"Women just have to accept it when the man wants it": An Investigation of the Practice of Forced Marriage and the Potential for Design Interventions

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ABSTRACT

There is a growing interest in HCI on issues of marginalized communities and women's well-being, including domestic violence (DV) and intimate partner violence (IPV). Forced marriage (FM), a practice related to DV and IPV but with its own unique characteristics, is comparatively underexplored. This paper addresses the widespread problem of FM through a qualitative study involving individuals affected by FM and workers for a non-governmental organization (NGO) that assists people affected by FM. The aim of the study was to gain insight into the practice of FM, the challenges in avoiding or escaping FM, and role technology may play. We identified three key themes of relevance for HCI: Information & Resources, Situational Context, and Technology Misuse. Based on these themes, we engaged in preliminary design explorations ranging from immediate intervention to enduring empowerment and formulated a set of design considerations for HCI researchers and practitioners to support help efforts in the FM context.

CCS CONCEPTS

• **Human-centered computing → Empirical studies in HCI**.

KEYWORDS

Forced Marriage, Martial Captivity, Domestic Abuse, Intimate Partner Violence, Women's Safety

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1 INTRODUCTION

The Universal Declaration of Human Rights [69] proclaims that the freedom to select a life partner is an intrinsic human right universally applicable to all individuals, regardless of race, nationality, or religion. Moreover, it emphasizes that marriage should only occur with both parties' free and full consent. Despite national and international legislation efforts to prevent forced marriage (FM), many women and girls are deprived of this fundamental right [60, 69], making it a form of gender-based violence. In contrast to arranged marriages [3, 4, 45, 48, 52, 64], in which families take the lead in finding potential marriage partners for their children while respecting their wishes and consent, FMs involve coercing young women into marrying someone against their will. This coercion often stems from family members and the broader community projecting their expectations onto young women and subjecting them to various forms of pressure, such as psychological, physical, emotional, or socio-economic pressures [4, 35, 70]. FM is a harmful practice that deprives young women of a life free from violence. It violates their rights to self-determination, freedom of movement, and bodily and psychological integrity [27, 35, 68, 70].

Our research focuses on individuals affected by FM in Switzerland, but we believe the work has relevance for other parts of the world as well, particularly for areas in which forced marriage is unacceptable by social norms. In our research we use the term ***affected*** which encompasses various situations related to FM. It includes individuals at risk of FM, those currently experiencing FM (also known as marital captivity), and those who have managed to escape a forced marriage. We have collaborated with the Swiss Competence Center against Forced Marriages (CoCFM) [1], a non-governmental organization dedicated to increasing awareness about FM, assisting individuals in or at risk of FM, and ultimately working towards eradicating the practice. Forcing someone into marriage in Switzerland is prohibited by law and carries a maximum penalty of up to five years in prison. However, despite these legal provisions, CoCFM reported 344 registered cases in 2022, with similar numbers in previous years [4, 21]. These distressing figures are not unique to Switzerland, as global statistics highlight the pervasive nature of the issue (see Table 1).

Recent findings in Human-Computer Interaction (HCI) research on domestic violence (DV) and intimate partner violence (IPV) as prevalent forms of gender-based violence [25, 31, 47] resonate with concerns raised by the CoCFM [45]. There has also been research to explore technology's role in the context of DV and IPV [25, 46], examining its potential to enable further abuse [29, 63, 71], facilitate perpetrator supervision, and design tools for self-help [15, 25, 46, 72], prevention [14, 31], and recovery [47, 72].

Building on this existing research, our study aims (i) to expand the understanding of gender-based violence by exploring the issue

[1] https://www.zwangsheirat.ch/

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Region	Est. Number of People in Forced Marriage
World	15,443,000
Africa	5,820,000
Americas	670,000
Arab States	170,000
Asia and the Pacific	8,440,000
Europe and Central Asia	340,000

Table 1: Number of people in FMs by location [37]

of FMs; (ii) to identify directions for technological design interventions; and (iii) to discuss how the HCI community could contribute in this context. To address these aims, we conducted a qualitative study and engaged in participatory design interviews (inspired by [49]) with five CoCFM advisors and nine affected individuals to gain insight into the practice and effects of FM.

We discovered that despite multiple avenues of support, such as law enforcement, shelters, and NGOs, existing solutions often do not take into account the unique cultural and situational contexts that influence the help-seeking behaviors of those affected. We observed the difficulty survivors face when transitioning to autonomy, the need for culturally relevant solutions that address their values and traditions, and the challenges of moving from a patriarchal system to an egalitarian one. Notably, most affected individuals in our study express reluctance to pursue legal justice, often due to cultural complexities and the fear of unintended legal consequences against their families. With these complexities in mind, we employed the Survivor-Centered Transformative Justice (SCTJ) [49] framework as a lens for design interventions, and offer higher-level considerations that should be taken into account when designing for the specific context of FM

This paper makes three contributions. First, it synthesizes three key themes for HCI grounded in the experiences of individuals affected by forced marriages. Second, it explores directions for design informed by our participatory designed interviews, categorized into micro, mezzo, and macro-levels as drawn from the SCTJ. Third, it offers four design considerations for HCI researchers and practitioners to support help efforts in the context of FM.

1.1 Positionality

To contextualize our research, we acknowledge our proximity to the study participants. The primary author, who is of South-Asian descent, was affected by FM. While this fact was not disclosed to the participants, it influenced our research approach and connection to the participants. We were aware that personal experience may have shaped assumptions and biases; we therefore adopted a reflexive approach throughout our research. Reflexivity, in this context, meant scrutinizing and acknowledging our own biases, assumptions, and emotions throughout our process [62]. By doing so, we aimed to mitigate potential biases and ensure that participants' voices remained central to our findings.

2 BACKGROUND AND LITERATURE REVIEW

Our related work addresses three principal research areas: (1) studies of forced marriages in other fields, (2) technology-mediated support for DV and IPV, and (3) HCI research on technology-mediated abuse.

2.1 Background on Forced Marriages

Forced marriage is a serious global concern, affecting millions of individuals worldwide. In 2016, an estimated 15.4 million people were in forced marriages [37]. The Forced Marriage Unit [28] in London provides support to a significant number of individuals, assisting 1,200-1,500 cases annually. The National Centre for Social Research [38] estimated that England likely had between 5,000 and 8,000 cases yearly. The Government of the Netherlands [61] reported on their website that between 674 and 1,914 individuals were affected by FM in the country. Similarly, the CoCFM noted a significant increase in cases in Switzerland, reporting a rise from "two cases per month" to "five cases per week" [4, 21], with an estimated annual number of around 700 cases [45]. Notably, about 30% of these cases involve male victims, and 35% concern minors [4, 21, 45]. This alarming trend has prompted extensive research across various disciplines, including the social, political, and medical fields [34, 35, 55, 60, 64].

Forced marriages transcend specific religious or national boundaries, being heavily influenced by traditions and customs. Focusing solely on one religion when discussing forced marriages is counterproductive, as it overlooks the broader context [4, 21]. For example, FM and the marriage of minors can occur in Roma and Sinti European communities [4, 21]. Similar patterns can be observed in Christian-majority countries like Colombia and Venezuela [4, 21]. where the minimum age for marriage with parental consent is 14, making the involved parties too young to be able to give free, complete, and informed consent [4]. Additionally, Mexicans in the United States constitute the third-largest group affected by child, and thus forced, marriages [4, 21]. Such instances also occur in Fundamentalist Mormon communities [39]. In a survey conducted by the National Institute of Justice (NIJ) [23], based on 7,791 valid responses, the prevalence rate of forced marriage in the U.S. was estimated to be 11.2% with 207,468 child marriages between 2000 and 2015 [1]. These data demonstrate that forced and child marriages are not specific to any religion but a global issue influenced by cultural practices and societal norms.

2.1.1 Forced Marriages in Switzerland. Switzerland, with its 25.1% foreign resident population [2], is a complex demographic setting in which forced marriages have gained prominence [21]. Despite the popular association of FM with Islam, child and forced marriages are linked to migration patterns and affect both Islamic and non-Islamic individuals [21]. Diverse subcommunities within Switzerland embody distinct perceptions of gender roles, marriage, family, and lifestyle, with some adapting to Swiss norms over time while others remain steadfast in their traditions. Our collaboration partner, the CoCFM, is a politically and religiously neutral non-profit organization which plays a crucial role in addressing the issue of FM in Switzerland. The CoCFM has been in operation for over two decades and offers consultations to individuals directly affected by forced marriages and those influenced by third parties in matters related to marriage, sexuality, and love. They also provide resources, workshops, and support to other contact points (police, teachers, therapists) dealing with forced marriage issues. Internationally recognized, the CoCFM has contributed to shaping recommended measures against forced marriages in Europe [21].

2.1.2 Consequences of Forced Marriages. FMs have profound consequences, impacting individuals, families, and communities. Women coerced into marriage often endure repeated rape and DV [27]. FM is associated with various health problems, affecting psychological well-being and increasing the risk of self-harm and suicide [8, 53–55]. Pregnant women in FMs also experience high psychological stress, impacting birth outcomes and potentially affecting their children's long-term health and development [11, 12]. These circumstances also contribute to impaired social development, financial dependence, and lifestyle restrictions [27].

The broad occurrence of FMs has prompted several Western nations to conduct studies of the practice [27, 38, 45, 61]. These efforts have resulted in recommendations for measures, preventive interventions, and support programs for those affected by FMs [27, 45, 61]. Research on FMs in HCI is limited compared to political and social science research. A few studies in HCI [6, 59] have explored arranged marriages though none have focused on FMs. For instance, Sharma et al. [59] examined the safety and inclusivity aspects of Indian websites that facilitate arranged marriages. Additionally, Al-Dawood et al. [6] investigated and raised concerns regarding matchmaking technologies in the cultural context of Saudi Arabia.

The limited exploration of forced marriages within HCI highlights a significant gap in understanding the role of technology in both supporting and challenging individuals affected by FM. This paper aims to contribute to this under-researched area by providing insights into how technology can be leveraged to address the unique challenges faced by individuals in FM situations.

2.2 Technologies to Address DV and IPV

HCI research on women's safety has addressed DV and IPV which have elements in common with FM [24, 43]. Compared to DV and IPV, FM often entails the participation of a complex network of immediate and extended family, community, and spouses [4, 30, 58]. According to CoCFM, FM is often systematically ingrained into traditions and orchestrated over a long period, often beginning in childhood. Despite these differences, exploring the intersections between these topics and previous research on IPV and DV can provide valuable insights into the discourse on FM.

Recent efforts in HCI have focused on establishing theoretical foundations for technology design to enhance the well-being of marginalized individuals. In DV and IPV, Feminist HCI values have been applied to prioritize individuals' autonomy and agency while considering the ethical role of technologists in sensitive contexts [20, 29, 51]. The feminist perspective has been a prominent theoretical model in DV research since the 1970s, influencing various programs, interventions, advocacy services, and legislative agendas. Tarzia et al. [66] investigated young women's perception of technologies to support those experiencing domestic violence. Their study revealed that women felt that technology offered more accessible ways to seek help, raised awareness, and protected safety and privacy. Glass et al. [31] developed MyPlan, which educates women on IPV and healthy relationships and provides suggestions for how others can support affected individuals. An evaluation of the app revealed a decline in physical and sexual abuse among women after 12 months of use [32]. Initially centered on gender and systems of power and oppression, the feminist perspective has evolved mainly through the work of feminists of color to acknowledge the significance of intersections between gender and other systems of oppression, such as race, class, national origin, sexual orientation, age, and disability [22]. This evolution has led to the emergence of more culturally informed frameworks and lenses, such as Rabaan & Dombrowski's Islamic Feminist framework [49, 50] and Sambasivan et al.'s South Asian Feministic methodology [56]. These frameworks emphasize the importance of cultural sensitivity and the inclusion of various stakeholders, such as faith leaders and community leaders, to ensure interventions are respectful and effective.

Previous research has also explored design challenges in patriarchal contexts such as gendered and shared phone usage [5, 18, 36, 44]. For example, Sultana et al. highlight the necessity of designing within the confines of deeply ingrained patriarchal structures [65]. This perspective aligns with findings by Younas et al. [72], who emphasized how Facebook groups offered anonymous peer support and a safe space for discussing sensitive topics like abortion, sexual harassment, rape, and DV among women in patriarchal communities. Moreover, Naseem et al. [46] further examined the opportunities and challenges of designing peer-support mechanisms within patriarchal and religious contexts. In turn, Bellini et al. [13, 14] argued for efforts to change perpetrators' abusive behaviors. To this end, they developed ChoicePoint, a web application that enables perpetrators to assume the roles of fictional characters in abusive scenarios to cultivate perspective-taking skills.

The justice theories have also been proposed to address DV issues [50]. Of particular importance to our study, Rabaan & Dombrowski [49] introduced the SCTJ approach, combining principles of restorative justice and transformative justice to support Muslim individuals affected by DV and IPV. This approach encourages the agency of survivors, fosters community support and accountability, and acknowledges social and structural harm, moving away from sole reliance on the criminal justice system and recognizing its limitations in addressing the needs of marginalized individuals [49]. The SCTJ approach emphasizes three tenets: 1) centering the agency of affected individuals within current societal structures, 2) acknowledging the role of social networks in both perpetuating and mitigating harm, and 3) treating DV as a structural, social, and political issue that requires a multi-dimensional collective approach.

While existing research has made significant strides in addressing DV and IPV through technological interventions, there remains a notable gap in understanding and designing technologies specifically for FM contexts. Our study aims to fill this gap by applying the SCTJ approach to explore how technology can support individuals affected by FM. In Section 5, we employ this approach as a lens for design interventions stemming from our findings, aiming to provide targeted solutions that address the unique complexities of FM.

2.3 Studies of Technology-Mediated Abuse

The interplay between technology and abusive relationships is an area that has seen extensive research, especially in the realm of what is termed as "technology-mediated abuse" [26, 29, 40, 56]. The dynamics of these relationships show that technology can often be a double-edged sword. On one hand, victims rely on technology as a lifeline for information and support. On the other, these same

tools can become conduits through which perpetrators monitor, harass, and exert control [63]. This use of technology by abusers can establish an omnipresent, intimidating force that perpetuates fear and intimidation [71]. The threat of tech abuse persists even as survivors leave their abusers' physical control and establish new lives [26, 42]. Moreover, even in the absence of outright attacks, the mere perception of the threat can affect survivors' use of and trust in technology. This often leads to further isolation, distancing them from vital resources and support networks [41].

A study by Tseng et al. [67] showed a significant challenge to providing remote support to people affected by IPV, highlighting how trade-offs must be made to ensure safety and privacy. Research by Matthews et al. [42] found that survivors engaged in various digital privacy and security practices during different phases of leaving their abusers, providing design guidelines for technology designed to help survivors of IPV. Arief et al. [9] further discussed in their work how researchers can design for DV victims without facilitating misuse. They proposed the idea of*sensible privacy* as a design priority, allowing applications *"to address the intended users' needs while at the same time minimizing the risks of the solution being misused for illegal or other harmful activities"* [9]. Our work adds to this body of work by highlighting what role technology plays in the oppression of individuals affected by FMs.

Despite these advances, there is limited research on technology-mediated abuse in the context of forced marriages. Our work extends this body of research by exploring the specific role technology plays in the oppression and support of individuals affected by FMs. By focusing on the unique challenges posed by the intricate family and community dynamics in FMs, we aim to provide targeted insights and design considerations that address the gaps in current technology-mediated abuse literature. In doing so, we hope to contribute to the development of more effective technological interventions that can better support individuals in FM situations.

3 METHODS

At the start of our research, we participated in four educational workshops at CoCFM, focusing on understanding the issue of FM. These sessions provided a foundation for our study. We discussed topics such as FM's background, causes, support systems, and legal context in Switzerland. The workshops also covered appropriate terminology and interview techniques to avoid re-traumatizing participants based on the CoCFM's extensive experience working with this population, and informed the background section of this paper and our choice of methodology.

Next, inspired by the methodology employed by Rabaan & Dombrowski [49], we conducted semi-structured participatory design interviews with five advisors and nine affected to gain insight into FM and affected individuals' lived experiences, described in Section 4.

3.1 Participatory Design Interviews

Each interview with **advisors** from the CoCFM was divided into two parts. In the first part, we sought to understand their responsibilities and activities, their role in facilitating help-seeking, and how technology plays a role in their day-to-day work. Subsequently, we explored their use of technology and the challenges they encounter due to its application.

The second part of the interviews was participatory in nature and built upon the responses from the first half, following the participatory design interview method [49]. Advisors were prompted to envision technological solutions that would help overcome the challenges they mentioned in the first half of the interview. They were encouraged to use pen and paper to express their suggestions visually and were given the option to think aloud or write down their ideas. Some advisors explained previous ideas generated internally at the CoCFM and sketched wireframes of designs they thought of during the interview. This method facilitated active participation and idea generation, allowing us to capture a range of innovative solutions.

The goal of the first part of the semi-structured participatory design interviews with **affected** individuals was to understand their experiences with FM and related challenges, help-seeking strategies, pathways to safety, their use of technology, and their lives after the abuse they had faced. A member of the CoCFM was present to ensure the participant's safety and comfort during these interviews [2].

In the second part of the interview, affected participants were encouraged to share ideas that would have supported them in overcoming or facing their previous or current challenges with FMs. Similar to the interviews with advisors, participants were prompted to envision technological solutions and were given the option to express their ideas visually using pen and paper or by thinking aloud. This approach not only empowered participants to contribute actively but also allowed us to gather rich, qualitative data on potential technological interventions that could address their needs.

Interviews were held in person in locations chosen by the CoCFM or participants to ensure their safety. They were conducted in the local language, in which all participants were fluent. Interviews ranged from 60 to 90 minutes in duration. They were audio recorded, partially transcribed (content deemed irrelevant or highly sensitive was not included in the transcription), translated into English for analysis, and deleted upon completion to minimize risks.

3.2 Participants

The participants in our study included five advisors of the CoCFM and nine affected individuals from diverse cultural backgrounds and age ranges. Six of the affected individuals were recruited by the CoCFM and had previously received the organization's support. The other three affected individuals were identified through personal contact and online forums where they had previously posted content in relation to FM. We aimed to recruit participants who both had and had not received help from an organization to ensure that the experiences and needs of both groups were represented in our data. All participants were born Switzerland but raised in families with migratory backgrounds (believed to be from South Asia, the Middle East, the Balkans, and Eastern Europe and deemed by the CoCFM as representative of the Swiss FM cases). It should be noted that the participants in our study are not necessarily representative of the full spectrum of experiences surrounding FM. In

[2]This co-present member of the CoCFM was not interviewed for our study.

Pseudonym	Role	Recruitment Method
A1	Advisior	CoCFM
A2	Advisior	CoCFM
A3	Advisior	CoCFM
A4	Advisior	CoCFM
A5	Advisior	CoCFM
Afterin	Affected	Online Content Recruitment
Aylin	Affected	CoCFM
Cheyenne	Affected	CoCFM
Durime	Affected	CoCFM
Eliza	Affected	Personal Contact
Fariha	Affected	CoCFM
Huma	Affected	CoCFM
Maanvi	Affected	Online Content Recruitment
Mrika	Affected	CoCFM

Table 2: Participant Overview

particular, we only interviewed individuals who had already succeeded in leaving their families or FMs. Interviewing individuals still in an FM or at active risk of FM could threaten their safety, so we did not attempt to recruit any such participants. Only one of the women had been forcibly married; the other eight had managed to escape before the marriage could take place. An overview of our participants can be found in Table 2.

3.3 Ethical Considerations

Our study was approved by our institute's ethics board and the legal division of the CoCFM. Conducting research with individuals affected by FMs and advisors from the CoCFM required an empathetic approach due to their vulnerability. Drawing from principles of trauma-informed research [7], our methodology was designed to prioritize participants' safety and well-being. We iterated upon our interview questions with the CoCFM to ensure they were sensitive and appropriate in content and phrasing for the vulnerable population. In helping us find participants, the CoCFM approached individuals they believed were emotionally ready to participate in such a study and who would not be placed in a risky situation by participating.

During the interviews, participants were reminded to halt the interview or skip questions as desired. They were given time to recover and decide whether to continue if a question induced an emotional response. To maintain their anonymity and safety, the authors **deliberately chose not to collect or report participant characteristics in this study**. Throughout our interviews, we were careful to avoid discussing any personally identifying information, including the participants' real names, ages, or the countries of their families' origin, although participants did voluntarily disclose some information, namely their religious backgrounds. Several participants abstained from using the word "victim" preferring to use "survivor" or "affected" due to negative association and bias. We therefore use the term **affected** to refer to the participants.

3.4 Data Analysis

Our research materials included interview transcripts, field notes, wireframes, and educational documentation provided by the CoCFM during the workshops. We conducted a thematic analysis [16] with an inductive coding strategy [33], led by the first author with two other authors assisting in initial coding and final theme clustering. We generated 263 distinct codes, which were then collated into potential themes related to the ecosystem of technology and its relevance to the participants' situations.

Thematic analysis was chosen for its flexibility in identifying and reporting patterns within qualitative data, making it ideal for interpreting the complex narratives surrounding FM and technology. Our steps included familiarization with the data, generating initial codes, searching for themes, reviewing and refining these themes, and finally defining and naming them. We identified three main themes: Information & Resources, Situational Context and Technology Misuse.

Throughout the analysis, reflexivity was crucial. The first author, aware of their positionality, continuously reflected on how it might influence data interpretation. Regular discussions with co-authors helped mitigate potential biases and ensure a balanced analysis.

Our analysis focused on understanding the interplay between FM, technology, and the affected individuals, revealing both challenges and potential solutions within this ecosystem. This approach provided a nuanced understanding of how technology impacts the participants' lives and informed our subsequent findings.

4 FINDINGS

This section presents our findings, organized into three themes: 'Information & Resources,' 'Situational Context,' and 'Technology Misuse.' We provide examples and quotes from the interviews to illustrate these themes, with all participants referred to by pseudonyms.

4.1 Information & Resources

This theme focuses on the participants' challenges and needs related to accessing and utilizing information and support resources. We identified three key areas: finding relevant resources, understanding and developing knowledge and capabilities, and addressing misconceptions that hinder help-seeking.

4.1.1 Finding Relevant Resources. A recurring theme in the interviews was the lack of resources and knowledge available regarding help organizations. Except for Huma[3], none of the individuals interviewed had sought help directly from the CoCFM. Instead, they had sought assistance from neighbors or friends who had referred them to general support organizations like *Terres de Femmes* or *Mädchenhaus [women's shelter]* which handle domestic abuse but may not have specific expertise in FM. They were subsequently referred to the CoCFM by these intermediaries. Afterin and Eliza also learned about the CoCFM through friends but chose not to pursue this option, believing that a Swiss NGO might not understand their situation and might adopt a Western-centric perspective. Huma, on the other hand, discovered the CoCFM through the school library computer. Initially, she found the organization's online presence uninviting and culturally mismatched. However, after engaging

[3]All names are pseudonyms

with them, she realized they possessed the necessary expertise. She stated: *"It looked very stereotypical. I wasn't sure they'd understand my situation, but talking to them later clarified their expertise. Other women might shy away."[Huma]*

Although the others never directly searched for help centers or women's shelters, some affected (4/9) mentioned that they had tried to find relevant and relatable information online but met with difficulties, leaving a feeling of being unseen. Aylin and Afterin had tried to find accounts from other women in similar situations, ideally from their own culture. However, both reported that while they found legal information, they were unable to find a community that they felt was relevant to them. Aylin joined a forum in which individuals shared their experiences with domestic abuse. Still, the forum members' experiences varied greatly from hers, as their experiences were not as intertwined with their culture. Often, she felt the advice on the forum did not apply to her situation; the stories often centered around a person as the perpetrator, not the family and community involvement. Afterin also visited forums related to her culture and religion but felt frustrated by the microaggressions from other, mostly male, forum members. She stated that they chastised her for considering going against her parents or upsetting them, reinforcing the idea that she was in the wrong and had no other option but to completely abandon her culture and religion. Several advisors (3/5) highlighted that such microaggressions from within one's own community are not uncommon but rather the norm. Dishearteningly, in some situations where our affected individuals (9/9) expected assistance, such as from friends, school counselors, or police, they received little help: *"They did not understand and often did not take it seriously since they could not imagine something like this happening in Switzerland. I felt all alone."* [Aylin]

4.1.2 Knowledge and Capabilities. Several affected individuals (5/9) mentioned that they lacked knowledge concerning their rights, education, and essential life skills. They had not been made aware of rights regarding access to education, choice, privacy, sexuality, and relationships – vital aspects for empowerment. Often, information on these matters was intentionally withheld to enforce obedience. Cheyenne stated: *"I did not know I had the right to say no; I did not know that as a woman I could decide for myself! I always thought I must comply with what my family says, even though I am no longer a minor"*. Similarly, Huma said:

> *"I always had trouble understanding what a healthy relationship looks like. I thought that as a woman, I should be obedient and serve my man and his family, which is how a relationship works. I was always so sad because it felt depressing, and I was scared I would always be stuck in a loveless relationship but would have to accept it because that is how it should be. My mother told me, once she found out we had sex education in school, that this is not how it works in our culture, how we don't kiss or hold hands, and that when it comes to intercourse, women have to accept it when the man wants it."*

Huma's experiences further underscore the significance of these challenges. She shared that she often used the library computer during breaks or free periods to search for information relevant to her cultural context. She sought answers by searching on terms such as 'Domestic abuse in Islam,' 'Can I choose to marry for love in Islam?' and 'Is it Haram [forbidden by Islamic law] to never marry?' to educate herself. Reflecting on this, she expressed that she needed to understand whether her religion mandated these beliefs.

Unfortunately, consequences can persist even after escaping abuse. Breaking free from control does not mean individuals can live independently. They face dual challenges – reverting to old patterns and lacking self-capabilities. Post-FM, they may confront hurdles rooted in their prior disempowerment. Cheyenne and Huma realized these challenges only after leaving, and Cheyenne described it as *"reality hitting hard in the initial days."* Their first experience of self-reliance can be challenging for individuals from collectivist backgrounds. Participants suddenly had to navigate tasks like bill payments and bank accounts. Aylin confessed: *"I didn't know how to be a normal adult. I had never had to be 'normal.' I never did these things. I never had to go out and ride the bus somewhere"*.
Eliza, Durime, and Afterin relied on online resources for 'adulting,' particularly YouTubers who offered guidance on adult life. Eliza found comfort in *'Dad, how do I?'* where the YouTuber acted as a father figure. Mrika highlighted her use of Poe and ChatGPT, which she would often ask whenever she needed help with various task around independent living, as in this way she would not have to rely on another person. Maanvi chose to document her journey by capturing it through pictures and videos. She explained that she needed constant reminders that her decision to leave her old life behind was the right one. Fariha managed to handle these challenges better, as she was previously less constrained by her family and had a supportive partner. Yet, she worried about being overly reliant on her partner.

4.1.3 Misconception as Hindrance to Help. All of the CoCFM advisors pointed out during the interviews that public awareness about FMs remains low. There is also a lack of awareness about who can be affected by FM. Durime recounted experiences in which their friends and law enforcement failed to grasp the gravity of their situations:

> *"I told [the police officer] I wanted to leave home because my parents were planning to marry me off. He said that I could leave home because I was of legal age. They did not understand the gravity of the situation, and perhaps also not the cultural context. It was just an easy 'get up and leave' for them. They could have at least pointed me to the appropriate resources."*

Such misunderstandings are not isolated events. All participants described similar situations regarding teachers, neighbors, and mental health professionals, who, despite good intentions, could not offer practical support due to their lack of knowledge of FM. The CoCFM has received inquiries from human resources departments, community leaders, and psychologists seeking to understand FM better, mainly when interacting with an affected individual. However, this belated awareness is often insufficient for immediate intervention. Furthermore, A3 states that those who muster the courage to seek help once and find it ineffective are less likely to attempt seeking help again. After her bad experience with the police, Aylin highlighted how she was *"fed up with the world"* and felt hopeless about her situation.

4.2 Situational Context

This theme examines how the participants' home environments and cultural backgrounds influence their behaviors and decisions related to seeking help, including technological support. We identified three critical aspects within this theme: cultural conditioning, limited freedom to act, and the balance between survival and empowerment. These factors significantly affect the participants' ability to seek and receive support, including the use of technology, and shape their overall experiences and strategies in dealing with FM.

4.2.1 Cultural Conditioning. During the workshops with the CoCFM, it was revealed that FMs often extend far beyond the act of marriage itself and are deeply rooted in cultural norms and beliefs. These norms often create conflicting loyalties that influence the affected individuals' decisions, particularly when seeking help. Aylin explained:

> *"I was taught and saw this everywhere in our community; it seems normal. Everything else feels wrong because that is not how I was brought up. I mean, I was told for over two decades how to behave, what to do, that my ultimate goal was to be a perfect housewife, and everything I did or my parents did was to set me up for a good marriage."*

Most our affected participants (7/9) echoed these experiences, describing a feeling of being 'groomed' for years to accept marriage as the natural course of action. This conditioning often begins in childhood, normalizing that one cannot question or refuse their parents' choices. Maanvi mentioned how people would show little sympathy towards her when she struggled with her 'new life', as they often compared it to 'just moving out', as most people her age do:

> *"But it is not the same! I have to completely relearn everything. It is a new culture, mindset, new boundaries, overwhelming amount of opportunities and no resources and support from my parents. It is not the same as just moving out. It felt like to me, as if I had moved to another country with nothing."*

Huma views her experience as a series of events, not an isolated incident, underlining the necessity of continuous support and resources before and after facing an FM situation. Conflicting loyalties that result from conditioning can make it difficult for affected individuals to seek support, especially if it entails legal action against their families. Since the inception of the CoCFM's advisory service, only one individual has opted to pursue legal action and conviction. The CoCFM reports that many people they assist explicitly ask not to involve law enforcement. Individuals also often sought to minimize confrontation out of guilt that they were being disloyal, opting for avenues allowing them to act *"behind their family's back"*. The CoCFM stated that support systems such as apps and services often focus on evidence collection or options involving law enforcement. This is problematic because it does not align with the needs and wishes of many affected individuals. This was also highlighted by Afterin, who found several apps designed to help women in abusive situations, but none specific to FM.

4.2.2 Limited Freedom to Act. The lived experiences of the individuals we interviewed reveal an environment of extreme constraint, shaping their daily lives and ability to seek help. Family surveillance and the fear of repercussions significantly limit the avenues by which individuals can access support. Cheyenne recalled verbal abuse from her brother for perceived promiscuity, while Huma was physically abused and confined for speaking to a male classmate. This pervasive environment of fear also extended to people's interactions with support organizations. Durime pointed out the grave need for covert interaction:

> *"I was always anxious that my parents would discover my communication with [CoCFM]. Thinking about what would happen if they found out kept me awake at night."*

Aylin added that the constraints had led her to a paralyzing level of caution for some time, explaining that doing *'absolutely nothing'* was her way to minimize risk. This constant state of vigilance indicates the need for services and tools that prioritize the affected's privacy and safety. Huma's rationale exemplifies these individuals' difficult choices:

> *"If they're going to punish me regardless of my actions, I might as well engage in activities that could help me and face the consequences knowingly."*

Among those interviewed, only Maanvi, Mrika and Afterin had unrestricted access to their personal phones. The remaining participants reported varying degrees of restrictions on their phone use. 3/9 affected were not permitted to password-protect their phones and had to use a PIN known to their family. A few (2/9) had to share their phone with their siblings or their mother, while one had no access to a mobile phone at all. Five affected noted that their phone usage and the duration for which they were permitted to use it were restricted by their parents. Additionally, two affected mentioned that their phone usage was primarily confined to the living room, and using it in their own rooms was discouraged. Both were required to surrender their phones to their parents at night. In terms of accessing computers or laptops, Afterin, Maanvi, Mrika, and Aylin were the only ones who had such access at home. However, Aylin refrained from using it for anything related to her self-help efforts because she was concerned that her father might be monitoring her activities, whereas the other three would only use them when their father was not around, as their mothers were not as tech-savvy.

4.2.3 Survival and Empowerment. The affected individuals often grappled with feelings of emotional isolation engendered by the cultural norms and expectations with which they have been raised. Cheyenne, who had never heard of another girl in her community questioning the traditional rules, summarizes this feeling: "*I thought I am the abnormal one, not my family.*"Similarly, Aylin describes the exhausting task of explaining her culturally unique experiences to those who do not possess the same cultural background. Fariha, Eliza, Huma, and Cheyenne echo this frustration, noting that even when friends criticize their family's treatment, they often dismiss their friends' perspectives. Fariha explains her reasoning with her belief that "they [their friends] don't understand our culture and live differently anyway."

This emotional chasm suggests a need for community finding or building — providing safe spaces where the affected can openly self-disclose, find representation, and feel validated by others who have

undergone similar experiences. Cheyenne's statement illustrates this need from both practical and emotional standpoints:

> *"It would have been easier if I knew someone or at least could read about someone in my situation who successfully escaped and now lives happily. Since the news and internet only report the unsuccessful stories of women who tried to escape an FM, it scares many [affected] off seeking help."*

Maanvi often contemplates sharing her photos and videos, believing they could inspire others to explore different paths. She expressed happiness in breaking away from societal expectations: *"Many women in our community feel trapped in the path laid out for us. But I've managed to forge my own way, and maybe sharing my journey could inspire others."* Despite this, she has not shared her content online due to fear of online harassment and concerns about her family.

Alongside the yearning for understanding and community, the affected also display an astute ability to cope within their constrained environments. These coping mechanisms are creative, culturally nuanced strategies to maintain personal safety. Fariha, for instance, shaved her hair and brows off to be deemed unattractive for a proposed marriage:

> *"I shaved off my eyebrows before my suitor and his family came by. I know they would never accept me and think I am weird; I also acted clumsy, so they would not deem me fit to be a housewife. It worked."*

These strategies reveal the resilience of the affected and signal a resistance and empowerment that could be valuable in helping others in their communities navigate similar challenges. The potential value of community-finding among the affected is thus twofold: it could provide a safe space for mutual understanding and a platform for collective empowerment.

4.3 Technology Misuse

This theme investigates the complex role of technology in the lives of the participants, revealing how it can both aid and oppress them. We identified two key aspects within this theme: the double-edged nature of technology and the strategies participants use to navigate digital risks. These elements highlight the dual impact of technology, showing how it can be a tool for support and empowerment while also posing significant risks and challenges.

4.3.1 A Double-Edged Sword. The power of technology in the lives of affected individuals is somewhat paradoxical. Although technology can offer avenues for help-seeking, it often becomes a tool for surveillance and control. According to the CoCFM, in over 80 % of instances in which the affected were discovered to be in secret communication with the organization, they were found out when their families or spouses monitored their phone interactions.

Cheyenne's account illustrates another challenge of technology use in these contexts. Her brother forced her to unlock her private Instagram, thus violating her privacy and resulting in her physical punishment. A4 also shared a story in which a family downloaded spyware onto their daughter's phone and learned about her plans to run away with her boyfriend. Mrika recounts one instance in which her father had, unbeknownst to her, logged into her Instagram account to spy on her. Being tracked through Apple's AirTag or the restrictive 'Family' features on the iPhone was another common occurrence the CoCFM encountered in their cases. These instances show that technology, and even technology designed to improve safety, can be misused to violate privacy or restrict freedoms. In this context, the elements of trust and control become crucial. Affected individuals, already wary due to past misuse of technology against them, are cautious about adopting solutions that lack transparency and control, fearing that even well-intentioned technology could be used against them. Eliza explained how using such apps would not be feasible for her, as everything that is on her phone would be found by her siblings whom she did not trust.

4.3.2 Navigating Digital Risks. Despite digital oppression, the affected exhibit resilience and ingenuity, adopting technological tactics based on their situations and constraints. Some use personal phones with extreme caution. Fariha, for example, used end-to-end encrypted messaging apps to communicate confidentially. Others (3/9) decide to minimize the use of personal devices to avoid tracking— Huma, for instance, used public library computers to search for help online. Aylin created a separate, anonymous email for communicating with support organizations, a tactic recommended by the CoCFM. However, not all strategies are easily accessible, and some less tech-savvy individuals may lack the technological literacy to identify even basic protective measures. For example, Durime felt burdened by thinking of ways to keep her technology use secret, lamenting the lack of built-in safety features in most tech solutions. Her solution instead was simply to forego the use of technology in many contexts, a strategy also adopted by Mrika. This created a scenario in which she was constantly at risk and unable to trust technology for her needs. For this reason, some of our affected interviewees (3/9) opted not to rely on any digital self-help.

5 TECHNOLOGICAL VISIONS

In this section, we explore the technological visions and ideas that emerged from the second part of the participatory design interviews with the affected and the advisors at the CoCFM. We present potential design interventions at three different levels: micro, mezzo, and macro, as specified in the the SCTJ framework [49] which we used as the theoretical basis for our analysis of the design ideas.

5.0.1 Micro-level interventions. Micro-level interventions directly assist the individual who has been harmed. The majority of design concepts from affected individuals fall into this category. These micro-level interventions demonstrated a recurring focus on three distinct areas: (1) **Preventative Solutions**, (2) **Immediate Support Solutions**, and (3) **Post-FM Solutions**.

Preventive solutions often aligned with ideas suggested by DV and IPV research [25, 31, 47]. Huma, Aylin, Afterin, and the CoCFM envisioned online educational tools and resources focused on women's empowerment, rights, life, love, self-capacity and independence. Durime expressed the need for a website offering culturally relevant information that she could safely consult at her own pace. Huma and Mrika emphasized the importance of education and awareness, highlighting that many women may not know their rights within their own cultural or religious contexts.

Huma suggested that digital educational materials curated online by scholars or religious leaders from their own cultures could help women understand their rights and communicate more effectively with their families but also help their community dismantle the abusive tradition.

Immediate support solutions encompassed ideas that participants envisioned for use once they found themselves facing a forced marriage. Cheyenne and Durime's concept aimed to provide educational materials and resources that would be culturally and geographically specific, and direct users toward local NGOs or other forms of assistance quickly if needed. Many of the features paralleled the advisory services offered by the CoCFM. Cheyenne, Mrika and Durime stressed that this type of platform could also benefit women who might hesitate to reach out to an NGO or the police, as consulting a website would be a less intimidating step than directly contacting an NGO, where one might not be in control.

Aylin and other participants also shared their struggles when trying to navigate the vast amount of online information related to IPV and DV. They described how it felt overwhelming and often distressing to search for details specific to their situations. Aylin proposed the idea of using 'magical' questionnaires or conversational interfaces, like chatbots powered by AI. These interfaces could assist by curating the most relevant resources based on responses to questions about immediate challenges and needs, simplifying the process of finding the right information. Eliza expanded on this point and emphasized the importance of accessing information quickly. She explained that there is only a limited timeframe during which she could consult websites, so fast access was crucial for her. Ideally, she would like the ability to close the current page and have it deleted from her browsing history with a quick action.

The CoCFM emphasized the necessity of security features tailored to individual circumstances. These features could encompass hidden buttons indicating 'safe' call times and AI algorithms capable of detecting irregular usage patterns and verifying the user's identity. Similarly, Mrika suggested how apps or calls could automatically close or hang up if the phone detects someone other than the phone owner using it. These discreet interactions could covertly alert friends or the CoCFM about the user's situation, particularly in emergency scenarios. Additionally, the CoCFM envisioned notifications from help organizations or support apps that would appear to be reminders from an innocuous source such as a hydration app.

A novel idea that emerged was Maanvi's concept of designing for the forced marriage itself. She envisioned a future in which a 'consent bracelet', figure 1, could be used much like a polygraph lie detector. This device would be worn by both parties entering a marriage. In her religion, the marriage officiant asks both parties to confirm their consent three times. However, Maanvi pointed out that under pressure, a person might always say 'yes.' The 'consent bracelet'could potentially detect signs of distress or dishonesty, glowing green if it detects genuine consent and red if it detects unwillingness.

Regarding **post-FM solutions**, the focus was on assisting survivors in regaining independence and rebuilding their lives. To address the feeling of being overwhelmed, Afterin envisioned a digital companion, illustrated in figure 2, or advisor that would supporting her in gaining independence and 'figuring out [her] life.' She expressed a desire to avoid constant dependency on the CoCFM and not feel isolated. She imagined a digital dog or something akin to a Pokémon, capable of serving as a companion and assisting her with minor tasks she needed to figure out. She likened this idea to video games in which there is typically a character in the beginning of the game that guides players through the world and assigns them small tasks to help them become familiar with the game.

5.0.2 Mezzo-level interventions. Mezzo-level interventions focus on interventions within small groups (e.g.,family, community, neighborhood). Many participants emphasized the importance of online safe spaces and communities. These dual-purpose platforms offer practical knowledge repositories and emotional support networks. Fariha, Maanvi, Afterin and Durime explain that connecting with peers facing similar challenges fosters community-driven wisdom and personal empowerment. Their value is not just in sharing resources and information; they provide a space for mutual understanding and validation, often absent elsewhere in the lives of the affected. The anonymity these platforms offer lets participants speak freely, without fear of societal backlash, enabling dialogue and fostering supportive relationships. Eliza had previously used Jodel, an app that uses an account-less anonymous interaction model, and suggested something similar could be created for individuals affected by FM that could be maintained and monitored by the CoCFM, allowing individuals to find support within the community. The CoCFM expanded on this idea, suggesting that the communication between the CoCFM and affected individuals could be based on self-destructing voice messages so that the individuals could access them when they are alone.

Given that at-risk individuals may struggle to find help, including these third parties in technological solutions might provide new paths for intervention. Interviews revealed that friends, partners, and neighbors often become lifelines for at-risk people. Creating tech for these intermediaries presents unique challenges and opportunities, especially in emergencies when direct communication with the affected individual is impossible. Potential solutions imagined by various members of the CoCFM (A1, A4, A5) included communication channels between aid organizations and concerned parties, and tools to provide resources and advice to acquaintances of those in danger. Cheyenne suggested designing to help third parties to spot signs of an FM, which then could aid them with further steps on how to support an affected individual. The CoCFM also considered ways in which technology could enhance its educational outreach through interactive tools, such as games and scenario-based storytelling.

5.0.3 Macro-level Interventions. Macro-level interventions influence a larger portion of society, such as public policy, legislation, and institutions. Our interviews with the CoCFM revealed a significant knowledge gap among first responders, such as teachers and law enforcement, which can deter affected individuals from seeking help repeatedly. These well-intentioned individuals frequently lack an understanding of the cultural intricacies surrounding forced marriages. Many well-meaning responders, especially those unfamiliar with affected communities, lack cultural understanding of forced marriages according to the CoCFM. E-learning modules, can provide vital training on FM signs and culturally sensitive practices. To provide easier access to digital help for affected individuals, CoCFM suggested placing shared devices in public areas like schools and

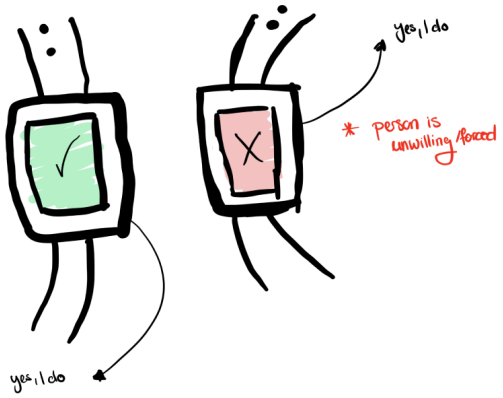

Figure 1: Maanvi's sketch of the consent bracelet.

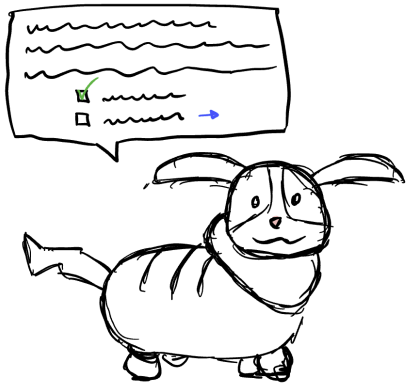

Figure 2: Afterin's sketch of her digital companion.

train stations. This would facilitate assistance for those unable to seek it at home. Public awareness is another crucial macro-level intervention. Leveraging digital campaigns, policymakers, NGOs, and various supporting organizations can help to educate vulnerable groups, foster a broader public dialogue, and reduce the stigma associated with the issue. By focusing on these macro-level strategies, we can drive systemic changes that address the complexities of FM.

6 DISCUSSION

HCI research has grown to encompass women's safety and well-being [20, 29, 51], including DV and IPV [31, 49]. Our work contributes to this knowledge by exploring the challenges faced by individuals affected by FM. Specifically, our findings highlight the importance of tailored information and resources, the situational contexts that affect an individual's ability to seek help, the malicious misuse of technology often perpetrated against them, and how individuals envision technology's role in this context. Our interviews highlight how participants are frequently conditioned to accept minimal agency roles, often due to systemic familial control. The lack of awareness of fundamental rights and options makes them ill-equipped to exit FMs. Therefore, it is crucial to introduce interventions before an FM occurs to foster awareness about their rights, empower them to make informed choices, and, afterward, support them as they rebuild their lives independently. This approach aligns with previous research in the fields of DV and IPV regarding self-help [15, 25, 46, 72], prevention [14, 31], and recovery [47, 72]. A study by Tarzia et al. [66] found that technology was perceived as accessible and non-judgmental, thus reducing barriers to help-seeking. This observation aligns with other research on technology in DV and IPV [10, 17, 49, 72], where online platforms were preferred for discussing sensitive topics. Building on previous findings, our study demonstrates that the lack of consideration for broader systemic oppression and cultural intricacies, which are intrinsic to FMs, is reflected in our participants' experiences with digital help-seeking. Furthermore, our findings also point to some of the complexities of FM that are not necessarily intrinsic to DV or IPV in general, stemming from the fact that FM tends to be systemic in nature, deeply rooted in cultural traditions, and perpetrated upon individuals who have been conditioned to accept it from an early age. These individuals therefore face challenges to help-seeking and recovering that also may not occur as frequently or as severely in DV and IPV in general. These characteristics of the lived experience of FM underline the fact that designing to support the affected entails considerations specific to the problem. Although existing recommendations for designing to address DV and IPV are also of relevance for this population, additional factors should be taken into account in creating technologies to address the needs of people affected by FM.

Our findings primarily highlight micro-level interventions, which directly assist individuals through tailored information and accessible technology. These interventions are crucial for providing immediate relief and support, reflecting similar conclusions drawn by Rabaan [49]. However, while micro-level interventions have a significant impact on immediate and emergency relief, they are often insufficient for long-term systemic change. Macro-level interventions, such as public policy, legislation, and societal education, are essential for addressing the root causes of forced marriages and fostering long-term change. By leveraging macro-level strategies, we can drive systemic changes that address the complexities of FM and reduce the cultural and societal pressures that perpetuate it. Recognizing the interplay between micro and macro-level interventions is crucial for creating a comprehensive approach to combating FM and supporting affected individuals effectively. To this extent, we present four design considerations to support researchers and designers in creating technologies for these individuals.

(1) Consider the constraints of patriarchal vs. egalitarian societies: Our findings illuminated a common thread among the affected: the decision to sever ties with their previous lives, including their relatives and aspects of their cultural backgrounds to escape FM. This choice is not merely a physical departure from family; it entails leaving behind one's cultural upbringing, a familiar environment, financial stability, and more. In essence, they embark on a journey of rebuilding their lives from scratch. Our participants, despite growing up or living in Switzerland, often found themselves immersed in patriarchal cultures within their homes. The stark contrast between this context and the egalitarian

Swiss society outside of their homes was a recurring theme which should be taken into consideration in design. Previous research by Sultana et al. [65] looked at design challenges in patriarchal contexts, working with participants who grappled with patriarchal family dynamics in societies where patriarchal structures were deeply ingrained. The argue that in such contexts it is necessary to design within the confines of patriarchy. To support the affected living in egalitarian societies, however, it may plausible and beneficial to design considering the existing patriarchal framework while simultaneously supporting a gradual transition from patriarchal norms to more egalitarian norms. This contrast highlights the importance of considering the societal context of the individuals when designing, as solutions to address FM in one society may not be viable, appropriate, or beneficial in another. Design initiatives should not only support individuals in the transition from their patriarchal homes but also empower them to navigate and bridge the cultural disparities they encounter. It is crucial that these tools also provide continuous support and resources for re-education, enabling a deeper understanding and adoption of new values over time.

(2) Empower affected individuals and support their autonomy: Affected individuals who escape FM are suddenly responsible for their independent selves, a potentially stark departure from their previous lives. Previously, a very specific path was laid out for these individuals, but now they may be overwhelmed by the responsibilities of start anew. Many participants raised in collectivist and dependent family structures struggled to break out of familiar patterns of dependency. Some unintentionally became overly reliant on new relationships or support from organizations like CoCFM. In response to these challenges, participants envisioned technological solutions that could act as digital guides and mentors for building self-capacity and autonomy. For example, they could offer educational modules on decision-making, financial literacy, and personal development. They could also facilitate connections with support networks, allowing individuals to gradually transition from dependency on specific individuals or organizations to a broader and more sustainable support system. It is therefore of great importance to consider the challenges of transitioning from a sheltered to an independent life in designing technologies to support the affected, keeping in mind that the individuals using any such technology may be at different stages of awareness and capability regarding their autonomy. To ensure the technology truly empowers users, it should be designed with adaptability and personalization at its core. This means creating solutions that users can tailor to their specific circumstances, giving them a sense of control and agency. The technology should adjust to meet their evolving needs and resonate with their personal journey toward autonomy.

(3) Personal privacy is not guaranteed: Research in the HCI community has started to consider how to design for shared phones in patriarchal contexts [5, 46, 57]. For example, Ahmed et al. [5] promotes the use of 'secret' or hidden accounts on shared phones, along with a redesign of applications to align with a 'shared use' paradigm rather than a 'personal use' one. Naseem et al. [46] take this concept further by exploring the use of voice-based systems that eliminate the need for a physical account on the phone, leaving no trace of personal data on the device.

Our findings underscore the constraints faced by the affected in their use of technology, including the use shared 'family phones' or phone use monitoring by family members. Our findings are consistent with prior studies on how cultural norms shape the use of mobile phones among women in patriarchal communities [5, 18, 36, 44]. They also challenge conventional assumptions about phone privacy and individual ownership that are often taken as a given when designing technologies. Furthermore, our research uncovers a mistrust of technological solutions among affected individuals regarding privacy and security. For example, participants expressed apprehension regarding the safety of using digital platforms for help-seeking, leading them to take actions like using public library computers or forgoing any digital assistance.

It is therefore necessary to consider these implications for privacy when designing to support people affected by FM. For technologies to be successful, they will need to be trustworthy and engender trust. However, designers also need to be mindful of the fact that basic assumptions about device ownership, communication privacy, and the safety of interaction traces may not hold in these situations. Designing under the same expectations regarding interaction privacy as one might when creating technologies for other populations could put users affected by FM at grave risk.

(4) Cultural and Contextual Sensitivity in Technology Design: Cultural norms and expectations were the driving force behind the experiences of the affected in the context of FM, and their influence was also evident in their digital help-seeking behaviors. Many of the participants sought social online support or information from leaders within their own cultural communities, hoping to get assistance that resonated with their cultural backgrounds. Furthermore, cultural and contextual factors deeply affect the type of help individuals seek; for example, some participants chose to forego legal pathways to escape FM due to cultural values and familial loyalty. It is therefore crucial to consider the importance of aligning support with users' cultural context and values when designing technologies to support individuals affected by FM. Designers should recognize that the resources required and the strategies employed can vary significantly based on cultural backgrounds. For instance, the needs of an American Fundamentalist Mormon woman seeking to exit her community may differ significantly from those of a Pakistani Muslim woman who fears being sent to Pakistan for a forced marriage.

Drawing from our findings and inspired by frameworks such as Rabaan & Dombrowski's Islamic Feminist framework [49, 50] and insights from Sambasivan et al.'s South Asian Feministic methodology [56], we emphasize the need for a design philosophy rooted in cultural sensitivity when working in this space. This further confirms the importance of not only closely working together with affected individuals but also considering the inclusion and collaboration with other stakeholders, such as faith leaders, community leaders, or social circles at large [49, 50, 65].

6.1 Limitations

We would like to acknowledge a few limitations of our study. The first concern is the limited number of participants. As our participants represent a highly vulnerable population, the pool of individuals who were comfortable participating and could do so safely

was limited. We needed to be conservative in our recruitment to minimize the risk of re-victimization and harm. We prioritized situated and contextualized insights into participants' lived experiences rather than aiming for a comprehensive and generalizable explanation of the practice. Nonetheless, we believe that our study helps chart the space for future HCI research, as its primary purpose was to understand and describe human behavior and needs when it comes to FM situations, hence the choice of method [19].

Additionally, most participants had managed to escape before the marriage could take place, with only one participant having been forcibly married. This skew towards individuals who had not experienced FM directly may affect the findings, as their perspectives and challenges could differ from those who are or were in FM. Future work should consider how to ethically and safely integrate the voices of those currently or previously in FM to provide a more comprehensive understanding of FM.

A second consideration is the participation of the CoCFM in the protocol design and interviews. As their feedback on the protocol was mainly about how we phrased questions and less on the content of the questions, we believe the influence was minimal and valuable in ensuring participants' comfort. However, it is possible that some participants did not feel comfortable bringing up issues they faced regarding the CoCFM itself in their presence. Although their presence may have influenced participants' responses, we found no evidence to support this. We believe that the presence of an CoCFM member was beneficial in making participants feel at ease.

The location where we conducted this research (Switzerland) also impacts its findings and scope. The tensions and challenges affected individuals face undoubtedly differ from those we would observe if this research were conducted in a country where FM is more endemic to the local culture. The findings of this research cannot be generalized to FM situations worldwide, however, they provide empirical evidence to this under-researched harmful practice in Western societies in particular. Further research in other communities and locations, and with other help organizations and participant demographics, will aid comparative analysis and help to create more comprehensive and contextualized knowledge about FM in various geographies, as well as understand the larger scope of technological interventions to address FM.

While we hope our work will motivate further research in this area, it is important to acknowledge that HCI alone cannot solve the complex socio-political issue of forced marriage. Technology and HCI can provide valuable tools and frameworks, but these must be part of a larger, multidisciplinary effort that includes legal, social, and political interventions.

7 CONCLUSION

This work explores the practice of forced marriage, a form of gender-based violence that remains little known in HCI research. Through a qualitative study with affected individuals and an organization working to eliminate this harmful practice, we identified three key themes – Information & Resources, Situational Context, and Technology Misuse – that are important for understanding the dynamics of FM and the role of technology in this practice. We leveraged the Survivor-Centered Transformative Justice framework (SCTJ) as a lens for these explorations. We offered six design considerations that HCI designers and researchers may employ to help improve awareness of FM, support help efforts, and foster the empowerment and independence of people in FM situations. Based on our interviews and analysis, we also proposed early design ideas for technologies to address FM. The findings and insights from this work can be seen as a starting point for thinking about how HCI research can address the widespread issue of forced marriage; with this work, we also aim to raise awareness that will motivate researchers and practitioners in the HCI community to contribute to solving this problem through further investigation and innovation.

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