Computing and the Stigmatized: Trust, Surveillance, and Spatial Politics with the Sex Workers in Bangladesh

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ABSTRACT

The sex workers in the Global South represent a significant portion of the world sex industry. However, when compared to the relevant HCI literature on sex work and computing, there exists a noticeable gap in comprehending the experiences and circumstances of the sex workers in this region. This study fills the void by presenting the findings of a three-month-long ethnography with 25 legal sex workers in Daulatdia brothel, Bangladesh, revealing their struggles with stigma, low-tech literacy, and the emerging threats of online security, along with their skills and creativity to bypass those. Drawing on the previous literature on South Asian feminism, postcolonial computing, and critical urban studies, we demonstrate how these findings are deeply rooted in the country's history and culture and propelled by a modernist vision of "development" that marginalizes such communities. Our discussion advances HCI's discourse on sexuality, privacy, equity, and generates implications for design and policy changes.

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in HCI**; **Empirical studies in collaborative and social computing**; • **Security and privacy** → **Social aspects of security and privacy**; • **Social and professional topics** → **Gender**; **Cultural characteristics**.

KEYWORDS

HCI4D, ICTD, sex work, qualitative, stigma, women, gender, marginalized, surveillance, technology-facilitated abuse, patriarchy, feminism, Global South

1 INTRODUCTION

Sex work is often considered the world's oldest profession [134]. While sex work is illegal in most countries in the world [125], according to a 2012 report by *Fondation Scelles*, there are more than 40-42 million sex workers working worldwide [96]. While relatively neglected in HCI, sex work has been an important topic to study in feminism [22, 31, 48, 62, 79, 80, 92, 116, 117, 150, 175, 176, 178], public health [20, 52, 129, 149, 151], urban studies [17, 69, 72, 168, 179], and many other disciplines. Studies of sex work in these disciplines have revealed how gender dynamics and sexuality of a culture are expressed through sex work hidden in the underbelly of a community. The persistence (and proliferation) of this profession against the constant threat from legal and moral policing over thousands of years [140], does not only reveal how communities grow beyond their formal mandates to an informal and "intimate" profane direction [2, 45, 73], but also demonstrates a rather confusing repertoire of human emotions that allows the risks of severe diseases and infections [97, 112, 122]. Furthermore, the politics around "red-light districts" have always challenged the design of cities and associated policies [2, 16, 172]. Brothels and red-light districts are important financial hubs and tourist destinations in many cities [32, 37, 38, 45, 109], and a wide range of small and large businesses are dependent on their operation [131]. Besides, the proximity to a "red-light" venue significantly impacts the aesthetic and moral value of a property, and thus influences the surrounding urban politics [45].

Nevertheless, research on "sex work" and technology has been rather limited [83], despite the significant expansion of this global business, which has reached a value of 180 billion USD in the post-COVID period [70]. In recent years, online sex work has become increasingly popular, encompassing a variety of industries, including pornography, sexting, escorting, camming, and subscription-based services such as OnlyFans. While the exact numbers of online

sex workers are unknown, the rapid increase in the numbers of online sex workers and customers is being frequently reported in various media [91, 100]. This growth is not limited to the Western world, where access to computing is "easier" for many [41, 54], but a large number of sex workers in the Global South have also started working online. The teledensity of female sex workers in India is 97% [138], and even more so, a trend of client solicitation via mobile phones is on the rise, particularly in the wake of the pandemic [78, 119]. These studies indicate the necessity of a deeper dive into the history and culture of a society to comprehend the nature of and the tensions around sex work, especially in the countries in the Indian subcontinent that have a very long and interesting historical encounter with sex work through religions, colonialism, feminism, and, very lately, digitization [19, 87, 123, 133, 154]. The recent move of sex work from *offline* to *online* has brought to the fore a new tension around this spatial politics. To what extent a full or partial transition of sex work to the online sphere [83], will impact this politics is an important topic of urban HCI. This politics is even more interesting, although even more underexplored [59], in the context of the Global South, including the Indian subcontinent.

We have seen prior work in the HCI scholarship with street-based and "only online" sex workers [23, 63, 65, 99], but there is a notable absence of study focusing on workers of the Global South, particularly brothel-based individuals, which constitute a significant proportion of the sex worker population in South Asia. These individuals typically reside in designated locations known as "red-light areas" and operate within brothels. There is a "paucity" [83] in scholarly articles that examine the experiences of these workers who confront multi-faceted forms of marginalization, specifically from the lens of technology and privacy. Thus, we fall behind in critically identifying how HCI might play a role in creating a safe digital space for them. In this paper, we seek to address the existing void in the HCI literature by providing distinct perspectives derived from a three-month long ethnographic study with 25 female sex workers in one of the largest brothels in the world at Daulatdia, Bangladesh. Sex work inside a designated brothel is not only legal in Bangladesh, it is also organized under the Bangladesh Sex Workers Association as a unionized profession [170]. In the remainder of this paper, we refer to our participants as "sex workers", to align with the way they formally describe themselves [160]. This also avoids any negative connotation that is associated with the word "prostitution" (we explain our positionality in Section 3.4).

The context in which this study is situated encompasses the intersecting terrain of SHCI (Sexuality and HCI) [85] and HCI for Development. Through an extensive engagement of over 100 hours with a marginalized community in Bangladesh residing in a regulated environment where the practice of sex work is legally sanctioned, our study delves into the complex interplay of societal and religious standards and their influence on the lived experiences of these individuals, both in their digital and tangible realms. This study explores how their voice is controlled by the male clients [10, 68, 113, 162, 164], who they name "pseudo-husband", underlining the manifestation of patriarchal norms leading to constraints navigating digital spaces. One of the significant discoveries of our research has been the identification of the strategies employed to circumvent limitations and tweak technology use to align with their own agency. Yet, it is vital to acknowledge the significant

impact of low levels of technological literacy on the vulnerabilities individuals face when using the internet. This awareness is crucial for the technologists to ensure the inclusivity, equity, and fairness of existing technologies for the vast global workforce, particularly those from enormously marginalized and "othered" [155] backgrounds.

Thus this paper makes a threefold contribution to the HCI literature. First, this paper provides an ethnographic account of the technology encounters by one of the most stigmatized and marginalized communities in the Global South. Second, this paper advances the HCI literature on the gendered use of computing, and documents how the usage of computing by Bangladeshi sex workers is shaped by developing trust and putting up with constant surveillance and societal stigma. Finally, this paper contributes to the emerging HCI literature on the digitization of place-based events and reveals how the digitization of traditional sex work complicates the sacred/profane dichotomy of urban space.

2 RELATED WORK AND BACKGROUND

To start with, we adopt the following definition of "sex work" from Overs [118]: "*the exchange of sexual services for monetary compensation, products, or other advantages within a commercial framework, for adult individuals who identify as male, female, or transgenders*". Sex workers get engaged with their clients either as autonomous individuals or by the use of intermediary facilitators. Digital sex work can be defined as "*internet-mediated exchange of sexual commodities and/or services.*" [83]. To situate the contribution of this paper, we shed light on three strands of literature pertinent to HCI in the following subsections.

2.1 Computing and Sex Work

A strand of work in HCI and related fields argued for decentering the focus of HCI design from "*necessity*" to *pleasure* [21] and *desire* [86]. Such works advocated for improved interfaces to facilitate erotic experiences online [5, 61], and explored various novel modalities, including Virtual Reality pornography [177], for example. A related body of work explored the concept of "private space" for experiencing digital pleasure within various cultural contexts to facilitate such intimate experiences [30]. Furthermore, critical reflections have been made on conceptual sketches for mediated intimacy, raising significant inquiries regarding the appropriateness of "generalized" design solutions. It introduced the necessity of "*customized technology*" [89], which highlights the potential for sexuality research to inspire innovative interfaces, validate alternative lines of investigation, and add unique panoramas to existing works.

The growth of empirical scholarship on sex work and technology has only gained momentum recently in the space of HCI. By interviewing the sex workers in Germany and Switzerland (where sex work is legal and regulated) [23], a recent work showed how sex workers use technology to fulfill their business needs in a setting of digital discrimination. Another study investigated the privacy and security risks of sex workers and strategies to protect digital safety [99], and explored how sex workers provide virtual peer support and mutual aid to each other via online platforms, leading

to their financial and physical well-being. [63]. In the intersectional framework of technology and social justice, Strohmayer et al, collaborating with a Canadian sex worker rights organization, discussed how technology can aid in reporting violence and support sex workers' safety through the creation of Bad Client and Aggressor List [158]. An important ethnographic study in this domain, around a socially, politically, culturally, and technologically complex space, was conducted in the UK to explore and design technology-mediated social justice outcomes to support sex workers' support services [159].

An increase in the commercial sex market [53] and the tide of COVID-19 [63, 65] have facilitated a rise in digital sex work in recent years [143]. Several studies have explored the digital participation of sex workers from an economic perspective, such as, how the internet has augmented the market of sex work and risk behaviors of the sex workers [50, 51, 53], how the digitization of sex work has created new opportunities for sex workers [83, 143] leading to "sexual entrepreneurship" [126], and offered more control and agency over their client acquisition practices and advertisements [51, 64, 142], and vetting of customers [49, 99, 141]. Other research has looked into how sex workers navigate through different interpenetrating platforms designed and not designed for them [167], the perceived risks in those platforms [39, 64, 84], and the risk mitigation strategies in different country regulated setting, such as UK and USA [107, 141]. Prior research has also explored the rise of technology-mediated activism in the Global North [157] and the practice of forming "communities" among sex workers [171]. While informative, this line of work misses the combined effect of social stigma, misogyny, surveillance over the woman sex workers, as is prevalent in the Indian subcontinent [58, 132, 169], and the broader tension of the digitization of sex work on urban spatial politics.

2.2   Sex Work in the Global South

The Global South scholarship is still in its infancy when it comes to comprehending the convergence of technology and sex work. Sex workers in this region are stereotypically understood as passive victims of the political economy, and submissive to Western men [94]. Previous studies in this region have explored the upswing of online sex work in India [123], impact of technology on Nepal's commercial sex scene [57], interconnection between the workers' online client solicitation and their practice of condom use [110] and the workers' use of digital channels to get beyond spatial constraints and expand the scope of their voice and agency [104]. Other studies have explored the pervasive issue of sex trafficking in South Asia in the light of economic inequalities, political conflicts, and globalization [75, 144]. Sanders et al. argued that neo-liberalism serves as the predominant ideological force that upholds and sustains the underground sex trafficking industry in Southeast Asia [139]. In a participatory study with a group of sex-trafficking survivors in Nepal [56], the researchers challenged the assumptions regarding participants' feelings of agency in envisioning a collective future and highlighted the importance of building participant agency through small interactions before demanding larger political participation. Among the few design studies with the sex workers in this region, notable is the ethnographically informed design work by Sambasivan et al.

with urban outdoor sex workers in India to design a phone-based broadcasting system that ought to be used by an NGO to reach out to the workers for announcements [138]. This study brought out important nuances regarding the usage of a broadcasting system and intermediate interactions. However, the cultural complexities, gender politics, and digital security challenges were less pronounced in that study.

Sex work in Bangladesh holds a history of extreme stigma, oppression, violence, and abuse of human rights [13, 76, 82, 153, 169, 170], resulting from its deeply rooted social, cultural, and religious value, and a self-contradictory judicial stance towards sex workers [81]. Several studies have analyzed the scenario of trafficking and sexual exploitation [14, 33, 74], examined the identity construction of the sex workers [46, 163], their autonomy and activism [160], and their health and economic vulnerabilities [71, 90, 98, 173], among others. While informative, this body of work has a dominant tendency to study and analyze the Bangladeshi landscape of sex work through a Western gaze [105]. Recently, Sultana et al. brought to the fore this problematic representation of Bangladeshi women by challenging the dominance of the Western gaze to propel local misogyny [161]. By documenting the culturally distinct and varied experiences of regional sex workers in Bangladesh, her work emphasized the diversity among sex workers and argues that ignoring the culturally-specific conditions of the organization of sex work risks universalizing sex workers as perpetual victims.

2.3   Sex Work and Spatiality

Most of the prior works pose an entirely topographic view of the subject matter and can be referred to as either "technological", or "sociological" reading. The technological readings neglect the configurations of the physicality and place-boundedness, and vice-versa. Such topographic representation is problematic when we aim to understand how technologies interact with the social conditions, or the other way around [147]. This mode of exploration can only capture a part of the "space", leading to a partial and incomplete understanding of the subject matter. Furthermore, it limits our understanding within a boundary of our sample space of interest and fails to go beyond this confined setting or context [146].

To understand the broader spatial politics between the physical or built environments that accommodate sex workers and the rest of the city, we can borrow Durkheim's theoretical lens of sacred and profane [55]. Durkheim argues that through rituals, a society distinguishes between these two realms and their images — the profane part of the world or things in everyday life, and the sacred part of the world or things in religious life. Social norms, power hierarchy, and socio-religious performances keep these two realms separate. In other words, rituals mark the boundary between the sacred and the profane. Such demarcations get mediated through spatial arrangement and functional behavior of a city as well [95]. An extension of this spatial separation can be connected with the social process of stigmatization of the locations where sex workers live/work. Drawing from Sassen's concept of "The City: Localizations of the Global" [148], we argue that much of the "digital space" used by the sex workers is deeply inflected by physical spaces and their politics, the cultures, the material practices, and the imaginaries that take place outside the digital space. In other words,

understanding digital space and digitization are not exclusive conditions that stand outside the non-digital [145]. Hence, we cannot completely understand the sex workers, nor their digital lives, online practices, or safety strategies from a topographic point of view, rather, we have to see and evaluate their lives in a whole "spatial" setting that comprises of both their "physical" and "digital" landscapes.

There has been limited studies that seek to critically grasp the complete spectrum of the spatial domain to which the sex workers of the Global South belong, or to illustrate the role of technology in a complex ecosystem in which they operate. Our research intends to fill this gap by a three-month-long ethnographic study in one of the largest brothels in the world, Daulatdia, Bangladesh. We aim to deeply navigate the intricate physical and digital spaces the sex workers belong to, and maneuver within. This, in turn, results in a more holistic understanding of one of the world's oldest professions in today's digitized world.

2.4 The Legal Status of Sex work in Bangladesh

Brothel-based sex work is legal in Bangladesh and any adult can become a sex worker through a legal process that is overseen by the local authority [115]. It is a profession predominantly adopted by the poor and hapless women who become victims of unfortunate tragedies in their personal lives [15]. The legal process involves paying a fee, swearing that she is above the age of 18, and stating in an affidavit that she is adopting this profession freely and voluntarily [108]. Once registered, she can start working in any legally established brothels such as the one in Daulatdia. We reiterate that despite being a legal profession, in line with the cultural and religious sentiments prevalent in Bangladesh – a conservative Muslim country - sex outside of marriage is considered as a huge sin, and as such the sex workers are hugely stigmatized in the country [111]. A female sex worker is locally called as a *"potita"*, which literally means *"a fallen woman"* [46].

2.5 The Daulatdia Brothel

Nestled between a busy railway station and a ferry port, the sprawling Dautladia is located 137 kilometers west of Dhaka, the country's capital city. The village hosts the Daulatdia brothel – the largest one in Bangladesh and one of the largest in the world [111]. It is home to almost 2,000 legal sex workers, many of whom have been forced to adopt this profession after being sold to the brothel by family members or becoming a victim of sex-trafficking [18, 111]. Built by the British colonial government [88], it is now owned by a local politician's family and regulated by the local police. There is a police box at the entrance and people who would like to go inside need to take permission. However, there are many other gates on the peripheries that are not monitored, and anyone can enter through those gates. The size of a small town, the brothel has everything that the customers and the sex workers need, including beauty salons, markets, a gambling hub, alcohol shops, dance rooms, and bars with modern lights inside.

3 METHODS

The goals of our study were to understand: 1) the cultural values and the societal challenges faced by the sex workers in Bangladesh,

2) how these values and challenges shape their online presence and security practices, and 3) identify the scope for designing technologies that caters to their needs. We conducted a three-month-long ethnography with the sex workers in the Daulatdia brothel. Our study includes 25 in-depth interviews with the female sex workers inside the brothel, field observations, and informal discussion sessions with the local NGO representatives, paramedics, and digital service providers. However, we only report the data obtained from the sex workers here as the meetings with the latter groups took place mainly for the purpose of making our ethnographers familiar with the environment inside the village.

3.1 Recruitment

The brothels in Bangladesh are located far away from the capital city. After getting the institutional ethics approval, we contacted two local NGOs: PIACT Bangladesh [121] and Mukti Mohila Samity (MMS) to get a lead to the sex workers' community. PIACT Bangladesh works for prevention of HIV/AIDS among the sex workers while MMS is more focused on providing general health, nutrition, and childcare facilities for them. Both the groups work closely with the sex workers of the Daulatdia brothel.

The first and second authors conducted their first visit to the field in May, 2023. They got access to the area with the help of two female NGO representatives who accompanied them during the visit. The representative from PIACT Bangladesh was a former sex worker who works for community development now, while the MMS representative works as the community paramedic inside the brothel.

Before talking to the sex workers, the authors introduced themselves to them. The first author explained the purpose of the research, and asked for their concerns and questions. As most of the sex workers did not have formal education and could not read the written consent form, oral consent was obtained from them. Data was collected from 12 sex workers upon proper consent.

After the first round of data collection with the help from the NGO officials, the first author opted for independent recruitment in mid-June once she had already become a *"known figure"* inside the brothel and built sufficient rapport and trust with the community members. She, along with the third author, walked around the corridors of different parts of the brothel and randomly asked the workers if they would be willing to talk. Most of the workers were friendly, and open to talk. Some scheduled the interview for later in their free time. A total of 13 interviews were conducted in this way upon consent through independent recruitment. The authors intentionally visited different parts of the brothel, instead of concentrating on a particular subcommunity or neighborhood within the brothel. This approach was adopted to ensure diverse representation and participation, as well as to enhance the inclusiveness of the collected data. Upon achieving data saturation, the authors ended the ethnography in July, 2023.

3.2 Interviews and Observations

The first author, who was born and brought up in Bangladesh, spoke the local language (Bengali), and was familiar with the local culture and customs, conducted the interviews and ethnography. Participation in the study was voluntary. Participants received 500

(a) Part of a long walkway inside the brothel, known as *"gate"*.
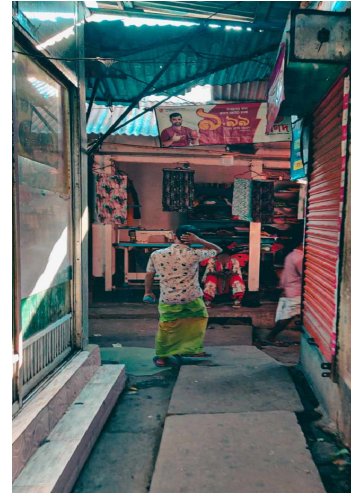
(b) Corridors inside the brothel.

Figure 1: Inside the Daulatdia brothel. (Faces and other identifications are blurred due to participants' privacy.)

BDT ($5 USD)[1] for taking part in the study, matching the earnings they typically receive for an hour-long session (typically, for a single daytime session lasting 30-60 minutes, workers receive 200-500 BDT; the rate for a full-night session starts at 2,000 BDT and can increase further depending on the workers' demand.)

We conducted semi-structured interviews with 25 female sex workers, each lasting 50 minutes on average. All of them were comfortable talking inside their rooms, so that's where the interviews took place. First we asked the participants about their background and life stories to initiate the conversation. Then we inquired about their daily lives, interaction with others, such as, their clients, families, friends, etc., experience using mobile phone and digital technologies, challenges and risks they face in their physical and virtual environments, and how they address them. We specifically asked questions about the online tools and platforms they use to look for new clients and maintain communication with the existing ones. The interview guideline is included in Appendix A.

The first author also observed the workers as they went about their stories. These observations lasted for unrecorded hours, as they spent almost 12 hours every day in the field. The observation was carried out around the brothel corridors, tea stalls, dance rooms, alcohol shops, and digital service centers inside the village. We asked relevant questions to the workers while observing them contesting for clients, using technology i.e., navigating through apps and social platforms, taking service (withdrawing money from bKash, mobile top-up, or fixing mobile phones, etc.) from the local digital service centers, etc. We took written notes while observing them.

It is important to note that we prioritized the comfort and well-being of the participants throughout our study. Before conducting the interviews, our focus was on cultivating personal relationships, understanding their values, and adapting our communication to respect and align with those values. Besides familiarizing ourselves

with the jargons they employ (as outlined in section 3.5), we made a conscious effort to avoid using any language or expressions that might be deemed offensive to the community, and consistently maintained transparency about the purpose of the research, our accountability, and how their data would be used and by whom it could be accessed. Furthermore, any field photography was approached with the utmost sensitivity, with proper consent sought before capturing any images. We made it clear that we hold no social stigma against their work and we respect their profession. To bridge any educational or financial divides, we ensured a sense of equality during our interactions. As we spent hours with them, oftentimes we offered help in doing household chores with them if needed. We acknowledge that it is not completely possible to remove the inherent power dynamics, but we made a concerted effort to minimize that.

All the interviews were audio recorded upon proper consent. In cases the participants weren't comfortable being recorded, the first and second author took detailed field notes. They are native Bengali speakers, born and brought up in the region. It is important to note that consent is a complex issue for the sex workers in Daulatdia, since many of them did not even willingly enter the profession in the first place. However, since joining the profession, they enjoy a degree of autonomy as any new clients need to seek their consent first before entering their private space (please see Section 4.1). Thus, the concept of consent is familiar to the sex workers we interviewed.

3.3 Participant Attributes

The ages of our 25 participants ranged from 19 to 41. Their average monthly income was between $400 and $800 (40,000 and 80,000 BDT). Only ten participants had some formal schooling. One studied through the twelfth grade, two through the tenth, and seven through the fifth. The other 15 could hardly read and write since they had no educational background. All the participants were native Bengali speakers, coming from different parts of the country.

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[1]1 USD is approximately 100 Bangladeshi Taka (BDT)

Attributes		No. of Participants
Age	18-24	4
	25-34	18
	35-44	3
Education	No formal education	15
	Less than 5th grade	7
	Less than 10th grade	2
	Completed 12th grade	1
Monthly Income (in USD)	Less than 600	4
	Less than 700	10
	Less than 800	6
	Less than 900	5

Table 1: Demographic Information of our 25 participants.

3.4 Data Analysis

We collected about 30 hours of audio recording, and hundreds of pages of observational notes. The interviews were transcribed and translated into English by the first and second authors, both of whom are native Bengali speakers.

As a team of authors, we examined the transcripts of the interviews rigorously. We reviewed each transcript iteratively to identify and remove the irrelevant segments, and to highlight the pertinent segments relevant to our research goals. We also held frequent virtual meetings to discuss the removed segments and ensure we did not miss any important excerpts. Next, we analyzed the relevant data after anonymizing them using open coding [156] and thematic analysis [36]. Examples of codes include, "trust", "online sex work", "safety", "security", etc. We did not have any predetermined themes to maintain openness to any emerging themes. We classified the data into patterns based on their similarities and differences, and then integrated the patterns into themes that represented our findings. We performed several rounds of rigorous analysis of the codes and themes among the research team members and developed the final themes that are reported in the following section.

3.5 Ethical Considerations and Positionality Statement

Our research protocol was examined and approved by the research ethics boards of BRAC University. Throughout the fieldwork and ethnography, we were extremely careful to have a respectful conversation with our participants as they belong to a highly marginalized community with their own culture and norms. Before starting the fieldwork, we engaged in a long conversation with the former sex workers from the NGOs to make ourselves acquainted with their jargons, vernaculars, and communication norms. We learned a few terms[2] as well to better communicate with them. We also got our questionnaire reviewed by the NGO representatives.

All the members of our research group are born and raised in Bangladesh and we are familiar with the sex work industry

in Bangladesh. Half of the members of our research team are female, including the ethnographer. Standing in solidarity with the Bangladeshi sex workers' identity reconstruction movement "My Body, My Right" in the 90s [130], we recognize sex work as "work" and respect the profession of our participants.

4 FINDINGS

In this section, we have used pseudonyms to represent all the participants. The description of key terms, domain-specific jargon, and technologies used by our participants have been introduced and defined in Table 2.

We first present two vignettes to portray the lives of the sex workers in the Daulatdia brothel, one backdropped against the prevalent patriarchal control system, and the other centered around the use of technology. These vignettes illustrate individual stories from two different participants.

Vignette 1: The pseudo-husband

Rahima is a 30-year-old sex worker in Daulatdia. Four years ago, her husband brought her here with their son and sold her to a "madam" for money. Rahima now lives in the brothel with her five-year old son. When she attends her clients, she drops him off at the daycare, or home of a coworker who has a spare room. She does not get much time to go to the brothel gate for new clients, instead she only works with referrals from her existing customers. This enables her to form a prior impression of their background and then build trust with them. Her husband routinely abducts their son to blackmail her into giving him her earnings and threatens that she will never see her son again if she does not give him the required amount. To further complicate matters, her mobile financial account, which she uses to receive customer payments, is registered with her husband's NID and phone number. He has the password for that account, so she has to find different ways to keep her money safe from him. She lacks digital literacy and regularly experiences issues finding her way around technology use. A wealthy and powerful city client – whom she refers to as "my husband from here" – helps her get through these troubles by providing assistance with using her smartphone and mobile banking needs. Moreover, when her legal husband threatens to beat her or take the child away, this pseudo-husband's men (local goons) are there to protect her. Indeed, this favor comes with the price of her freedom of choice and action. Amidst these, Rahima hopes one day she can save enough money for

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[2]The workers' colloquial expressions include a variety of jargon, such as, babu/dewor (clients), husband (the most special client), gate (the main brothel corridor where most of the workers stand to get clients), gate kora (doing gate aka sex work), lok boshano (making men sit for an intercourse), lokjon kora (doing men), dhanda kora (doing business), etc. [161]

herself and her son to run away from the brothel. However, she first has to pay off the price she was sold at, to the "bariwaali" (madam).

Vignette 2: Leveraging the Digital Platform

Lily, 21, was sold in the brothel eight years ago by a "dalal" after she went missing from her family during a trip. It took her four years of hard work to get out from the enslavement of the "madam" before she could buy her freedom. She is now on her own, renting a room in a different part of the brothel. She works both online and offline. In the evenings, she picks up customers at the gate of the brothel. During the day, when business is slower, she can be found streaming on Bigo Live. She subtly tries to draw clients via her livestream while avoiding overt sexual content, not even mentioning she's offering "sex/intimacy". On the live stream, she engages in some mild sensual expressions (though never without clothes), and offers her contact information. She chooses clients from the audience who contact her by phone or text messages, and she convinces them to schedule an in-person session. She hides her professional information from her family. A couple of years ago, she came to know about one of her relatives, and she visited them in the disguise of a garment worker. This means she must take every precaution to be visible online to avoid exposing her actual identity. She never shows her face online, and maintains separate contact numbers, social profiles, and phones for her work and home.

These two vignettes provide a glimpse into the lives of many sex workers in the brothel. These two stories resonate with almost all of our participants as they navigate the complexities of negotiating with a pseudo-husband and maintaining a dual life. In the following section, we underscore the key findings from our study.

4.1 Trust

To gain a comprehensive insight into the contexts in which our participants operate, it is crucial to delve into the trust mechanisms employed by them in both digital and physical realms. In the subsequent sections, we explore the intricate process through which sex workers establish and maintain trust with their clients, as well as how they select their "pseudo-husbands".

4.1.1 Establishment of Trust. The initial trust is established through in-person encounters between the workers and the clients. Without exception, all participants expressed their reluctance to trust anyone online, citing concerns of potential *"fraud"* and *"deception"*. Therefore, they consistently prioritize *"observing the clients in real life,"* even if the initial interaction takes place online (see section 4.1.3 for more details). The common practice among our participants inside the brothel is to appear well-groomed, put on good makeup, dress nicely, and approach the brothel's narrow walkway (known as the *"gate"* to the locals) to draw in potential clients. At the first encounter, they refrain from engaging with the clients who show disrespect or dehumanize them, regardless of the amount of money being offered. The potential red flags in their initial screening are being *"pushy"*, *"touchy"*, displaying an *"ill-tempered"* demeanor, or excessive haggling. After the first screening, once the worker permits a specific client into their private space for the sexual encounter, the process of establishing trust commences as the worker needs to make a conscious decision now whether she would like to

share her phone number for future contacts. At this point, our participants check three criteria before making an informed choice: a) good behavior, b) referral from an existing customer, and c) decent payment.

Good Behavior. According to our participants, *"good behavior"* spans across several factors such as, *"not using slang"*, *"not being verbally or physically abusive"*, and *"respecting their work and their values as a person"*. The workers are highly selective in this regard, as emphasized by one of our participants *Shanta*,

> *"Not all of my clients have access to my phone number. They're not all decent people, though. I only give someone my contact information if I genuinely like them. I like men who treat me with respect, pay me fairly, don't hurt me during sexual encounters, and don't don't force me into anything. I like sweet-talkers. I give my phone number only when they meet all these requirements."*

Referral. We found our participants experience a sense of security when dealing with the clients who come through a known contact. *Ratna* describes engaging with a referred client as a *"safe bet"*, believing that, more often than not, *"good clients bring good fortune"* to her. When asked about the significance of referrals in building trust, *Promila* explained,

> *"Trusting a referred client is straightforward. If I already know a client who is well-behaved and decent, they are unlikely to refer someone who is troublesome."*

Decent Payment. The initial trust of our participants is largely influenced based on receiving fair and prompt payment from the clients. Our participants recounted instances where clients promised to send money via bKash later but never did, or engaged in disputes over the pre-negotiated amount after receiving the service. As *Meena* recounted,

> *"There were many times the clients got the service and left the place promising that they would send the payment via bKash later. I noted down their phone number for further contact to get the payment, but found them unreachable."*

Such actions led to a sense of *"mistrust"* and deterred them from working with these clients in the future. *Meena* further elaborated on how dealing with a *"trusted"* client looks like in terms of pay,

> *"They settle the payment immediately after the service, occasionally even in advance. Sometimes they ask for the option to pay later via bKash, and promptly send the amount when they can.".*

All the participants stressed that receiving fair pay contribute to their trust development as they feel *"valued"* and *"respected"*.

4.1.2 Sustenance and Maintenance of Trust. Although the foundation of initial trust is laid during face-to-face encounters, the further sustenance and maintenance of trust play a vital role in enhancing the interaction between our participants and their clients. We have identified three key themes that substantially contribute to the sustainability of a trustworthy relationship between them, all of which are closely related to the digital space.

Support to Use Digital Technology. Our participants strengthen their trust on the clients based on the assistance and support they

Term	Definition
Dalal	The brokers and the middlemen engaged in the commercial sexual trading of women and girls are known as the "Dalals", who may be relatives promising them work, or men with whom they have a relationship [74]. They facilitate the sale of these workers to the Madams at a predetermined monetary value [82].
Madam/Bariwaali	In the brothel, the house rentals are controlled by the "Shordar-nis"/"Bariwaalis"/"Madams", who operate as the intermediaries for over a dozen landlords who own the area. They oversee the house rentals and exercise power and authority in procurement and commercial transactions with the Dalals. The Madams purchase the workers and then set them to work, requiring them to pay off the "sale price" before being allowed to earn their own wages [169].
Pseudo-husband	Each sex worker eventually establishes an exclusive connection with one of her long-term, trustworthy clients, whom she addresses as her "husband", despite the reality that she is not legally married to him, and he may already have a family outside the brothel. However, inside the brothel, the pseudo-husband is committed to that particular worker. We use the term "pseudo-husband" to describe this special client – someone who is financially stable for supporting the worker during health and financial emergencies, and socially or politically influential to protect her against potential abuse and mistreatment within the brothel environment.
Sexting	In the context of this work, sexting refers to the practice of exchanging sexually explicit text messages (no pictures) on platforms like imo, Messenger, and WhatsApp, aiming to keep certain clients happy and maintain a positive relationship with them. In some cases, the workers ask for additional compensation in exchange of this service.
Camming	According to our participants, camming is referred to as getting involved in sexually explicit activities through video calls on imo, Messenger, or WhatsApp, where the face and sensitive body parts are revealed to random individuals, aiming to fulfill their desire and earn money.
bKash	The most popular mobile financial service in Bangladesh [1]. The bKash users can fund their mobile accounts at local agent shops and then access various financial services such as money transfer, utility bill payment, mobile recharge, etc., through the mobile app [34].
Bigo Live	Bigo Live is a live streaming platform, enabling users to watch and chat with others, as well as broadcast their own streams. Reportedly, it has over 400 million users in over 150 countries [35].

Table 2: Definition of key terms used throughout the paper.

receive to use digital technology from them. To elucidate the understanding of how this trust is further sustained on the clients, we progressively connect our relevant findings in the following paragraphs.

We found that our participants *"instinctively"* placed more trust in tech-savvy customers, believing that their knowledge can enhance their technological literacy. When asked why she trusts a particular client, *Rina* stated,

> *"There are many reasons(...) He helped me create my Facebook account. He's very impressive with technologies, you know! I always forget my password, he helps me get the account back every time. I couldn't use my account if it was not for him. That's why (I trust him more)."*

We observed sex workers sharing personal digital information with clients to acquire assistance in various online tasks, such as, learning about the internet, creating social media accounts, earning and redeeming rewards on platforms like TikTok, Bigo Live, and

Likee, or even delving into cryptocurrency trading to save money (Fig. 2).

This practice of seeking technical support can be attributed to the lower level of technical literacy among our participants. Almost all of our participants (22 out of 25) mentioned that a client had assisted them in setting up social media accounts that they were often unfamiliar with operating. As highlighted by *Shefali*,

> *"What is a password? I know nothing about it. He has opened those accounts for me, I just scroll over the feed to watch videos and photos."*

Another participant (*Rumki*) learned about online security measures from a client who assisted her in creating separate Facebook accounts for work and family purposes. This client also took steps to safeguard her privacy by locking her profiles and blocking her family members for added safety. Her rationale for trusting him was straightforward, *"He's done all these for my safety, why shouldn't I put more trust on him?"*.
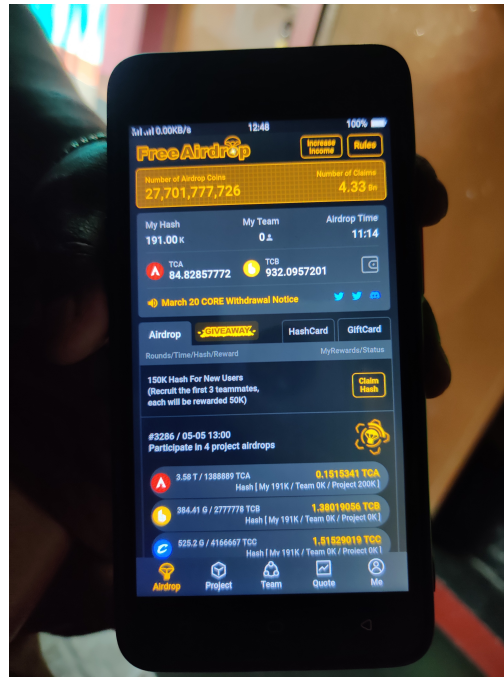
Figure 2: FreeAirdrop feed of a sex worker unknowingly involved in illegal crypto trading with one of his clients' help.

Ruma's trust in one of her clients grew when he informed her about the income potential from TikTok. Recognizing the client's valuable technical expertise for her financial benefits, she decided to grant him access to her bKash account, allowing him to monetize her TikTok activities. This trust deepened significantly when she got the monetization payment of 60,000 BDT with his help.

While our participants are aware of the recent trend of *"making money online"* [152], their limited tech literacy has hindered their ability to tap into this potential. They perceive technology as an enabler for increased earnings. Consequently, the practice of entrusting clients with their confidential digital credentials arises from the perceived opportunity for financial gain, which can be realized with the assistance of the clients who possess technological expertise. Driven by the aspirations of earning more, *Swapna* uses a crypto trading app called *"FreeAirdrop"*, which was installed by a client on her phone. Despite being totally unaware of what crypto is, she engages in routine activities like collecting coins and trading by tapping on *"unknown symbols"* on the app as instructed by her client. She believes, as he introduced her to a new income source, it's a sign of his *"good intentions"*, and that's why she put her trust on the client,

> "He installed this software on my phone. He said, if I click on this button everyday I will earn a chunk of money. He wants the best for me, right? Otherwise he wouldn't have told me about this money-making opportunity. That's why I trust him."

Here we can see how their trust in the clients along with the aspirations for more income led our participants to not only bad security practices such as sharing passwords or digital account credentials, but also get involved in illegal activities [127].

Regular Communication. The participants regularly call their clients during their free time, engaging in friendly conversations like *"asking if they had lunch"*, *"inquiring about their health"*, etc. to nurture their mutual connection. This simple gesture shows their *"care"* and *"concern"* for their clients' well-being, which in turn fosters trust. As *Rumki* mentioned,

> "I talk to some of my clients when I feel bad. Sometimes I take a break from work, and talk to them for all day long. They try to make me feel good. If someone tries to make you feel good, you cannot just 'not trust' them, you'll know that he's there for you emotionally."

Likewise, clients also provide *"emotional support"* to the workers. These clients lend a sympathetic ear and offer solace when needed, deepening the emotional connection and reinforcing the workers' trust in them.

Providing Casual Online Service. Overall, six of our participants reported that they make efforts to please their *"trusted clients"* (whom they have physically met and screened before) online, especially in times when they are unable to meet in real life. This involves engaging in sexual activities via audio calls with specific clients. Some of them take it further by telling those clients how special they are. For instance, *Kakon* approaches such clients by saying, *"I'm doing this only with you, because I know you'll not break my trust. I would never have done the same if it were anyone else,"* as she thinks that it makes her client feel more *"valued"*, which leads to *"increased engagement"*, fostering a *"mutual sense of trust"* between them.

When questioned about their motivation for sustaining trust with specific clients, the workers revealed a clear expectation of *"financial support"* from clients with whom they maintain regular

communication, offer emotional support, and provide services upon request. This emotional investment pays off when these clients are more likely to offer financial assistance during the workers' difficult times. *Roza* elaborates on this, highlighting that her support to clients in their times of need allows her to *"request favors"* when she requires *"financial support"*.

4.1.3 Trust on Digital Platforms. The participants who are technologically more literate – having a formal education of at least third grade – reported that they use apps like Bigo Live, Likee, Tiktok, and imo for promoting themselves online and acquire new clients. Six workers reported that they use Bigo Live and Likee for getting new clients, and four of them use Tiktok for making moderately sensual videos. The reason for choosing these platforms was because they like the *"flashy"*, *"animated"*, and *"vibrant"* look and feel of these platforms, which resonates more with their personality.

However, they do not trust any prospective client before meeting them in person. They consistently prioritize face-to-face meetings before engaging in any form of intimacy. Our participants unanimously agreed that the establishment of trust is a process that *"cannot be achieved online"* unless they have the opportunity to *"see and observe"* the client in real life. *Sabera* explains this perspective,

> *"How can I trust anyone from online? I haven't seen him, haven't got to observe if he's good or bad in real life. People turn out to be fraud in real life even, it's worse online. If they have the courage to pay me a visit, I already start trusting him. If he likes me, I offer several real sessions, only after that I can offer any virtual ones."*

This lack of trust, coupled with the moral dilemma associated with religion (discussed in section 4.4), prohibit the participants from advertising their bodies or engaging in explicit online activities such as camming or nude streaming. In fact, they do not even show their face on these platforms. Instead, they employ three strategic approaches to attract the prospective clients: 1) displaying a static screen with their phone number and a message (Fig. 3a), 2) verbally sharing their contact number during live video streaming, and 3) posting their contact number as a comment during a live session. When they are online, they refrain from openly disclosing their involvement in sex work and present themselves as regular content creators. They craft their presence as *"online work provider"* and pretend to share their number for those who are looking for passive online income. They also delete any abusive or vulgar comments and block that user. *Roza* explains this practice,

> *"Check my Bigo Live profile. No one can say I'm doing sex work there. Even my live videos don't give a hint. I just share my imo number for people who want to work with me. It can be any work!"*

After sharing their phone numbers on platforms like Bigo Live, Likee, or Tiktok, our participants receive a large volume of calls. When they take those calls, they look for the same red flags as they do for the first time in-person clients (Section 4.1.1) before persuading them to visit her in person at the brothel. They *"never"* get engaged in any form of *"phone sex"* with this group of prospective clients.

All these findings suggest that the participants who use virtual platforms to acquire new clients also undergo a transition between online and offline spaces to negotiate their trust.

4.2 Surveillance

We described above how the workers meet new clients and determine the ones who are *"trustworthy"* and sustain a regular professional relationship with them. Among these clients, they ultimately choose the most suitable candidate to form an intimate, committed, and enduring relationship, metaphorically referred to as their *"pseudo-husband"*. In most cases, this pseudo-husband is a powerful person with significant political, administrative, and financial clouts. Having a pseudo-husband is not a luxury, rather a *"necessity"* for their own *"survival"*. Any sex worker without a pseudo-husband is vulnerable of being subjected to rape, sex trafficking, or even murder.

However, getting a pseudo-husband to back her up comes with the high price of sacrificing their freedom. The pseudo-husband gradually starts exerting power and control on the workers over their use of digital media. Avoiding the surveillance imposed by the pseudo-husband is one of the most critical components for the survival of our participants.

Almost all of our participants (23 out of 25) described how they are constantly monitored by their pseudo-husband regarding whom they send messages or talk to via online platforms like imo, Messenger and Whatsapp. In some cases, they are forced to share their passwords for all the digital platforms. This monitoring takes an extreme turn if the pseudo-husband is from the law enforcement agency. As *Promila* described,

> *"He installed a software on my phone to track all my calls and online activities. I used to talk with my friends and clients on that smartphone; I often found it scary when he could tell whom I've talked to, exactly what I've said to them over the phone. I thought he had some superpower, but later he told me about this software on my phone. He also used to beat me up, tie my hands, and even choke me if I had talked to any clients over the phone. I cannot even delete this software because if I do, he would suspect me more and I would lose all his support."*

Such instances often lead to our participants' non-use of technology, resulting in their exclusion from the sex market or lagging behind from other workers who use technology to manage and regularly communicate with their clients. As *Maria* said,

> *"I don't use TikTok anymore. I used to have 10,000 followers and I loved making music videos there – I got lots of comments and reactions from my followers, it felt so good. But he doesn't like me doing this. He deleted my account."*

This is where the workers face a clash of values regarding maintaining a balance between her regular clients and the pseudo-husband. The workers employ different strategies to avoid this clash, by *"hiding information"*, and sometimes *"deleting"* data. *Kakon* mentioned deleting all her chat history and data regularly to remain safe from the surveillance of her pseudo-husband,
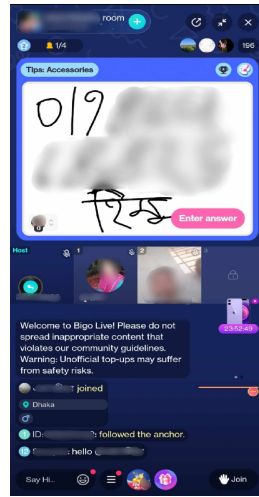
(a) A participants' Bigo Live streaming session showing a static screen, doodled their number on it.
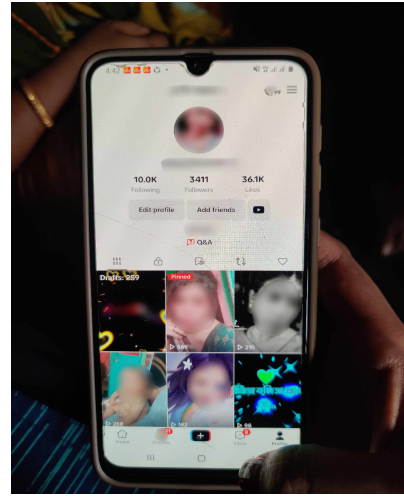
(b) A participants' Tiktok profile, source of her content generated earnings.

Figure 3: Bigo Live and Tiktok presence of the workers. (Faces and other identifications are blurred due to participants' privacy.)

"My (pseudo) husband always checks my phone. If he finds out I talk to my other clients over the phone, he'll be furious. So whenever I chat with a client, or talk to them on imo/messenger, I delete all the data."

All these responses reveal that in exchange for protection and support, sex workers need to subject themselves to constant surveillance and compromise their digital privacy. The physical presence and surveillance of these so-called pseudo-husbands inside the brothel shape the digital lives of many of our participants.

4.3 Social Stigma

The stigma associated with sex work poses many challenges to our participants to navigate both their online and offline spaces. Almost all (23 out of 25) of our participants maintain a dual life, concealing their profession when interacting with their friends and family members. Outside the brothel, they portray themselves as individuals employed in various roles such as garment factory workers, domestic helpers, salespersons, etc.

4.3.1 Different Outfits for Different Settings. To avoid being recognized by anyone, our participants wear burqas when they leave the brothel and go outside. They are seen as *"a good, religious woman"* by their family when they wear the burqa, and they are not suspected of any wrongdoings. *Moni* shared her *"fear"* of being labeled as a *"spoiled woman"* based on her attire,

"You see, here I can wear t-shirts, pants, skirts, and I don't even have to wear a headscarf. But when I'm in my hometown, I always wear traditional salwar kameez when I'm at home and wear a burqa when I go outside. If I dress up the way I do here, everyone would label me as a 'kharap meye' (spoiled/bad woman)."

Even when going to outside places like parks, restaurants, shopping malls, or the mosque, our participants *"opt to wear a burqa"*. As *Rabeya* noted, it not only gives her a sense of feeling like a *"normal*

woman" but also ensures that she is treated as one in public spaces. The burqa serves as a protective measure that affords them a degree of anonymity and helps mitigate potential stigma or discrimination they may face based on their profession.

4.3.2 Separate Digital Space for Work and Family. Overall, 10 of our participants reported that they maintain a separate handset for work. Those who cannot afford two mobile phones (13 of our participants) keep two different SIM cards: one for communicating with their pseudo-husband, and another for their clients. Only two of our participants said that their secondary phone had got stolen along with the SIM card, and now they're using a single phone with a single SIM card.

Similarly, all the participants maintain separate Facebook accounts for interacting with family members and communicating with their existing trustworthy clients. They never use Facebook to stream live video contents as they do in Bigo Live and Likee. In their work profile, they use *"a fake name"*, keep the profile *"locked"*, and *"never add anyone from the family"*. Sometimes they proactively *"block family members"* from the work account. *Kakon* provided a concise illustration of this practice,

"My work profile does not have any post. I just add my existing clients there for audio/video chat. My real profile has photos with my son, my village photos, and I've put my son's photo as my profile picture. I never add my clients there. Both the profiles are locked."

When visiting their families, the workers take precautions such as deleting all data (call history, images, messages, etc.) from their work phones. In some cases, they even uninstall messaging apps like imo and keep the phone switched off. Those who use the same phone with different SIM cards are especially diligent about erasing sensitive data, as their phones are often used by other members in the family. As *Roza* quoted,

"I delete all the messages and photos from my phone before going to my village. My little cousins often watch Youtube on my phone. If they find out any vulgar images/messages there, that would be a shame."

Our participants employ additional precautions, such as storing their clients' contact details under pseudonyms. This practice ensures that when they receive calls from the clients, their true identity would remain concealed. As described by *Neela,*

"If I receive 4-5 calls a day, my mother becomes suspicious. Then I have to show her who called me. That's why I've saved some of my clients' information under female names, and I tell my mother that my colleagues have called me."

In summary, sex worker's daily life is an unceasing effort to shield herself from societal stigma, a challenge that permeates both the digital and physical realms.

4.3.3 Limited Exercise of Citizen Rights. Since our participants are registered sex workers in the brothel in Daulatdia, the voter ID cards they obtain are registered within this locality and explicitly state "Potitapolli" (the Bengali term for brothel) as their address. Our findings drew that from the *"fear of getting exposed"*, none of our participants seeks for any government aids, support or allowances that would require their ID card. For the same reason, they also do not open any bank accounts or file any complaints about work-related violence or abuse. Most importantly, they also do not want to vote in the national elections due to this fear, which limits their ability to practice their fundamental political rights as a citizen. One of them gave us the permission for taking a photo of the back side of her NID, which shows the address of the brothel. (Fig. 4)

4.4 Spatial Politics

Stigmatization mediated through various forms of spatial separations is a common and timeless phenomenon for brothels like Daulatdia. Historically, separations of areas like Daulatdia brothel from the *regular* portion of the urban areas oftentimes kept such areas outside many modernization and urbanization processes. Hence, these areas came up with their own strategies to design and develop spaces within the physical boundary shaped by the outside world. In many cases, such physical spaces within the boundaries try to *match* with the *regular* urban spaces outside. For instance, the market areas, tea stalls, grocery stores, beauty saloons, Mazar (Muslim shrines), etc., inside Daulatdia brothel try to replicate the stigma-free essence of the cities. However, the presence of function-derived spatial components, such as the long corridors flanked by the sex workers' rooms, gambling hubs, alcohol shops, dance rooms, and bars, hardly let the Daulatdia brothel disassociate itself from the spatial stigma it already holds. Such spatial tension gets intensified when the brothel meets the city at its boundary. The surveilled gates, absence of religious buildings near the boundary area, surrounding NGOs, safe homes, and health centers dedicated to sex workers, among other spatial components, make the brothel forcefully detached from the rest of the city. From our interviews, we came to know how sex workers attempt to overcome such spatial tensions and associate them with the *regular* city wherever

they can. With the emergence of the digital world and the ever-increasing involvement of sex workers in various digital activities, their attempts to skip the above-mentioned spatial tensions travel from their physical to digital lives. While these sex workers cannot overcome their separations from the *regular* cities in the physical world, their *modified* spatial representations in the digital help them do so. The following paragraphs exemplify such scenarios.

4.4.1 Private Spaces. Some of our participants actively creates content and participate in online streaming via Tiktok and Likee (Fig. 3b), which is becoming popular among them as an additional income source. In many of these sessions, they expose portions of their private rooms to their virtual audiences. In our interviews, they mentioned how they deliberately *"organize"* their rooms mimicking the spatial aesthetics of a room occupied by a *"regular household woman"* from a limited-income family background in the surrounding neighborhoods. One of our participants said,

"If people see lights and flashy decorations, they might suspect the place where I am, or what my profession is. Any ordinary woman would not likely have access to these expensive decoration props. You see the cooking utensils behind me, this stays in my background when I record video. This is more likely for a housewife to have cooking utensils (Fig. 5b) around her, and so people will not suspect me. I don't ever remove those."

4.4.2 Public Spaces. Our fieldwork traces similar masking attempts by the sex workers where the digital activities meet the physical public spaces. Unlike private spaces, sex workers have less control over public spaces to mask their spatial identity as a brothel. Hence, the workers look for alternative locations/ contexts that hardly express any spatial resemblance to a brothel's public spaces. One of our participants mentioned,

"I go outside in the field when recording videos. If I do it near the brothel corridors/gate, people will easily identify the place. The green landscape is quite common in villages, and similar everywhere, so people cannot identify the place only seeing the fields and trees."

Oftentimes, the sex workers hide their physical locations/addresses and use *"regular"* public locations for online transactions and offline deliveries. For instance, one of our participants shared,

"When we order online, we put the address of the railway station, not this place. The delivery people will give me a stare if they know I'm from this place. Or who knows? They might not deliver in this brothel even!"

Such actions of our participants explain their urges to avoid the stigmas associated with the private spaces they live in. They *borrow* a particular spatial configuration from the *regular* physical world, recreate it within a contested space, and use it as a mask in the digital world to overcome the spatial barriers they experience in the physical world.

4.5 Moral Tension

Sex workers are labeled in the *immoral level* of the society which is devoid of *loyalty, purity, and sanctity* [60, 170]. However, we found
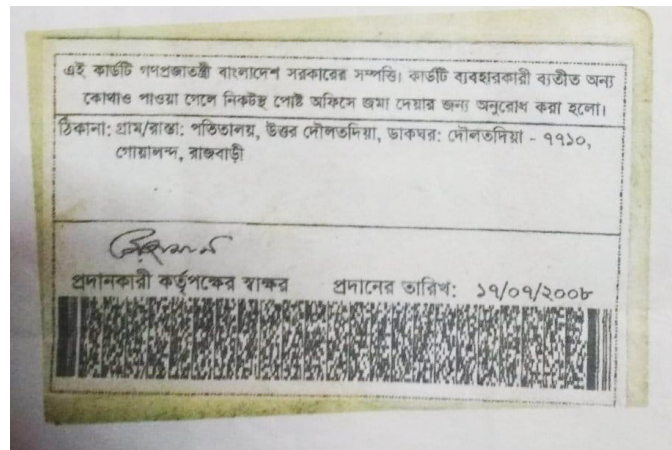
Figure 4: Back side of an NID card of a legal sex worker in Daulatdia, Bangladesh. The address section mentions "Village/Street: 'Potitaloy' (Bengali term for brothel), North Daulatdia, P/O - 7710, Goalanda, Rajbari."

(a) Dance room for VIP clients.

(b) Dance room for regular clients.

Figure 5: Dance rooms inside the brothel.

our participants in the brothel *moral* in their own values and understanding. We found different layers of morality prevailing among the intrinsic values of these sex workers. This section delves into their layers of self-defined morality within which our participants reside.

4.5.1 Morality around Sex Work Online. As mentioned before, our participants reported that they do not use any conventional online platforms that are designed for sex workers. In fact, some participants draw a clear line between performing sexually explicit acts online and doing it with their customers indoor. Again, we observe that the notion of space plays an important role in the lives of sex workers – this time in shaping their morality. This perspective is further elucidated by the account provided by *Moni*,

> *"Doing sex work on online video platforms (showing bodily parts, and performing explicit acts online for the sexual pleasure of clients in exchange of money), is the*

> *greatest sin. We can do it inside these four walls, that's acceptable to us, but doing it in public platform - oh no! - totally a shame. I cannot even think about this!"*

Nonetheless, we observed that the practice of sexting and engaging in sexual conversations through audio calls with their long-term clients is widespread among the majority (21 out of 25) of our participants. Crucially, this does not entail performing sexual acts in front of a camera for unknown people and is not regarded by the workers as a form of *"sex work."* As *Ratna* explained:

> *"We often engage in sensational conversations with our (trustworthy) clients, but that isn't actually sex work, right? Anyone can do this, even the school-going girls in the city are doing it with their boyfriends!"*

When making videos for the platforms like Tiktok and Likee, the subtle use of sensuality has also been depicted as *"normal"* by some participants,

(a) Inside the room of a sex worker, a poster of the holy Kaaba Sharif is seen on the right wall.

(b) Cooking corner adjacent to room, used as video/livestream backdrop.

Figure 6: Arrangements in private space of a sex worker.

"I make Tiktok and Likee just like another girl. It's nothing special. People knock me seeing my videos, they comment good things… It might be sensual, we're girls, everything involving us is sensual! (laugh)" (Meena)

4.5.2 Negotiating with Religious Values. Any sexual intimacy outside of marriage is strictly prohibited in all major religions practiced in Bangladesh (Islam, and Hinduism) [47]. Violating this religious principle is regarded as a significant departure from the religious path [128]. Nevertheless, our participants hold unique perspectives around their religious practices, asserting that they follow their faith *"by heart."* For instance, despite sex work being considered *haraam* (forbidden) in Islam, Muslim sex workers were observed covering their wall with Kaaba Sharif posters (Fig 6a), and keeping the Holy Quran in a corner of their rooms, designating it as the *"holy corner."* In this sacred space, they also placed items like *Zamzam Water*, Tasbeeh (prayer beads), and a *Jaynamaz* (prayer mat). Engaging in daily prayers five times a day, reciting the Holy Quran, and educating their children in the Quranic verses were common practices among these workers. *Sumi* was candid about her commitment to keeping her *"work"* separate from her religious beliefs,

> *"I do this work for my living, to make money. That doesn't mean that I don't believe in God or don't practice any religion. That would be a terrible sin. I pray every day, I have the Quran in my room, and I do not let anyone touch it. As a Muslim, it's obligatory to have my faith in Allah, none other than He can save us."*

Religious events like Ramadan, Eid, and Puja are widely celebrated inside the brothel. Although Ramadan is noted as the month of *Siam* (abstinence from food, drinks, and sexual acts) in Islam [42], sex work does not go on a hiatus in that month. The workers celebrate the Eid festival with loud music, alcohol, and sensual dance, along with an increasing work schedule as more number of customers visit their brothel during these national period.

However, it should be noted that when a Muslim sex worker passes away, the community does not permit the performance of a funeral or *Janaza* for her, nor do they conduct the burial according to the religious rituals. Instead, there is a communal grave site for the sex workers, with a single tomb for everyone. This scenario highlights the complex relationship these workers have with their faith. While they maintain their personal connection to their religion, the society does not approve of this association or acknowledge under any circumstances.

5 DISCUSSION

In the above sections, we have presented an ethnographic account of the lives and technology usage of the sex workers in the Daulatdia brothel in Bangladesh. Our findings reveal several insights into conceptualizing the use of technology by the sex workers in Bangladesh, who are bound by both online and offline constraints. We describe how they negotiate trust, fight against stigma, evade surveillance, and resolve moral tensions when using technology to advance their professional goals. In doing so, we bring the concept of space to the fore and argue that to properly comprehend the utilization of digital space by a stigmatized community, it is imperative to understand their spatial surroundings and the associated material practices. Our study generates several immediate design implications, along with some broader lessons for HCI and related field.

5.1 Design Implications

Our participants' computing practices are intertwined with their material lives and environments, as they rely on cultivating trust with their interlocutors for their survival. The findings reveal how they use technology as a key element of building and maintaining trust across different levels of intimacy, by combining digital and non-digital interactions in a hybrid model. The participants' trust and intimacy with the clients depend not only on their behavior and payment, but also on their technical proficiency, which the

participants use to overcome their digital literacy gap. The participants construct a technical support network with the clients, who help them with various digital tasks and platforms, but also expose them to risky online activities, such as dealing with cryptocurrencies, which are illegal in Bangladesh [127]. HCI4D scholarship has long been interested in such collaborative and intermediate use of computing [11, 12, 120, 137] to overcome the challenges associated with access and innovation among marginalized communities. Our study advances that literature by adding how simultaneous actions in digital and non-digital modes determine the efficacy of such arrangement. Furthermore, we show how such sociotechnical arrangement may get difficult if the community in question suffer from societal stigma.

In parallel, our study shows how this tension also creates an interesting space for design. A long tradition of HCI research has focused on camouflaged and clandestine design interventions for vulnerable and marginalized communities. Such interventions used disguising, ciphering, layering, hiding, confusing, and other similar mechanism [3, 4, 9, 40, 67, 165, 166] to allow stigmatized communities to operate while being under the gaze of social norms. Our study shows how sex workers engage in a similar clandestine manner by switching over applications and devices, changing names and identities, and separating different "lives" that they live. This brings to question HCI's focus on "personalization" as these people live multiple lives of multiple persons, and demonstrates the necessity to accommodate multiple "persons" within a computing system that goes beyond the straight-forward design of multiple profiles, and incorporates intelligent learning of a person in their different identities in order to produce a better service. For instance, a technology that helps a sex worker to determine which identity is safe for them in a particular context, and how they switch to that identity smoothly avoiding any reasonable doubts, would make such transitions easier for them.

5.2   Security and Privacy Issues

Our findings offer important insights into the privacy and security research in HCI and related fields. Despite their low digital literacy, all of our participants were very careful about their online privacy. As our data shows, these workers proactively delete their call records and text messages, block unpleasant people on social media, use pseudo-names for their clients, and maintain multiple profiles to self-regulate their digital footprints. The relevant literature of usable privacy and security on social media privacy and protection mechanisms identifies these behaviors as good proactive and insitu measures to avoid unintended consequences [174]. Empirical research has shown that sex and work-related posts are among the most common types of content people regret about posting on the virtual world [174]. Consequently, sex workers need to navigate the digital space very carefully to avoid regrets and negative experiences and our findings show that for the most part, they perform this task with due diligence.

We observed the non-use [24–29, 106] of the mainstream social media platforms by our participants for work-related purposes. None of our participants has an account on Twitter and they only use YouTube to watch informational content. Despite maintaining a separate work-related account on Facebook (where they only chat

with their trustworthy clients), the participants do not use the live streaming feature on that platform. Rather, they use less popular video streaming platforms such as Bigo Live and Likee to promote themselves to prospective clients. Prior work with the sex workers in Germany and Switzerland reveals how the American companies tend to exclude legal sex workers [23]. Our data provides new insights into this discourse by highlighting that popular platforms such as Facebook, Twitter, or Google do not resonate with the personality of the sex workers in this region as they prefer more flashy and lively platforms such as TikTok, Likee, and Bigo Live.

Our findings around the existence of "pseudo-husbands" in the sex workers' lives tie this study with the feminist agenda in HCI scholarship and joins the group of work that investigates the relationship between privacy and patriarchy [77]. Women's participation, voice, and agency in technology usage have long been constrained by mainstream computing's adherence to patriarchal values, particularly in the Global South [6–8, 68, 114, 136]. Inevitably, technology has been employed as a tool to perpetuate a gendered power hierarchy, often against women [113, 135]. Digital practices of these marginalized female sex workers in Daulatdia resonate with this notion, where the "pseudo-husband" acts as the major power entity. This identity is often seen surveilling them, like, forcing the participants to unlock their phones and know all their passwords, limiting their technology use and communication, and even tracking their activities via apps without informing them. Despite the participants expressing their dissatisfaction with it, the strategies they employed to engage and maintain trust with the power holders neither involved any conflicts or negotiations, rather adoption. The participants chose to comply with all the rules their "pseudo-husband" imposed on them, but with the adopted strategy of navigating their digital space behind his back, such as deleting their call history if communicated with any clients not approved by him. We note that before becoming a pseudo-husband, a client needs to earn the trust of the worker and our findings show that helping with technology related issues plays an important role in gaining that trust. However, after becoming the pseudo-husband, the same person becomes possessive and rather than helping in any activity that could increase the online visibility of the worker, he tends to limit those. This evolving role of the male partner can be further explored to gain a deeper understanding of technology-facilitated abuse in patriarchal environments. Furthermore, our work joins the growing body of literature in the Global South regarding privacy rights and surveillance [8, 66].

5.3   Digitization of Sex Work

Third, the brothel is a place-bound system, but this is only partly true from our inference. This place-boundedness is different from what it was even merely 30 years ago when it was constrained by digital immobility [124]. Digitization in this region, along with the whole world, has initiated hypermobility in this "bound" place, thus making it a part of broader "globalization" [148]. Studying this seemingly tiny and contextualized place, therefore, is of no less importance to advance the scholarship on spatial politics in HCI. In fact, being a significant part of digitally globalized platforms and markets, mapping the sex workers' participation, navigation, risks, negotiations, and safety strategies through online spaces in

light of their spatial bubble provokes more informed, inclusive, and deliberate design. By conceptualizing digitization and globalization along this line, this study can also be expanded to the understanding of such a "bounded" place, even in a non-marginalized setting, and hence can create new operational and rhetorical openings to recognize the significance of "place" while designing the "non-space". More concretely, when the "sexual appeal" of Bangladeshi sex workers is presented on a digitized platform, such as OnlyFans[3], along with that of many other sex workers from around the world, what kind of Global Politics emerges? When a Bangladeshi customer move from the local brothel to an online sex platform where they are exposed to many other options, how does their preference change (if that happens), and what that means to the political economy of sex work in Bangladesh? In turn, what changes do the sex workers make in their traditional business to survive this Global competition, which has now reached their rickety brothel through the Internet? Furthermore, the emergence of the urban sex workers in this region and their usage of the online sex platforms and the associated risks, negotiations, and safety strategies represent a novel research direction for future works.

These directions not only allow us to see the changing nature of sex work in the Global South with the introduction of online sex services, but also highlight how local traditional "spaces" are being challenged, threatened, and marginalized by online spaces [102]. A thread of work in critical HCI and HCI4D has highlighted how local markets in the Global South have been struggling with this imminent threat of digitization, but still surviving through many social, emotional, and cultural factors [43, 44, 101, 103]. This paper advances this emerging line of critical HCI work at the intersection between computing and urban studies. This paper calls for future exploration in the corresponding design space to protect sex workers of the Global South who work from a poor room, who have limited English efficiency and technology skills, and who are constantly threatened by social stigma, in a global market of sex work. At the same time, urban designers should focus on saving local businesses, including and surrounding sex work in the red light districts, which are now facing the threat of extinction with the advancement of computing and Globalized online sex markets.

6 LIMITATIONS AND CONCLUSION

While we tried our best to follow the tradition of ethnographic work and focus more on the "thick description" of the place and activities, we acknowledge that our understanding was limited by our non-membership in the community. While all the members of our research team were born and raised in Bangladesh, and spoke the same language (Bangla), our previous knowledge regarding this profession, place, and associated tensions was limited to our reading. So, we did bring a relatively "foreign eye" to the field. At the same time, the ethnographer came from a relatively richer and more educated background than the members of the community, which might have created an othering [155]. While we tried our best to overcome these limitations by collecting and triangulating multiple perspectives/narratives, getting feedback on our understanding from the participants, and detailed discussions among the team

members, we acknowledge that the descriptions might carry our positional biases to some extent.

We would also like to highlight that this community is vulnerable and highly stigmatized in the Bangladeshi society. We had to maintain the highest level of confidentiality both for the participants and the researchers while conducting this study. We intentionally avoided the venture of collecting some data in order to avoid any risk for us. This is why our knowledge about the "pseudo-husbands" or their online interaction could not go much deeper than what we have reported here.

Finally, following the tradition of ethnographic research, we would like to situate the findings of our work in the field only, and we refrain from any generalization of our findings beyond the space and time we conducted this research. Despite these limitations, we believe that our study provides HCI with an important account of one of the world's most vulnerable and stigmatized communities and their interactions with computing technologies. Our findings do not only portray the complexities associated with their use of technologies and their creative workarounds, we also discuss possible design implications for HCI to make computing more inclusive and accommodating of the unique needs of such communities.

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A   INTERVIEW GUIDELINE

In addition to gathering demographic information such as age, gender, monthly income, and education, we covered the following questions during interview with our research participants.

A.1   Questions about Work

(1) Could you tell me a bit about yourself?

(2) What do you do for living?

(3) How do you identify yourself profession-wise?

   (a) (prompt) Do you find it comfortable identifying with the term "sex worker" or "prostitute," or perhaps another description for your profession?

   (b) Could you share your insights on why you resonate with a particular term and not others?

(4) Could you share your journey into this profession?

   (a) How long have you been working here?

   (b) How did you come to this brothel?

(5) Could you walk me through a typical working day for you?

   (a) (prompt) Could you tell me about the places you go to?

   (b) (prompt) Could you tell me about the people you interact with?

(6) Do you use a mobile phone?

   (a) (prompt if relevant) Is it a smartphone, or a feature phone (no touch screen)?

   (b) (prompt if relevant) For how long have you been using it?

   (c) (prompt if relevant) How did you learn to use the phone? Could you share the story?

   (d) (prompt if relevant) How many mobile phones and SIM cards do you have?

     (i) (prompt if they use more than one mobile phone and SIM card) Could you tell me why you have more than one of these?

   (e) Is this your personal mobile phone, or do you share this with someone else/others?

     (i) (prompt if relevant) Who do you share it with?

     (ii) (prompt if relevant) Could you please explain why do you share it with specific person/s?

     (iii) (prompt if relevant) How do you feel about this sharing?

   (f) How did you register the SIM card?

     (i) Could you tell me from where?

     (ii) Did you complete the registration process by yourself, or did you seek assistance from someone else?

       (A) (prompt if they say they did it themselves) How did you do it yourself? Could you walk me through the process?

       (B) (prompt if they say someone else assisted them) Who provided assistance to you? How did they help?

       (C) What kind of information did the process require you to share?

       (D) (prompt if relevant) How did you feel about this information sharing? Why?

   (g) Do you use the internet?

     (i) (prompt if they do) For how long you've been using internet?

     (ii) How do you access it? For example, do you use mobile data, or wifi/broadband etc.?

    (iii) How do you buy data packs? From where do you buy it?

(h) What do you usually do with your phone?

    (i) Could you tell me about the apps you use in your phone?

      (A) (prompt if relevant) Could you share with me why you use this particular app? (mobile financial service apps, social media apps, etc.)

      (B) (prompt if relevant) How did you install it?

      (C) (prompt if relevant) How did you learn to use the app?

      (D) Did you complete the account registration process by yourself, or did you seek assistance from someone else?

      (E) (prompt if they say they did it themselves) How did you do it yourself? Could you walk me through the process?

      (F) (prompt if they say someone else assisted them) Who provided assistance to you? How did they help?

      (G) (prompt if relevant) What kind of information did the process require you to share?

      (H) How did you feel about information sharing?

      (I) (prompt if relevant) Do you run into any challenges while using it?

      (J) (prompt if relevant) How do you address the challenges?

      (K) (prompt if relevant) Do you have any specific concerns about using these apps? For example, any privacy, security, or safety concerns, or risks? Could you please elaborate?

(7) Could you please elaborate on the nature of your work? For instance, do you use mobile phones or the internet for your work, or is your work primarily offline, or do you prefer a combination of both?

For offline work:

(a) How do you get clients? Could you elaborate if you have to follow any strategies to find clients?

(b) Could you elaborate if you have to follow any strategies to maintain clients?

    (i) (prompt if relevant) Do you contact your clients after work?

    (ii) (prompt if relevant) How do you do that?

(c) How do you feel about your work?

(d) Do you face any challenges in your work? If yes, could you please elaborate on that?

(e) (prompt if relevant) How do you address the challenges?

(f) Would you be comfortable to share details about the payment structure of your work?

    (i) How do you feel about it?

    (ii) (prompt if relevant) Could you explain the reasons behind your satisfaction/dissatisfaction?

(g) Could you please explain if your life or work changing anyhow due to technology?

(h) How do you feel about the government protection and security you have in this brothel? Could you please explain?

For online work:

(i) How do you use the internet for your work?

    (i) Could you tell me how do you get clients?

    (ii) (prompt) Could you elaborate if you have to follow any strategies to find work?

    (iii) (prompt if relevant) Do you use any social platforms/apps to get clients? (Like Tiktok, Likee, Bigo Live, YouTube, OnlyFans, or any other platforms.)

    (iv) (prompt if relevant) How do you use those apps?

    (v) (prompt if relevant) Why do use this specific app and not the others to get clients?

    (vi) Could you tell me how do you maintain clients?

    (vii) (prompt) Could you elaborate if you follow any strategies to maintain clients, or keep in touch with them?

    (viii) (prompt if relevant) Do you use any social platforms/apps to keep in touch?

    (ix) (prompt if relevant) How do you use those apps?

    (x) (prompt if relevant) Why do use this specific app and not the others for maintaining clients?

(j) Did you have to learn anything new to work online?

    (i) (prompt if relevant) Why did you have to learn it?

    (ii) (prompt if relevant) How did you learn that?

(k) Do you feel any challenges about online work?

    (i) (prompt if relevant) Could you share how the challenges look like?

    (ii) (prompt if relevant) Could you please explain if you feel any privacy/security/safety concerns, or risks?

    (iii) (prompt if relevant) What do you do to address the challenges? Could you please elaborate?

    (iv) (prompt if relevant) Are there any challenges or issues regarding your online work that you find difficult to address or resolve?

    (v) (prompt if relevant) Do you think any online services/tools/features could solve it?

    (vi) (prompt if relevant) What features should these services have to address the problem?

    (vii) (prompt if relevant) Did you ever face any negative experiences (harassment/abuse/threat) online?

    (viii) (prompt if relevant) Could you please share the whole story?

    (ix) (prompt if relevant) How did you respond to the incident?

    (x) (prompt if relevant) Did you take any measure to prevent it further?

    (xi) (prompt if relevant) What did you do?

    (xii) (prompt if relevant) Did you have to learn anything new for this?

    (xiii) (prompt if relevant) How did you learn that? Could you please explain?

(l) When you are providing online services, how does your room and background look like?

    (i) (prompt if relevant) Is it different from your regular room environment?

(ii) (prompt if they say it's different) Why do you set it up differently?

(m) Would you be comfortable to share details about the payment structure of your work?

(i) How do you feel about the pay?

(ii) (prompt if relevant) What aspects contribute to your satisfaction/dissatisfaction?

(n) Is there anything else you want to mention about how you use the internet for your work?

If they work both online and offline, add the following question(s) with the relevant section(s):

(o) How would you compare your online and offline work?

(i) (prompt if relevant) Could you explain in terms of security, safety, privacy, risks, legal support, work opportunity, payment, etc.?

(8) Could you tell me about your life outside this place?

(a) How do you feel about that life?

(b) Do you face any challenges? If yes, could you please elaborate on that?

(c) (prompt if relevant) How do you address the challenges?

(9) Do you have any online presence other than work?

(a) (prompt if they say yes) How does the presence look like? (Tiktok, Likee, Bigo Live, YouTube, or others)

(b) (prompt) How many social accounts do you have?

(c) (prompt if relevant) How do you maintain/manage them?

(i) (prompt) Do you follow any specific strategies? If yes, could you please explain the strategies?

(d) Do you face any challenges maintaining this presence? For example, any risks, or privacy/security concerns?

(i) (prompt if relevant) What are the risks and concerns?

(ii) (prompt if relevant) How do you mitigate them?

(iii) (prompt if relevant) How do you take care of the privacy and security issues?

A.2 Questions about the Brothel and the Surrounding Environment

(1) Could you explain how the surrounding areas maintain separation from the brothel village? What happens in the transitional spaces, like shopping malls, parks, mosques, temples, etc.?

(2) How is the expense of living in the brothel compared to the outside areas? Could you elaborate?

(3) What are the big social events that take place inside the brothel?

(4) How does the brothel looks like during social events? Could you describe the brothel environment and setting during these programs?

(a) (prompt) For instance, during religious events, national holidays, and similar occasions, do workers offer additional entertainment services?

(5) How does the administrative body of the brothel look like?

(a) (prompt if relevant) Does technology play a role in any stage of management/operation? If yes, how?

(6) How does the security inside the brothel look like?

(a) (prompt if relevant) How do you feel about it?

(b) Is there any other surveillance? If yes, how does it look like?

(7) Is there any formal/informal policy for room share/time share among the workers? If yes, could you please explain that?

(8) How does the room allocation system work?

(a) (prompt) What do the workers have to do to get better living conditions (bigger room, AC, refrigerator, attached bath/generator, TV etc.)?

(9) Do you have access to WiFi inside the brothel?

(a) (prompt if relevant) How did you get access? What is the process?

(b) (prompt if relevant) Can everyone get access to WiFi here? Is the process similar for everyone?

(c) (prompt if the process is different) Why is that?

(10) Could you tell me what happens when a worker gets sick or pregnant here?

Following a thorough discussion of relevant questions, we expressed gratitude to our participants for their time, invited any questions they might have had, addressed their inquiries, and concluded the interview session.