covered participants' use of different social media platforms, including Facebook, Twitter, Instagram, LinkedIn, Snapchat, and others. Questions regarding privacy led to discussions around other technologies, such as Ola/Uber, Truecaller, and Aadhaar. Participants were recruited using snowball and purposive sampling [43, 60].

Interviews were all conducted by the second author. Most of these were audio recorded with participants' consent, but when participants were not comfortable being recorded, we took handwritten notes. Interviews lasted 1-2.5 hours. Most interviews were conducted in English and a few took place in a mix of English and Hindi, as per participants' preference. All names have been anonymized.

We transcribed and translated our data to English, before subjecting it to thematic analysis [24]. All authors participated in coding and analyzing data. High-level codes were directly linked to the data, such as "*I showed my mother that see, everyone is putting their pictures and I will do that too*" and "*like earlier I used to put decent pictures in jeans and proper top on Facebook but eventually I stopped giving a damn about all this*". These codes were then mapped under broader themes such as "*women's cultural appropriation of social media*". All data was processed similarly, and the themes that stood out informed our findings and pointed us to Swidler's theory of culture as a way of understanding change over time.

Participant	Gender	Age Range	Location	Education	Occupation
Prerna	F	20	Bangalore	College	Student
Ritu	F	24	Bangalore	College	Engineer
Nehal	F	24	Bangalore	College	Analyst
Bhawna	F	24	Bangalore	College	HR Official
Sakshi	F	24	Bangalore	College	Engineer
Divya	F	28	Bangalore	College	Student
Medha	F	27	Bangalore	College	Student
Ishita	F	24	New Delhi	College	Engineer
Siddhi	F	23	Bangalore	College	Engineer
Gunjan	F	23	Bangalore	College	Developer
Parul	F	24	Bangalore	College	Nutritionist
Priya	F	24	Bangalore	College	Engineer
Pankhudi	F	34	Bangalore	College	Student
Pranjali	F	25	Bangalore	College	Engineer
Aditi	F	25	Bangalore	College	Medical Professional
Akshara	F	24	Bangalore	College	Teacher
Deepali	F	23	Bangalore	College	Engineer
Tanya	F	23	Bangalore	College	Analyst
Kirti	F	26	Bangalore	College	Analyst
Deepali	F	21	Bangalore	College	Student
Preeti	F	24	New Delhi	College	Engineer
Aparna	F	26	Bangalore	College	Engineer
Akriti	F	23	Bangalore	College	Engineer
Richa	F	25	Bangalore	College	Engineer
Roopa	F	21	Bangalore	College	Student
Pragya	F	24	New Delhi	College	Student
Swati	F	19	New Delhi	College	Student
Shikha	F	28	New Delhi	College	Lecturer
Rakhi	F	33	New Delhi	College	Homemaker
Jyoti	F	28	New Delhi	College	Lecturer
Garima	F	33	New Delhi	College	Homemaker
Aastha	F	28	New Delhi	College	Lecturer

Table 1. Participant Demographics

All three authors identify as women, are of Indian origin, and have conducted field research across India, particularly with rural and urban Indian women, and on topics related to women's empowerment. The second author resides in India and the others are in the U.S. Given that some of the topics our interviews touched upon were sensitive, we were careful to delve into them only with participants who were willing to share their experiences with us.

FINDINGS

We now describe how social media was at the center of a “collective expression of values” [75], where both participants and the communities they live in played an important role in the appropriation of social media platforms by Indian women. We discuss the additional burden that women must face in becoming social media users and how they combat intrusions of privacy. We then elaborate on measures taken by women across multiple social media platforms to access and use them according to their own needs, while also aligning with their cultural values.

Being on Social Media: A Balancing Act

Below we describe the “cultural repertoire” [109] of conflicting values that participants drew on in their adoption and use of social media. In a more unsettled state, as Swidler calls it, participants and peers drew on their excitement around using social media to achieve social networking goals. Meanwhile, participants also contended with the more settled views of their community (such as family), which were patriarchal and restrictive. As a result, getting on social media required careful consideration of personal and collective values, and became a balancing act as participants chose to engage but also felt compelled to manage their participation. We align with prior work on managing technology use in light of personal values and social expectations [47, 102], also contributing an understanding of the work required to align the cultural with the personal and technological.

Creating Accounts: a Social Activity

With the rise of social media, desires for new ways to communicate with others, forging new connections, and being able to keep in touch with old friends were the reasons that drove our participants to join social media platforms. This mirrors the findings of prior research looking at Facebook adoption among wider populations in the Global South [9, 66, 93, 126]. Siddhi (23) described how she joined Orkut, one of the earlier social media platforms, because her friends were on it and “everybody was talking about it,” alluding to the collective curiosity around social media within peer groups.

Other participants reported that they were also motivated by the prospect of interacting with new people through the platform. Ritu (24), for example, explained how she had initially seen social media as resonant with her personality:

“I joined it to make friends. I’ve always been a talkative person who loves connecting with people. So when I joined Facebook, I used to accept all the requests and even talk to unknown people, knowing them.” (Ritu, 24)

The majority of our participants, who came from engineering backgrounds, were able to join these platforms on their own because of their early exposure to mobile phones and computers. However, many participants, particularly those who were from non-tech backgrounds, such as doctors, teachers, and homemakers, had someone else create their social media accounts for them. These intermediaries were typically close friends, male cousins, or husbands, which appropriately signals how women are later adopters of social media and mirrors patterns of women's mobile phone usage (e.g., [53]). Intermediated account creation also indicates that some participants were more passive in their adoption of social media, but were able to borrow and benefit from others' confidence in the values of social media and digital literacies. Ultimately, with or without intermediaries, a curiosity about what social media is, the possibility of instant messaging, excitement to make new friends and keep in touch with old friends, and perks such as availability of games, were all reasons participants were drawn to join social media.

Also An Act of Resistance

Despite various motivations that drew participants to join social media, this also required them to enact resistance

against the cultural values of their other relations. Aligned with Swidler's framework, parents, as people in more settled periods in their lives and not as intent on using social media, relied on traditional, often patriarchal norms to guide their regulation of their daughters' social media use. These norms included not talking to (male) strangers, not sharing personal stories or experiences with others (especially males), and as mentioned by Ritu (24), following instructions like *"don't talk to boys, don't get involved in activities with boys much."*

Even displaying one's image online, let alone in what was termed "immodest" clothing, was seen as culturally inappropriate, a value studied among women in Middle Eastern cultures as well [114]. As Shikha (28) described: *"In my culture, we are not allowed to put pictures like anywhere. My mom was very against it."* These norms were more or less similar, irrespective of the culture participants belonged to, and were reflected in how participants went about creating social media accounts, sharing information, displaying their images, and adding male friends. For example, participants like Deepali (23) went against their parents' wishes in creating a social media account: *"Parents were like no no, Facebook is a bad thing. Parents said that you should not join but I didn't listen to them and joined it."* Even when parents did allow their daughters to set up an account, various restrictions were imposed. Aastha (28) shared how she posted her first picture on Facebook only after she got married. She explained how otherwise, *"she [my mother] always had this question ready for me whenever I requested to put a picture—'Who do you want to show your pictures to?'"*

These restrictions put forth by parents, especially mothers, because of deep-rooted cultural norms around women's respectability and safety, clashed with many participants' desires to join and engage on social media, as described above. Even though there was collective excitement around the open communication and connections that social media afforded participants and peers, taking advantage of these affordances became an act of resistance. We see here an example of how collective, cultural values determined offline extend to influence individual, online contexts.

Negotiating Multiple Perspectives

Mirroring Swidler's description of how unsettled periods result in greater consideration of new and multiple ideologies [109], participants carefully considered their own excitement to use social media as well as collective ideas warning against the dangers of social media use. Demonstrating this careful negotiation, Parul (24) described how she began using social media but populated her profile with fake information *"because I was always scared, as I didn't have much information about how to use social media, parents also did not allow me to use it, and every day there used to be some bad news in the newspaper related to social media."*

It took time for participants to learn how to use privacy settings to control who was able to see what was on their profiles. Siddhi (23) said, for instance, that she was not aware of who could see her picture, download it, and use it for nefarious purposes. In addition to concerns around sharing one's pictures or information about one's school or home, participants voiced more serious concerns when we asked

them about the #metoo campaign online [1]. In a similar vein, there was a general, widespread fear associated with accepting friend requests from strangers (which has been found to vary by culture [93]), as well as concerns around sexual harassment and stalking. Ritu (24) described how she tried to discern among potential connections on social media:

"I was always very skeptical whose friend requests I am accepting. I had those settings like I used to segregate friends even. I still have that. Two groups—known people and unknown people. Known people—friends and family whom I know personally—have met once or twice, whom I know who the person could be. The unknown people are acquaintances whom I have never spoke to, I might misjudge, mistake them for who they are and until and unless I get to know them, I don't change their circle."

Some participants also tried to balance their skepticism around social media with their desire to remain open to new ties. Participants turned to the settings that social media platforms offered to maintain the best of both worlds. Divya (28), for example, described how she tried to limit communication with a "friend" while maintaining a semblance of social ties—her male friends suggested restricting the new connection, allowing Divya to avoid rejecting him but also keep him from knowing anything about her.

Being on social media was a constant balancing act for our participants. Even as they were interested and driven to interact on social media with peers, they had to keep in mind their parents' and community's adherence to cultural—often patriarchal—norms that can be acutely limiting for women. As an additional burden, we saw evidence of the socialization of women to simultaneously avoid strangers but also be welcoming of others, as in Divya's example above.

Using Social Media under Watchful Eyes

Over time, many participants' relatives started to use social media as well, requiring our participants to even more carefully navigate multiple cultural values. Even as relatives adopted new technology, they relied on and held participants to the same traditional values mentioned above. As a result, Ritu, for example, shared strong sentiments about her family joining social media:

"Facebook for us had already become so crowded that you had every who's who of your family or your friend circle on there. So Facebook is like the newspaper—people see it everyday, every time!" (Ritu, 24)

Richa, 25, concurred, explaining that *"everyone wants to have an eye on you, which you don't want."* In response to what prior work refers to as "context collapse", or the melding of different audiences on the same platform [80, 116, 118], participants quickly found themselves constantly having to be attentive to what was visible on their profiles and social media activity. Richa described how the work of keeping her profile "clean" was always a pressing concern. Family presence also meant that family could monitor participants' social media use in even more concrete and invasive ways. Nehal (24), for example, described how her parents insisted on having input into the kinds of images she posted on social media as more

family joined Facebook, and how her choices needed to be “*decent as per Indian society standards*”.

With family on social media, participants then had to take responsibility for not only their own information but also what others did with that information. Participants were fearful of being judged by family because of others’ actions, such as how others might comment on their pictures—this was not about what information relatives could glean, as in inferential privacy [107], but rather what assumptions relatives would make. As shared by Richa (25) in one instance:

“...when I had opened the profile to public once, the only comment on the picture—something about the boobs...I don’t know why. I deleted it because my parents are also there on Instagram.”

Some participants felt constrained by what their parents could see, while others were more limited by what their relatives would see. Any relatives on social media were also seen as potential conduits to parents (or other extended family) still offline. Participants were always aware of the social media presence of these relatives, and accordingly conscious of their status messages, posts, and other activity. Their participation on social media was therefore a constant balancing act—making sure that they could remain connected as they wished, but always being watchful of the signals this sent to their family, immediate and extended.

Intrusions of Privacy: Online, Offline, or Both

Once participants were online, and comfortable with their social media use, they also found themselves constantly facing intrusions of privacy, online and offline, connecting to earlier findings [61, 117, 123]. Rather than values around respectability, modesty, or safety, these experiences with social media were rooted in a lack of respect for women’s personal space, a longstanding ideology that often informs wider settled Indian culture.

Unsolicited Online Interactions

Participants were all too familiar with “*random*” or “*creepy*” comments and messages that they received in the course of their regular, day-to-day use of social media, such as changing profile pictures or making posts. Notably, these issues arose even when participants followed the rules laid out by people like their parents, such as posting only “*decent pictures in proper clothes*”. Medha (27) mentioned getting comments on one of her pictures on Facebook, which she had unknowingly made public—for example, “*‘can you see that such a beautiful girl is on the earth?’...some kind of flirting comments.*” Such intrusions were not limited to comments alone; they also came through messages:

“Like once I received the request and accepted but they end up saying that I like you and all, you’re beautiful, that I would like to meet you. So that made me really uncomfortable, that how can you meet a person who doesn’t know you. So I used to ignore their messages then, and I didn’t use to reply to their messages.” (Akshara, 24)

This unsolicited attention could come from acquaintances and/or friends as well. When friend requests were accepted

knowing who the person was, there seemed to be an expectation that two people must know each other *well enough* in order to publicly comment on one’s pictures or posts. Prerna (20) shared that a comment on one of her Instagram posts from a person she knew was unwelcome: “*...so when I don’t know [you] so well, I don’t expect you to comment and I don’t like you commenting also.*” The type of language used in these comments mattered as well. Praiseful comments saying a picture looked “*good*” were seen as far more acceptable than those using flirtatious or sexualized language, such as “*sexy*”. These nuances add dimension to prior work that explores experiences of online harassment (e.g., [10, 123]).

Implicit assumptions around what was acceptable (or not) drew also on cultural norms. This is in addition to our finding above that untoward comments were also discomfiting due to the fear of parents seeing them. To ward off above and similar behaviors, participants routinely “*unfriended*”, “*filtered a lot*”, “*sometimes muted*”, and “*sometimes removed profiles who even did look decent but weren’t*”.

Offline Unpleasantness

In addition to acts of intrusion that impacted participants’ social media activity, there were also experiences that challenged their offline, personal space while engaging on social media. There were numerous instances of stalking and sexual harassment that were discussed. Ritu (24) described how using her phone on the bus or metro often resulted in someone “*constantly staring at you and at your phone as if god knows what they will find there.*” Participants who commuted on a daily basis often experienced such issues, and some refused to use their phones at all when surrounded by people. Participants who dealt with such intrusions were worried about the information people might glean by looking at their phone screens. Some felt that they needed to take precautions:

“I feel that the person peeping into my phone doesn’t know me and I don’t know them. So, if I am chatting on WhatsApp, I just openly chat. So, the thing that I have done is I have decreased my font size and sometimes I decrease the [screen’s] brightness. So they can’t easily see what we are doing—obviously they can see but not clearly.” (Akshara, 24)

Offline Meets Online

Understandably, participants were especially discomfited by intrusions that crossed online-offline boundaries. Akshara (24) recounted an experience in which a man stalked her offline and, eventually and inexplicably, online as well:

“So, actually my friends and I go to a place to hangout in the evening. And that day that person was there seeing me, and stalking me for one year. So, first he contacted my friend, she is my roommate. I don’t know from where he got her number and he was like I need to talk to her [me] but she didn’t share [my contact number]. Then he contacted me on Facebook and sent a message with a friend request. I didn’t accept and I deleted it. Now he contacted me on WhatsApp saying that I have been seeing you for so long and I like you and all.”

Akshara was particularly uncomfortable with this experience because she could not tell how the stranger had found her or

her roommate's contact information. She blocked him from social media, as well as his number. However, this scenario demonstrates that the connection between offline and online intrusions of privacy is not always well-defined, and therefore even more challenging. While participants indicated that they had identified ways of battling acts of intrusion that were purely offline or online, unpleasant as they were, the intersection of the two still caused some harassment.

Women's Appropriation of Social Media

Paralleling Swidler's observations of culture [109], by no means did women passively accept the way society imposed their values on social media use and self-expression. Instead, as our participants used social media more and more and carefully considered the values that could guide them in doing so, women drew on examples of changing culture, their community's own willingness to change, and their increasing knowledge of privacy literacy to create strategies of action for using social media in desirable ways.

Changing Culture

There were several instances in which participants had exerted agency to achieve their desired use of social media or change their community's perceptions of social media and women's use of it. For example, Garima (33), a homemaker, explained how she started using social media even in a conservative community:

"I belong to a very conservative family, even on my husband's side, and he is a step ahead in these things. Since no female in the family had an account on Facebook, he was initially against it, but on my request, he created one."

As Garima explained further, even after joining social media, participants made an effort to convince their families about the appropriateness of engaging with platforms' features. Belonging to a culture that restricted women from sharing photos of themselves, Shikha (28) succeeded in convincing her mother and family that sharing pictures on Facebook is not wrong and does no harm:

"I showed my mother that see, everyone is putting their pictures and I will do that too. Nothing wrong happens. That's when she allowed me to put a passport-sized picture. But after that, I started putting pictures of myself, with my colleagues, sometimes of what I cook."

Here we can see that after initial pushes for cultural change, it was easier to build upon that change. Participants could also create new strategies of action by drawing on existing behaviors exhibited by women like them, much like the toolkit described by Swidler. Garima (33) explained how though her husband "allowed her" to have an Instagram account, he still did not think it was appropriate for her to post pictures of herself. However, Garima eventually convinced him that with other women and family joining social media, it was okay for her to be tagged in pictures, although she still did not post pictures of herself, particularly of her alone.

In some cases, participants reported that their parents themselves could see the collective change happening within their

community. Some parents started to understand participants' more unrestricted use of social media:

"Like earlier I used to put decent pictures in jeans and proper top on Facebook but eventually I stopped giving a damn about all this. Now I put pictures in dresses also or at least get tagged in them. My parents have also become fine with it. They see their colleagues' children doing so and have stopped bothering much about it." (Nehal, 24)

As mentioned previously, social media use alone did not indicate a change in values—sometimes parents and extended family could monitor social media use more closely by joining. However, we note in this case, Nehal's parents noticed that other people similar to them in their work community were changing their values around social media use.

Taking Charge of Privacy Literacy

Participants described how, over time, they made efforts to learn about the different ways in which they could take charge of their privacy online. Mirroring Swidler's framework, widespread privacy features created the structural opportunity for desires around self-expression and freedom of technology use to win out in the long run. From friends who had similar privacy goals or by exploring social media platforms, participants found features that could restrict the visibility of their information from parents, other relatives, and co-workers, and combat unsolicited or unwanted connections and interactions. Gunjan (23) explained how she did not always know how to deal with inappropriate behavior on social media but eventually began to explore and learn how to use privacy features on her own through Google searches.

Participants also mentioned learning about and using features other than blocking to deal with more granular privacy issues, mirroring prior work that has found that granular privacy settings can help maintain different audiences and relationships on social media (e.g., [73]). They mentioned features such as restricted lists on Facebook or hiding posts from others, which could prevent specific social media users from seeing certain information. For example, Divya (28) described how she had restricted a friend who had started flirting with her on social media, so that he no longer had access to her private posts or photos. Divya's comment links back to the finding that many participants felt the need to maintain connections while restricting their access to personal information—here we see that granular privacy features are in fact a way to offer privileges to certain users who are deemed worthy.

As social media platforms began offering certain features, participants also took advantage of them to reduce the burden of avoiding unsolicited interactions. For example, unwanted messages on Facebook could be filtered and ignored, rather than entirely blocking that person. Deepali (23) described how new social media features helped her avoid dealing with offensive material entirely:

"At that time, we didn't have this filter of messages going to another folder, so that time, even if a random person wasn't your friend on Facebook, it would just pop up, right? [...] Initially I used to block people more so if a person used to bother me a lot with 'hey' and 'hi' I

would just block them. But I don't really block people now. I just ignore them now."

The willingness to spend time learning about privacy settings, however, was closely related to whether participants were used to using technology or multiple social media platforms, and how much they knew about privacy settings to begin with as they got more sophisticated. Some participants mentioned not dealing with privacy-related issues on their own, indicating the importance of some structural factors, such as "permission" from family members, being more important than, say, additional privacy controls. Garima (33), a homemaker, mentioned, "*I think he [my husband] only has set it [the settings]. I don't check all this. He does everything and gives to me.*" Garima expressed a level of comfort with this type of engagement with privacy that Rakhi (33), another homemaker, expressed as well:

"I trust him. He knows about all this much more than me. So he would do the right thing. Also, I really don't get time at home. I don't even check WhatsApp frequently. It's like once or twice a day."

Participants like Garima and Rakhi show how lack of engagement with privacy settings is not necessarily about inability, but the amount of effort required to do so, which was not always worth putting in, particularly if they had less engagement with the platform and could already use social media as they saw fit. Additionally, Garima's trust that her husband would "*do the right thing*" indicates that even though values around information-sharing and self-expression might differ among the individual and collective culture, there are likely similar values around privacy. However, other, younger participants exemplify the way knowledge of privacy settings could be empowering in cases of deeper engagement and mixed audiences with different values.

Navigation of the Personal Social Media Ecosystem

Much of the behavior described above applied to multiple social media platforms and functions, including social media content and messaging, but there were also differences among social media platforms that resulted in preferences for some platforms over others. This holistic view of social media use confirms how participants considered the different values espoused by design and carefully chose to use certain platforms with the features and privacy settings that could support their desired goals as women aiming to protect their privacy and align social media with their social networking goals.

Choosing a Platform over Another

While platforms like Facebook, Instagram, WhatsApp, and Snapchat were popular among participants, Twitter was barely used. This had little to do with participants' access to Twitter, but rather their goals and strategies of action for using social media:

"Twitter is to share opinions, but who from our generation does that? Even those who do get trolled because they shared their perspective which might not match others'. Instagram and Facebook are famous because they are mostly for sharing and liking pictures and, you know, we all enjoy that." (Ritu, 24)

Such preferences were also often based on how much personal space and privacy a platform could afford. For instance, WhatsApp was seen as the most private platform by most participants because it was associated with their numbers. Nehal (24) described how "*WhatsApp is a very personal space*" because she does not often share her number. She told us that even when she exchanges numbers with her broker or office bus driver, she does not save them as a contact, so they cannot view the content she shares on WhatsApp.

Although WhatsApp has recently become more like a social media platform because of features like the new 24-hour-long status and ability to add a profile picture [2], it still seemed to give users more control over who the audience is for all these details. The level of privacy afforded by Snapchat's, Facebook's, and Instagram's disappearing stories and notifications of screenshots also convinced participants that one should not use apps like Instagram or Facebook for chatting since the text was permanently recorded:

"So, if we are doing some private chat and we want that person should not share it with someone then I feel Snapchat is safe in these terms. And then obviously WhatsApp is safe because we can choose what to do. Because it's linked with phone number. Instagram and Facebook are not the platform where one should communicate or chat with each other." Akshara (24)

The features and privacy settings available on a platform then impacted whether or not participants wanted to engage with the platform, indicating how different forms of social media were not necessarily exclusionary but simply not aligned with the values participants had. For example, Perna (20) segregated her posts on Facebook, Instagram, and WhatsApp because of the different levels of intimacy they could afford:

"I just update my profile picture and if I win some hackathon, or something like that I just put it up, but I rarely share anything on Facebook. I have a small social circle and I keep things to them either by sharing on Instagram or WhatsApp."

Perna's lack of desire to share on Facebook attests to the type of strategies of action that individuals come up with in response to a lack of useful privacy settings, as shown in prior work [122]. However, we found that some participants did turn to privacy settings, so her turning to using other, more private platforms may indicate that they better fit her needs.

Finally, the level of engagement with a platform's privacy settings affected whether participants felt it was appropriate for certain social networking goals. For instance, many participants reported turning off their online status on Facebook and WhatsApp because these platforms were seen as *meant* for chatting, but participants did not want their online status to be visible. Meanwhile, people were not aware of such controls over online status being available on Instagram; those who did know did not care to use them because they felt that Instagram was *not meant* for chatting in the first place.

Managing Separate Audiences

When participants could not escape cultural values, sometimes it was simpler to ensure that there was a separation of

audiences, as found in prior work [122], and therefore, the values different audiences had around women's social media use. We mentioned above that early social media platforms like Facebook became crowded with participants' family members, which was not always perceived to be a good thing. Many of our participants reported moving to other and newer social media platforms which were growing in popularity, such as Instagram. Ritu (24), for example, reported being unsure about Instagram at first, asking *"how is it different from Facebook when all you can do is just share pictures?"* However, she soon realized how a new platform could help her avoid commentary from family on her online activity, even if its features were different:

"So to avoid all that, Instagram was the only place. It wasn't known much to family members or most of the people who were not there on the platform. Only people who knew what an online world is or who are always online, connected to the Internet, only those kinds of people were there."

Ritu's comment indicates the significant impact of one's imagined audience on a social media platform, as described previously [80]—she alludes to a younger, more technically inclined peer group that seems to act upon different values around social media than older generations. This separation of audiences, combined with all-or-nothing privacy features such as the ability to make an Instagram account entirely private, allowed participants to hide their entire social media use in general from family members. As Akshara (24) described, privacy allowed her to create a front of inactivity so that she had reason to not invite family into her Instagram use:

"So the people whom I can be open about my life, I accept their requests. My relatives—I don't accept their request and [of] my colleagues also. They ask why I have not accepted their request and I say that I am not that active on Instagram and that is why I have not accepted their request."

Akshara and other participants also used opposing strategies as well. That is, instead of avoiding friend requests, they created a perception of inclusion by relegating family to specific platforms:

"...they [relatives] can ask me why I haven't added them on Facebook and everybody knows that everybody must be using one or the other social media. So, I say that I use Facebook and I have added them on Facebook and not on Instagram. So just to ignore them, I say that I have added you on Facebook." (Akshara, 24)

Akshara's comment shows how Facebook had simply become a front for social networking, with family values causing participants to move elsewhere for *"real"* social media use, contrasting with findings on more communicative and direct requests for privacy [16, 122]. New platforms gave participants freedom to use certain forms of self-expression that might not otherwise be seen as appropriate, while also continuing to maintain ties to their community. However, this negotiation did come at a cost—Ritu's comment above about how *"Instagram was the only place,"* indicates how navigating multiple platforms was not an entirely free choice.

DISCUSSION

Globally, women's exposure to technology is comparatively lower than their male counterparts' [53]. We found that even *after* establishing access to phones, appropriation was not straightforward. Participants wanted to create social media accounts, and some women relied on help from friends or family, *if* they were able to get past the skepticism of their parents or husbands. There was additional pressure to maintain a "respectable" online profile and to deal with online and offline intrusions of privacy. Over time, many participants worked towards attaining privacy literacy, changing cultural values whenever possible, and working around the restrictions and judgments they could not escape. We now reflect on what we learned in one of the first studies about women's growing use of social media in India, focusing on the navigation of patriarchal norms and privacy boundaries amidst a strong desire for participation.

To Design or Not to Design (Within a Patriarchal Society)

Recent work on design in patriarchal contexts has noted the challenges of adopting Western feminist perspectives in non-Western cultures [108], and the need to align with local, indigenous feminist values for change to occur [18, 54]. We draw on Swidler's theory of culture and the transformative change enacted by our participants to signal a way forward for change through design—one that is situated in the growing discourse around assets-based approaches [62, 65, 124].

Assets-based approaches to technology design call for us to support, leverage, and/or extend existing assets in designing technology that supports personal or community goals. In the context of gendered spaces, Buskens prompts us to consider what design is aimed at, and if it should *"conform, reform, or transform"* [18]. Posing this question to assets-based design requires us to first identify present assets, and then determine which of these might productively inform design. Prior work has shown that assets may be present at the individual or community level, and could take the form of human and material resources, or social values such as care and aspirations [81, 63, 69]. Theoretical work also shows how leveraging assets relies on trust, self-efficacy, and/or productive interactions with others [81, 85]. We find that the context around assets informs if and how they may be leveraged for change.

Our findings convey that there are assets, such as long-standing values and knowledge, like collectivism and the desire to protect family, that parts of society might rely upon for decision-making; these may be *static* or less likely to change in the short term, aligning with Swidler's notion of settled periods [109]. They are likely the assets that design might avoid disrupting, seeking to *"conform"* [18], so as not to adversely impact women's *status quo*. Our findings also convey that there are assets that are more *dynamic*—forces already in flux, such as the evolving appropriation of social media channels, aligning with the unsettled periods in which people are more carefully considering and choosing ideas to act upon [109]. Our research shows that it may not be appropriate for design to disrupt in ways that challenge *status quo* by imposing unwelcome values, but it may still support women in the struggles they *choose* to engage in, as Mohanty proposes in her push for feminist solidarity [84].

Designing technology with these principles aligns with Swidler's argument that the winning ideology in periods of cultural flux is based on whether there are structural opportunities to support it. Our findings make an excellent case for design being able to support the ideologies that women would like to have win out. We saw how privacy settings and the opportunities to learn about them, and the availability of multiple platforms allowed participants to use social media in ways that did not always align with prevalent cultural values. Additionally, participants leveraged changes in structure, that is, other women starting to use social media freely. This appropriation emerged over time, and was not exactly predictable, as seen in prior work [51, 74, 77]. Design work in patriarchal contexts could start by making sense of how women might enact change. How do women demand change or more secretively work around their constraints? What limits attempts to create change, and how does change spread to other people in women's lives? By considering these questions, design might be more responsive to the different strategies of action women might take over time.

Women's Burden of Participation: Lessons for Privacy

Prior work looks at how diverse populations work to maintain privacy to hide aspects of their identity [73, 32, 22], or worry about if and how they are represented by others [107]. LGBTQ+ populations, for example, might feel compelled to self-present differently to different audiences to maintain their privacy, ending up disengaging with certain platforms instead of trying to engage with their privacy settings [32]. Our participants disengaged with platforms, but also opted to engage with the collective, attempting to convince parents that social media was safe for interacting and sharing content—half the battle for our participants was indeed freedom of self-presentation on social media, but also proving that social media is safe. For example, participants shared that they proved to parents that nothing would happen if they put up a profile picture, or relied on their parents to realize this point when other women did it. It was when participants felt that these barriers could not be overcome that they turned to hiding their social media use or relying on different platforms to separate out audiences. Thus, we might go beyond looking at how the individual navigates privacy, to also attend to the perceptions of the collective of an individual's privacy.

We saw how parents or husbands concerned themselves with women's privacy, a dynamic seen in parent-child or educator-student relationships [28, 127], or with technologies that do not always offer choice to participate, such as voice-based virtual assistants [72]. Convincing the collective of privacy may be difficult to explicitly design; the safety of social media may only become evident on actual use. An example of attempts to proactively display safety of information is Facebook's profile picture guard. However, making the privacy or safety of information obvious could also be damaging, as signaled in prior work on how women may want to conceal the use of privacy features [100]. We also found that engaging with privacy was not always a priority, especially when a trusted person like the husband could ensure it. Thus, design work might attend not only to how the use of privacy features in the first place is affected by power and relationships with others, but also to how the selective appropriation of different privacy

features, visibility of these features, and their communication to the collective has different purposes and impacts depending on how the individual relates to the collective.

Studying Social Media Ecosystems

Much social media research focuses on single social media channels instead of looking at users' holistic use of social media. There may be many reasons for this, such as each platform having different features or simply wanting to understand participation on one platform in depth. However, recent work has sought to understand individuals' use of multiple social media platforms (*e.g.*, [91, 32]). We can see that more comparative views of use across different platforms result in greater insight, such as what type of audience users imagine to be on each, and what that means for platform preference. We found that comparing participation across social media platforms spoke to participants' agency. Baumer et al. have described how users' attempts to increase their "sense of agency" can explain opposing uses of the same technology [15]. Using this lens on multiple platforms, we found that participants exercised agency by choosing to use certain platforms and disengaging with others, and *also* maintaining perceptions of use/non-use as needed. Many participants maintained accounts that they did not otherwise engage with so that relatives would be satisfied with a simple accepted friend request. Meanwhile, participants also hid real social media use and avoided certain friend requests on these platforms. Here, we see how privacy supports perceived use and non-use—a way for women to avoid disrupting their relationships and use social media towards their own goals.

Prior work on non-use has discussed intentional or systemic non-use [12, 14, 13]. Perceived non-use remains less understood. Kumar describes how men's perceived non-use of mobile phones by rural Indian women can create problematic, false impressions [67]. We also find that this can be a protection mechanism when used intentionally by women (even as it creates the extra work of creating perceptions of non-use). Prior work has noted how perceived non-use of privacy is also important [73, 99], noting that lightweight privacy controls are more helpful than obvious ones [99], or that platforms might notify users when their settings will make it obvious that they are restricting display of information [73]. Along these lines, privacy controls might be able to support perceived non-use of social media itself. Making options available during account creation, such as making one's account unfindable, or restricting who one is suggested to befriend could be useful. This could also lessen women's need to disengage with a platform entirely.

CONCLUSION

Our study of women's adoption and appropriation of social media, and how they negotiate privacy boundaries and resulting burdens, makes several contributions to HCI. We deepen our understanding of privacy from a cultural perspective. We also extend conversations on gender in HCI, enriching the literature on what it means for women in the Global South to combat patriarchal limitations using technology [26, 108, 84]. Finally, we examine how understanding the use of a personal social media ecosystem over single channels can reveal greater insights for designing technology to support privacy and participation on social media.

REFERENCES

- [1] 2018. Me Too. (2018). <https://metoomvmt.org/>.
- [2] 2018. WhatsApp. (2018). <https://www.whatsapp.com/features/>.
- [3] Norah Abokhodair and Sarah Vieweg. 2016. Privacy & social media in the context of the Arab Gulf. In *Proceedings of the 2016 ACM Conference on Designing Interactive Systems*. ACM, 672–683.
- [4] Syed~Ishtiaque Ahmed, Md.~Romael Haque, Jay Chen, and Nicola Dell. 2017. Digital Privacy Challenges with Shared Mobile Phone Use in Bangladesh. *Proc. ACM Hum.-Comput. Interact.* 1, CSCW, Article 17 (Dec. 2017), 20 pages.
- [5] Irwin Altman. 1975. *The Environment and Social Behavior: Privacy, Personal Space, Territory, and Crowding*. California: Brooks/Cole Publishing Company.
- [6] Irwin Altman. 1977. Privacy regulation: Culturally universal or culturally specific? *Journal of social issues* 33, 3 (1977), 66–84.
- [7] Amy Antonio and David Tuffley. 2014. The gender digital divide in developing countries. *Future Internet* 6, 4 (2014), 673–687.
- [8] Payal Arora and Nimmi Rangaswamy. 2013. Digital leisure for development: Reframing new media practice in the Global South. *Media, Culture & Society* 35, 7 (2013), 898–905.
- [9] Payal Arora and Laura Scheiber. 2017. Slumdog romance: Facebook love and digital privacy at the margins. *Media, Culture & Society* 39, 3 (2017), 408–422.
- [10] Leila Bahri. 2017. Identity Related Threats, Vulnerabilities and Risk Mitigation in Online Social Networks: A Tutorial. In *Proceedings of the 2017 ACM SIGSAC Conference on Computer and Communications Security (CCS '17)*. ACM, New York, NY, USA, 2603–2605.
- [11] Shaowen Bardzell. 2010. Feminist HCI: taking stock and outlining an agenda for design. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 1301–1310.
- [12] Eric Baumer, Phil Adams, Vera Khovanskaya, Tony Liao, Madeline Smith, Victoria Schwanda~Sosik, and Kaiton Williams. 2013. Limiting, leaving, and (re) lapsing: an exploration of facebook non-use practices and experiences. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 3257–3266.
- [13] Eric Baumer, Morgan Ames, Jenna Burrell, Jed Brubaker, and Paul Dourish. 2015a. Why study technology non-use? *First Monday* 20, 11 (2015).
- [14] Eric Baumer, Jenna Burrell, Morgan Ames, Jed Brubaker, and Paul Dourish. 2015b. On the importance and implications of studying technology non-use. *interactions* 22, 2 (2015), 52–56.
- [15] Eric Baumer, Rui Sun, and Peter Schaedler. 2018. To Return or Not to Return: Sense of Agency as an Organizing Concept for Understanding Social Media Non/use. In *Proc. ACM Human.-Comput. Interact.* 2, CSCW. ACM.
- [16] Andrew Besmer and Heather Richter~Lipford. 2010. Moving beyond untagging: photo privacy in a tagged world. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 1563–1572.
- [17] Nanyi Bi, Jeremy Birnholtz, and Susan Fussell. 2014. Intercultural awareness: Cultural and relational effects on awareness information gathering behavior. *iConference 2014 Proceedings* (2014).
- [18] NJ Bidwell and H Winschiers-Theophilus. 2015a. Infusing a Gender Perspective in Indigenous Knowledge Technology Design: Some Reflections and Suggestions. *At the Intersection of Indigenous and Traditional Knowledge and Technology Design (2015)* 297 (2015).
- [19] NJ Bidwell and H Winschiers-Theophilus. 2015b. Tecno-folklorica: A Brief Survey of Indigenous Media Examples for Indigenous Self-Determination. *At the Intersection of Indigenous and Traditional Knowledge and Technology Design (2015)*, 413.
- [20] Lindsay Blackwell, Jill Dimond, Sarita Schoenebeck, and Cliff Lampe. 2017. Classification and its consequences for online harassment: Design insights from heartmob. *Proc. ACM Hum.-Comput. Interact* 1 (2017).
- [21] Lindsay Blackwell, Jean Hardy, Tawfiq Ammari, Tiffany Veinot, Cliff Lampe, and Sarita Schoenebeck. 2016a. LGBT parents and social media: Advocacy, privacy, and disclosure during shifting social movements. In *Proceedings of the 2016 CHI conference on human factors in computing systems*. ACM, 610–622.
- [22] Lindsay Blackwell, Jean Hardy, Tawfiq Ammari, Tiffany Veinot, Cliff Lampe, and Sarita Schoenebeck. 2016b. LGBT Parents and Social Media: Advocacy, Privacy, and Disclosure During Shifting Social Movements. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16)*. ACM, New York, NY, USA, 610–622.
- [23] Joshua Blumenstock and Nathan Eagle. 2010. Mobile divides: gender, socioeconomic status, and mobile phone use in Rwanda. In *Proceedings of the 4th ACM/IEEE International Conference on Information and Communication Technologies and Development*. ACM, 6.
- [24] V Braun and V Clarke. 2006. Using Thematic Analysis in Psychology. *Qualitative Research in Psychology* 3, 2 (2006), 77–101.

- [25] Jenna Burrell. 2010. Evaluating Shared Access: social equality and the circulation of mobile phones in rural Uganda. *Journal of computer-mediated communication* 15, 2 (2010), 230–250.
- [26] Ineke Buskens and Anne Webb. 2014. *Women and ICT in Africa and the Middle East: Changing selves, changing societies*. Zed Books, London, GB.
- [27] Matthew Carrasco and Andruid Kerne. 2018. Queer Visibility: Supporting LGBT+ Selective Visibility on Social Media. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 250.
- [28] Baiyun Chen and Thomas Bryer. 2012. Investigating instructional strategies for using social media in formal and informal learning. *The International Review of Research in Open and Distributed Learning* 13, 1 (2012), 87–104.
- [29] Hichang Cho, Bart Knijnenburg, Alfred Kobsa, and Yao Li. 2018. Collective Privacy Management in Social Media: A Cross-Cultural Validation. *ACM Transactions on Computer-Human Interaction (TOCHI)* 25, 3 (2018), 17.
- [30] Sonia Dalmia and Pareena~G Lawrence. 2005. The institution of dowry in India: Why it continues to prevail. *The Journal of Developing Areas* (2005), 71–93.
- [31] Michael DeVito, Jeremy Birnholtz, and Jeffery Hancock. 2017. Platforms, people, and perception: Using affordances to understand self-presentation on social media. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*. ACM, 740–754.
- [32] Michael DeVito, Ashley~Marie Walker, and Jeremy Birnholtz. 2018. Too Gay for Facebook: Presenting LGBTQ+ Identity Throughout the Personal Social Media Ecosystem. In *Proc. ACM Human.-Comput. Interact.* 2, CSCW. ACM.
- [33] Bidit~Lal Dey, John~MT Balmer, Ameet Pandit, and Mike Saren. 2018. Selfie appropriation by young British South Asian adults: reifying, endorsing and reinforcing dual cultural identity in social media. *Information Technology & People* 31, 2 (2018), 482–506.
- [34] Lisa Diamond and Sarah Lucas. 2004. Sexual-minority and heterosexual youths' peer relationships: Experiences, expectations, and implications for well-being. *Journal of Research on Adolescence* 14, 3 (2004), 313–340.
- [35] Jill Dimond, Casey Fiesler, and Amy~S Bruckman. 2011. Domestic violence and information communication technologies. *Interacting with Computers* 23, 5 (2011), 413–421.
- [36] Leslie Dodson, Revi Sterling, and John Bennett. 2013. Minding the Gaps: Cultural, Technical and Gender-based Barriers to Mobile Use in Oral-language Berber Communities in Morocco. In *Proceedings of the Sixth International Conference on Information and Communication Technologies and Development: Full Papers - Volume 1 (ICTD '13)*. ACM, New York, NY, USA, 79–88.
- [37] Jonathan Donner. 2006. The use of mobile phones by microentrepreneurs in Kigali, Rwanda: Changes to social and business networks. *Information Technologies & International Development* 3, 2 (2006), pp–3.
- [38] Gabrielle Ford and Helene Gelderblom. 2003. The effects of culture on performance achieved through the use of human computer interaction. In *Proceedings of the 2003 annual research conference of the South African institute of computer scientists and information technologists on Enablement through technology*. South African Institute for Computer Scientists and Information Technologists, 218–230.
- [39] Diana Freed, Jackeline Palmer, Diana Minchala, Karen Levy, Thomas Ristenpart, and Nicola Dell. 2018. “A Stalker’s Paradise”: How Intimate Partner Abusers Exploit Technology. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18)*. ACM, New York, NY, USA, Article 667, 13 pages.
- [40] Diana Freed, Jackeline Palmer, Diana~Elizabeth Minchala, Karen Levy, Thomas Ristenpart, and Nicola Dell. 2017. Digital Technologies and Intimate Partner Violence: A Qualitative Analysis with Multiple Stakeholders. *Proc. ACM Hum.-Comput. Interact.* 1, CSCW, Article 46 (Dec. 2017), 22 pages.
- [41] Ge Gao, Sun~Young Hwang, Gabriel Culbertson, and Susan Fussell. 2017. Beyond Information Content: The Effects of Culture On Affective Grounding in Instant Messaging Conversations. (2017).
- [42] Shikoh Gitau, Gary Marsden, and Jonathan Donner. 2010. After access: challenges facing mobile-only internet users in the developing world. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 2603–2606.
- [43] Leo Goodman. 1961. Snowball sampling. *The annals of mathematical statistics* (1961), 148–170.
- [44] Eileen Green and Carrie Singleton. 2009. Mobile connections: an exploration of the place of mobile phones in friendship relations. *The Sociological Review* 57, 1 (2009), 125–144.
- [45] Oliver Haimson. 2017. The Social Complexities of Transgender Identity Disclosure on Social Network Sites. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 280–285.
- [46] Eszter Hargittai and others. 2010. Facebook privacy settings: Who cares? *First Monday* 15, 8 (2010).

- [47] Ellie Harmon and Melissa Mazmanian. 2013. Stories of the Smartphone in everyday discourse: conflict, tension & instability. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 1051–1060.
- [48] Martin Hilbert. 2011. Digital gender divide or technologically empowered women in developing countries? A typical case of lies, damned lies, and statistics. In *Women's Studies International Forum*, Vol.~34. Elsevier, 479–489.
- [49] Geert Hofstede. 1984. Cultural dimensions in management and planning. *Asia Pacific journal of management* 1, 2 (1984), 81–99.
- [50] Geert Hofstede. 2001. *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage publications.
- [51] Jina Huh, Lisa Nathan, Six Silberman, Eli Blevis, Bill Tomlinson, Phoebe Sengers, and Daniela Busse. 2010. Examining Appropriation, Re-use, and Maintenance for Sustainability. In *CHI '10 Extended Abstracts on Human Factors in Computing Systems (CHI EA '10)*. ACM, New York, NY, USA, 4457–4460.
- [52] Tigist~Shewarega Hussien, Nicola Bidwell, Carlos Rey-Moreno, and William Tucker. 2016. Gender and participation: critical reflection on Zenzeleni networks in Mankosi, South Africa. In *Proceedings of the First African Conference on Human Computer Interaction*. ACM, 12–23.
- [53] Sophia Huyer. 2005. Women, ICT and the Information Society: Global Perspectives and Initiatives. In *Proceedings of the International Symposium on Women and ICT: Creating Global Transformation (CWIT '05)*. ACM, New York, NY, USA, Article 1.
- [54] Azra Ismail and Neha Kumar. 2018. Engaging Solidarity in Data Collection Practices for Community Health. In *Proc. ACM Human.-Comput. Interact.* 2, CSCW. ACM.
- [55] Azra Ismail and Neha Kumar. 2019. Empowerment on the Margins: The Online Experiences of Community Health Workers. (*CHI '19*). ACM, New York, NY, USA, 15.
- [56] Tej~Ram Jat, Prakash~R Deo, Isabel Goicolea, Anna-Karin Hurtig, and Miguel~San Sebastian. 2015. Socio-cultural and service delivery dimensions of maternal mortality in rural central India: a qualitative exploration using a human rights lens. *Global health action* 8, 1 (2015), 24976.
- [57] Yongick Jeong and Yeuseung Kim. 2017. Privacy concerns on social networking sites: Interplay among posting types, content, and audiences. *Computers in Human Behavior* 69 (2017), 302–310.
- [58] Yong~Gu Ji, Hwan Hwangbo, Ji~Soo Yi, PL~Patrick Rau, Xiaowen Fang, and Chen Ling. 2010. The influence of cultural differences on the use of social network services and the formation of social capital. *Intl. Journal of Human-Computer Interaction* 26, 11-12 (2010), 1100–1121.
- [59] Philip Johnson and S Yang. 2009. Uses and gratifications of Twitter: An examination of user motives and satisfaction of Twitter use. In *Communication Technology Division of the annual convention of the Association for Education in Journalism and Mass Communication in Boston, MA*.
- [60] Victor Jupp. 2006. *The Sage dictionary of social research methods*. Sage.
- [61] Naveena Karusala and Neha Kumar. 2017. Women's Safety in Public Spaces: Examining the Efficacy of Panic Buttons in New Delhi. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, 3340–3351.
- [62] Naveena Karusala, Aditya Vishwanath, Arkadeep Kumar, Aman Mangal, and Neha Kumar. 2017a. Care As a Resource in Underserved Learning Environments. *Proc. ACM Hum.-Comput. Interact.* 1, CSCW, Article 104 (Dec. 2017), 22 pages.
- [63] Naveena Karusala, Aditya Vishwanath, Arkadeep Kumar, Aman Mangal, and Neha Kumar. 2017b. Care as a resource in underserved learning environments. *Proceedings of the ACM on Human-Computer Interaction* 1, CSCW (2017), 104.
- [64] Naveena Karusala, Aditya Vishwanath, Aditya Vashistha, Sunita Kumar, and Neha Kumar. 2018. Only if you use English you will get to more things: Using Smartphones to Navigate Multilingualism. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 573.
- [65] John Kretzmann and John McKnight. 1996. Assets-based community development. *National Civic Review* 85, 4 (1996), 23–29.
- [66] Neha Kumar. 2014. Facebook for self-empowerment? A study of Facebook adoption in urban India. *new media & society* 16, 7 (2014), 1122–1137.
- [67] Neha Kumar. 2015. The gender-technology divide or perceptions of non-use? *First Monday* 20, 11 (2015).
- [68] Neha Kumar. 2018. "Is Twitter meant for celebrities only?" *A Qualitative Study of Twitter Use in India*. University of Michigan Press.
- [69] Neha Kumar, Marisol Wong-Villacres, Naveena Karusala, Aditya Vishwanath, Arkadeep Kumar, and Azra Ismail. 2019. Aspirations-based design. In *Proceedings of the Tenth International Conference on Information and Communication Technologies and Development*. ACM, 2.
- [70] Cliff Lampe, Nicole Ellison, and Charles Steinfield. 2008. Changes in use and perception of Facebook. In *Proceedings of the 2008 ACM conference on Computer supported cooperative work*. ACM, 721–730.

- [71] Airi Lampinen, Vilma Lehtinen, Asko Lehmuskallio, and Sakari Tamminen. 2011. We're in it together: interpersonal management of disclosure in social network services. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 3217–3226.
- [72] Josephine Lau, Benjamin Zimmerman, and Florian Schaub. 2018. Alexa, are you listening?: Privacy perceptions, concerns and privacy-seeking behaviors with smart speakers. *Proceedings of the ACM on Human-Computer Interaction* 2, CSCW (2018), 102.
- [73] Yao Li, Xinning Gui, Yunan Chen, and Alfred Kobsa. 2018. When SNS Privacy Settings Become Granular: Investigating Users' Choices, Rationales, and Influences on Their Social Experience. (2018).
- [74] Siân~E Lindley, Richard Banks, Richard Harper, Anab Jain, Tim Regan, Abigail Sellen, and Alex Taylor. 2009. Resilience in the face of innovation: Household trials with BubbleBoard. *International Journal of Human-Computer Studies* 67, 2 (2009), 154–164.
- [75] Silvia Lindtner, Ken Anderson, and Paul Dourish. 2012. Cultural appropriation: information technologies as sites of transnational imagination. In *Proceedings of the ACM 2012 conference on computer supported cooperative work*. ACM, 77–86.
- [76] Mary Madden. 2012. Privacy management on social media sites. *Pew Internet Report* (2012), 1–20.
- [77] Wendy March, Margot Jacobs, and Tony Salvador. 2005. Designing technology for community appropriation. In *CHI'05 extended abstracts on Human factors in computing systems*. ACM, 2126–2127.
- [78] Aaron Marcus and Emilie~West Gould. 2000. Crosscurrents: cultural dimensions and global Web user-interface design. *interactions* 7, 4 (2000), 32–46.
- [79] Ben Marder, Adam Joinson, Avi Shankar, and Kate Thirlaway. 2016. Strength matters: Self-presentation to the strongest audience rather than lowest common denominator when faced with multiple audiences in social network sites. *Computers in Human Behavior* 61 (2016), 56–62.
- [80] Alice Marwick and Danah Boyd. 2011. I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New media & society* 13, 1 (2011), 114–133.
- [81] Alison Mathie and Gord Cunningham. 2003. From clients to citizens: Asset-based community development as a strategy for community-driven development. *Development in practice* 13, 5 (2003), 474–486.
- [82] Brendan McSweeney. 2002. Hofstede's model of national cultural differences and their consequences: A triumph of faith—a failure of analysis. *Human relations* 55, 1 (2002), 89–118.
- [83] Anita Mehrotra, Ashley Nguyen, Joshua Blumenstock, and Viraj Mohan. 2012. Differences in phone use between men and women: quantitative evidence from Rwanda. In *Proceedings of the fifth international conference on information and communication technologies and development*. ACM, 297–306.
- [84] Chandra~Talpade Mohanty. 2003. “Under western eyes” revisited: Feminist solidarity through anticapitalist struggles. *Signs: Journal of Women in culture and Society* 28, 2 (2003), 499–535.
- [85] Antony Morgan, Erio Ziglio, and Maggie Davies. 2010. *Health assets in a global context: theory, methods, action*. Springer Science & Business Media.
- [86] Laura~L Murphy and Alexandra~E Priebe. 2011. “My co-wife can borrow my mobile phone!” Gendered Geographies of Cell Phone Usage and Significance for Rural Kenyans. *Gender, Technology and Development* 15, 1 (2011), 1–23.
- [87] Pardis~Emami Naeni, Martin Degeling, Lujo Bauer, Richard Chow, Lorrie Cranor, Mohammad~Reza Haghighat, and Heather Patterson. 2018. The Influence of Friends and Experts on Privacy Decision Making in IoT Scenarios. In *Proc. ACM Human.-Comput. Interact.* 2, CSCW. ACM.
- [88] Meena Natarajan and Tapan Parikh. 2013. Understanding barriers to information access and disclosure for HIV+ women. In *Proceedings of the Sixth International Conference on Information and Communication Technologies and Development: Full Papers-Volume 1*. ACM, 143–152.
- [89] Duyen Nguyen and Susan Fussell. 2015. Retrospective analysis of cognitive and affective responses in intercultural and intracultural conversations. *Discourse Processes* 52, 3 (2015), 226–253.
- [90] Helen Nissenbaum. 2004. Privacy as contextual integrity. *Washington Law Review* 17, 1 (2004), 101–139.
- [91] Midas Nouwens, Carla Griggio, and Wendy Mackay. 2017. WhatsApp is for family; Messenger is for friends: Communication Places in App Ecosystems. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, 727–735.
- [92] Andrew Perrin. 2015. Social media usage. (2015), 52–68.
- [93] Anicia~N Peters, Heike Winschiers~Theophilus, and Brian~E Mennecke. 2015. Cultural influences on Facebook practices: A comparative study of college students in Namibia and the United States. *Computers in Human Behavior* 49 (2015), 259–271.
- [94] Ulrike Pfeil, Panayiotis Zaphiris, and Chee~Siang Ang. 2006. Cultural differences in collaborative authoring of Wikipedia. *Journal of Computer-Mediated Communication* 12, 1 (2006), 88–113.
- [95] Jacob Poushter and others. 2016. Smartphone ownership and internet usage continues to climb in emerging economies. *Pew Research Center* 22 (2016), 1–44.

- [96] Smitha Radhakrishnan. 2009. Professional women, good families: Respectable femininity and the cultural politics of a “New” India. *Qualitative Sociology* 32, 2 (2009), 195–212.
- [97] Smitha Radhakrishnan. 2014. Subverting the microfinance myth: Gendered livelihoods in Urban India’s slums. *Oppositional Conversations* 1, 3 (2014).
- [98] Katharina Reinecke and Abraham Bernstein. 2011. Improving performance, perceived usability, and aesthetics with culturally adaptive user interfaces. *ACM Transactions on Computer-Human Interaction (TOCHI)* 18, 2 (2011), 8.
- [99] Nithya Sambasivan, Garen Checkley, Nova Ahmed, and Amna Batool. 2017. Gender equity in technologies: considerations for design in the global south. *interactions* 25, 1 (2017), 58–61.
- [100] Nithya Sambasivan, Garen Checkley, Amna Batool, Nova Ahmed, David Nemer, Laura~Sanely Gaytán-Lugo, Tara Matthews, Sunny Consolvo, and Elizabeth Churchill. 2018. “Privacy is not for me, it’s for those rich women”: Performative Privacy Practices on Mobile Phones by Women in South Asia. In *SOUPS*.
- [101] Shruti Sannon, Natalya Bazarova, and Dan Cosley. 2018. Privacy lies: Understanding how, when, and why people lie to protect their privacy in multiple online contexts. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 52.
- [102] Sarita~Yardi Schoenebeck. 2014. Giving up Twitter for Lent: how and why we take breaks from social media. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 773–782.
- [103] Irina Shklovski, Janet Vertesi, and Silvia Lindtner. 2014. Introduction to this special issue on transnational HCI. *Human-Computer Interaction* 29, 1 (2014), 1–21.
- [104] Yedendra~B Shrinivasan, Mohit Jain, Deva~P Seetharam, Abhishek Choudhary, Elaine~M Huang, Tawanna Dillahunt, and Jennifer Mankoff. 2013. Deep conservation in urban India and its implications for the design of conservation technologies. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 1969–1978.
- [105] Molly Steenson and Jonathan Donner. 2009. Beyond the personal and private: Modes of mobile phone sharing in urban India. *The reconstruction of space and time: Mobile communication practices* 1 (2009), 231–250.
- [106] Fred Stutzman and Jacob Kramer-Duffield. 2010. Friends only: examining a privacy-enhancing behavior in facebook. In *Proceedings of the SIGCHI conference on human factors in computing systems*. ACM, 1553–1562.
- [107] Jose Such and Natalia Criado. 2018. Multiparty privacy in social media. *Commun. ACM* 61, 8 (2018), 74–81.
- [108] Sharifa Sultana, François Guimbretière, Phoebe Sengers, and Nicola Dell. 2018. Design Within a Patriarchal Society: Opportunities and Challenges in Designing for Rural Women in Bangladesh. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 536.
- [109] Ann Swidler. 1986. Culture in action: Symbols and strategies. *American sociological review* (1986), 273–286.
- [110] Kurt Thomas, Chris Grier, and David Nicol. 2010. unfriendly: Multi-party privacy risks in social networks. In *International Symposium on Privacy Enhancing Technologies Symposium*. Springer, 236–252.
- [111] Mina Tsay-Vogel, James Shanahan, and Nancy Signorielli. 2018. Social media cultivating perceptions of privacy: A 5-year analysis of privacy attitudes and self-disclosure behaviors among Facebook users. *new media & society* 20, 1 (2018), 141–161.
- [112] Aditya Vashistha, Richard Anderson, and Shrirang Mare. 2018. Examining Security and Privacy Research in Developing Regions. In *Proceedings of the 1st ACM SIGCAS Conference on Computing and Sustainable Societies*. ACM, 25.
- [113] Janet Vertesi, Silvia Lindtner, and Irina Shklovski. 2011. Transnational HCI: humans, computers, and interactions in transnational contexts. In *CHI’11 Extended Abstracts on Human Factors in Computing Systems*. ACM, 61–64.
- [114] Sarah Vieweg and Adam Hodges. 2016. Surveillance & modesty on social media: How Qataris navigate modernity and maintain tradition. In *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. ACM, 527–538.
- [115] Kalpana Viswanath and Surabhi~Tandon Mehrotra. 2007. ‘Shall We Go out?’ Women’s Safety in Public Spaces in Delhi. *Economic and political weekly* (2007), 1542–1548.
- [116] Jessica Vitak. 2012. The impact of context collapse and privacy on social network site disclosures. *Journal of Broadcasting & Electronic Media* 56, 4 (2012), 451–470.
- [117] Jessica Vitak, Kalyani Chadha, Linda Steiner, and Zahra Ashktorab. 2017. Identifying Women’s Experiences With and Strategies for Mitigating Negative Effects of Online Harassment. In *Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing*. ACM, 1231–1245.
- [118] Jessica Vitak, Cliff Lampe, Rebecca Gray, and Nicole Ellison. 2012. Why won’t you be my Facebook friend?: Strategies for managing context collapse in the workplace. In *Proceedings of the 2012 iConference*. ACM, 555–557.

- [119] Mark Warner, Andreas Gutmann, Angela Sasse, and Ann Blandford. 2018. Privacy Unraveling Around Explicit HIV Status Disclosure Fields in the Online Geosocial Hookup App Grindr. In *Proc. ACM Human-Comput. Interact.* 2, CSCW. ACM.
- [120] Amanda Williams, Silvia Lindtner, Ken Anderson, and Paul Dourish. 2014. Multisited design: An analytical lens for Transnational HCI. *Human-Computer Interaction* 29, 1 (2014), 78–108.
- [121] Heike Winschiers-Theophilus and Nicola Bidwell. 2013. Toward an Afro-Centric indigenous HCI paradigm. *International Journal of Human-Computer Interaction* 29, 4 (2013), 243–255.
- [122] Pamela Wisniewski, Heather Lipford, and David Wilson. 2012. Fighting for my space: Coping mechanisms for SNS boundary regulation. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, 609–618.
- [123] Pamela Wisniewski, Heng Xu, Mary-Beth Rosson, Daniel Perkins, and John Carroll. 2016. Dear Diary: Teens Reflect on Their Weekly Online Risk Experiences. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16)*. ACM, New York, NY, USA, 3919–3930.
- [124] Marisol Wong-Villacres, Arkadeep Kumar, Aditya Vishwanath, Naveena Karusala, Betsy DiSalvo, and Neha Kumar. 2018. Designing for Intersections. In *Proceedings of the 2018 on Designing Interactive Systems Conference 2018*. ACM, 45–58.
- [125] Susan Wyche, Tawanna Dillahunt, Nightingale Simiyu, and Sharon Alaka. 2015. If god gives me the chance I will design my own phone: Exploring Mobile Phone Repair and Postcolonial Approaches to Design in Rural Kenya. In *Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing*. ACM, 463–473.
- [126] Susan Wyche and Jennifer Olson. 2018. Gender, Mobile, and Mobile Internet| Kenyan Women’s Rural Realities, Mobile Internet Access, and “Africa Rising”. *Information Technologies & International Development* 14 (2018), 15.
- [127] Seounmi Youn. 2008. Parental influence and teens’ attitude toward online privacy protection. *Journal of Consumer Affairs* 42, 3 (2008), 362–388.
- [128] Rui Zhou, Zhonghe Wen, Muchao Tang, and Betsy DiSalvo. 2017. Navigating Media Use: Chinese Parents and Their Overseas Adolescent Children on WeChat. In *Proceedings of the 2017 Conference on Designing Interactive Systems*. ACM, 1025–1037.