It Shouldn't Be This Difficult: Researcher Perspectives on Diversity and Inclusion in Usable Privacy and Security Research

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Abstract

While recent usable privacy and security (UPS) research has made progress in moving beyond "the average user," a systematic account of how UPS researchers navigate diversity and inclusion in their work remains lacking. Through 20 in-depth semi-structured interviews with experienced researchers, we examine how and why they recruit diverse, underserved populations in their work, as well as the challenges they face in doing so, including conceptual difficulties in defining who is underserved, limited access to target populations, and inflexible peer review and publishing norms. Participants also reflected on their own positionality when planning and conducting studies, often expressing uncertainty about how to account for and articulate their positionality. We identify strategies researchers use to overcome challenges and highlight areas where collective action from the research community and institutions is needed to foster greater inclusion in UPS research practices.

CCS Concepts

• **Human-centered computing** → **Empirical studies in HCI**; • **Security and privacy** → **Human and societal aspects of security and privacy**.

Keywords

human-centered privacy and security, underserved populations, diversity, inclusion, researcher practices

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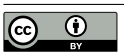

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1 Introduction

Research at the intersection of privacy, security, and human-computer interaction (HCI), i.e., usable privacy and security (UPS)[1] space has far-reaching effects, influencing the design and development of privacy and security solutions widely used around the globe [30]. Recent UPS research has also expanded beyond the "average" user to examine the threat models and needs of individuals and marginalized communities [94] such as survivors of technology-facilitated abuse [29, 84, 90], undocumented immigrants [32] and refugees [79], LGBTQ+ communities [31, 50], and people living in resource constrained environments in the majority world [2, 61, 91]. Additionally, researchers have proposed several frameworks that guide the conceptualization and best practices for engaging with "at-risk users" [8, 94] or "vulnerable populations" [56, 85] in UPS research.

Despite these advancements, we still lack a collective understanding of the *how* and *why* behind UPS researchers' engagement with diverse and underserved populations. While there are guidelines regarding who counts as underserved [71, 94], we need to understand how UPS researchers decide, prioritize, and reason about the populations they work with. In terms of actual practices, how do UPS researchers engage with underserved populations throughout the research pipeline—from study design and recruitment to data collection, analysis, and pursuing impacts beyond publications—and to what extent are these practices aligned with recommended best practices [8]? Moreover, how do UPS researchers navigate their own identities and positionality in such work, which often involves nuanced power dynamics with communities and potential emotional burdens on the researchers themselves? How do UPS researchers' practices and challenges reflect broader tensions in HCI research with marginalized communities [51]?

Studying researcher perspectives is important as researchers are the ones pushing the boundaries of knowledge and catalyzing real-world change and activism [28, 49]. Issues of ethics and inclusion in research also affect fellow researchers [51]. An in-depth account of UPS researchers' perspectives thus not only advances methodologies for increasing diversity and inclusion in UPS research, but also contributes toward systemic changes that enable researchers more broadly to pursue such work. To this end, we conducted 20

[1]Similar to Klemmer et al. [45], we use the term usable privacy and security (UPS)—which has better name recognition—to refer to the broader field of human-centered security and privacy that has focused on and addressed issues beyond usability.

semi-structured interviews with expert UPS researchers to address the following research questions:

RQ1: How do UPS researchers engage with diverse underserved populations?[2]

RQ2: What challenges do UPS researchers face in conducting research with diverse underserved populations?

RQ3: How do UPS researchers navigate their own positionality in working with diverse underserved populations?

We find that while all researchers in our study aspire to advance diversity and inclusion—and some actively engage with various underserved populations—they face numerous challenges that give rise to three forms of uncertainty. First, there is uncertainty in deciding which populations to work with, often due to the difficulty of operationalizing concepts like "underserved" and the lack of clear measures to determine when a population's needs have been met. Second, uncertainty arises in accessing and recruiting underserved populations, as researchers must navigate potentially misaligned community priorities and peer review norms that favor generalizability and Western-centric perspectives. Third, positionality subtly but powerfully shapes decisions about whom to engage and how research is conducted, yet norms for articulating positionality remain inconsistent across venues, introducing a third form of uncertainty.

We derive several recommendations from our findings, tailored to UPS researchers, venues, and institutions: (1) invest in systematically identifying and periodically re-evaluating which communities should be prioritized; (2) establish clear guidelines for reviewing and publishing work involving underserved populations; and (3) foster community norms that create more opportunities for exchange, including information- and resource-sharing between UPS researchers and other stakeholders. Figure 1 summarizes the main findings and recommendations of our study.

2 Background and Related Work

We summarize how previous HCI and UPS literature has conceptualized diverse populations and approached research involving them. We also review related work on *positionality*, a key concept in our research questions.

2.1 Diverse Populations in HCI and UPS Research

Though many populations with marginalized and vulnerable populations, especially those with multiple marginalized identities, have gone overlooked for decades [75], HCI researchers have advocated for the inclusion of marginalized populations [7, 12, 35, 36]. There has been an increasing trend of work engaging with populations who have faced marginalization stemming from various aspects, such as racism [37, 38, 86, 88], sexism [34, 74], ageism [16, 59], and classism [21, 48, 78], guided by postcolonial [42], social justice-oriented [28], feminist [7], and intersectional [76] orientations within HCI. The privacy and security research community has also become more aware of the importance of studying populations that are often outside the scope of the "average" user. Various terms are used interchangeably to describe these groups, such as marginalized, vulnerable, at-risk, underserved, and non-WEIRD [52, 77].

Kaye et al. defined *marginalized* communities as groups of individuals that experience discrimination and exclusion because of unequal power relationships across economic, political, social, and cultural dimensions [43]. Additionally, McDonald and Forte defined *vulnerable* populations as "those whose members are not only more likely to be susceptible to privacy violations, but whose safety and well-being are disproportionately affected by such violations" [56]. Warford et al. coined *"at-risk"* as an umbrella term for users who are more likely to suffer attacks to their digital safety due to societal, relational, and personal factors [94]. Some at-risk groups may also be historically *underserved* because technologies are neither designed nor deployed for those facing elevated risk [19]. This is further compounded by the fact that existing HCI [52, 77] and UPS [40] research has predominantly studied at-risk and underserved populations in Western, Educated, Industrialized, Rich, and Democratic (WEIRD) countries, leaving the majority world understudied.

This skew towards Western participants can be explained by geographic and linguistic barriers [40]. For instance, many UPS researchers are affiliated with Western institutions, often lacking access to populations in non-Western countries and thus resorting to convenience sampling. Linguistic barriers can also make it difficult to communicate the study purpose and clearly understand participants' responses. These challenges can lead to response biases if the researcher does not speak the native language [20]. Further, recruiting at-risk users involves high risk to participants' and researchers' safety and anonymity, and requires extensive safety considerations [8].

To overcome these challenges, prior work has suggested that researchers collaborate with scholars from the target country to reduce linguistic barriers [41]. At an institutional level, conferences should be organized beyond Western countries to diversify conference attendees and strengthen relationships with local research communities [41]. Our work further explores researchers' understanding of diverse user populations, experiences with such populations, challenges in recruiting, and recommendations to improve the process.

2.2 Researchers' Positionality

Positionality refers to "the position a researcher has chosen to adopt within a given research study" [72]. Positionality stems from the standpoint theory, which originates in feminist philosophy and posits that individuals' unique experiences and their social and political backgrounds influence their understanding of the world [36]. Positionality is also closely linked to the idea of *reflexivity*—a form of critical thinking that reflects, questions, and challenges one's own thoughts and beliefs [47]. Wilson et al. [96] unpacked the relationship between positionality and reflexivity: positionality involves clearly stating one's assumptions, and questioning one's assumptions leads to reflexivity, which can further inform research practices (from choosing the topic, designing a study, to recruiting participants). Prior HCI research has found that the intersection of personal identity and research can have profound effects on

[2]We follow the Oxford dictionary's definition of "underserved populations"—a group of people not getting enough help, products, or services. We recognize the critical role language can play in further perpetuating the marginalization of people, and choose to use "underserved" to encapsulate the multiple aspects causing people to be underserved in UPS research [93].

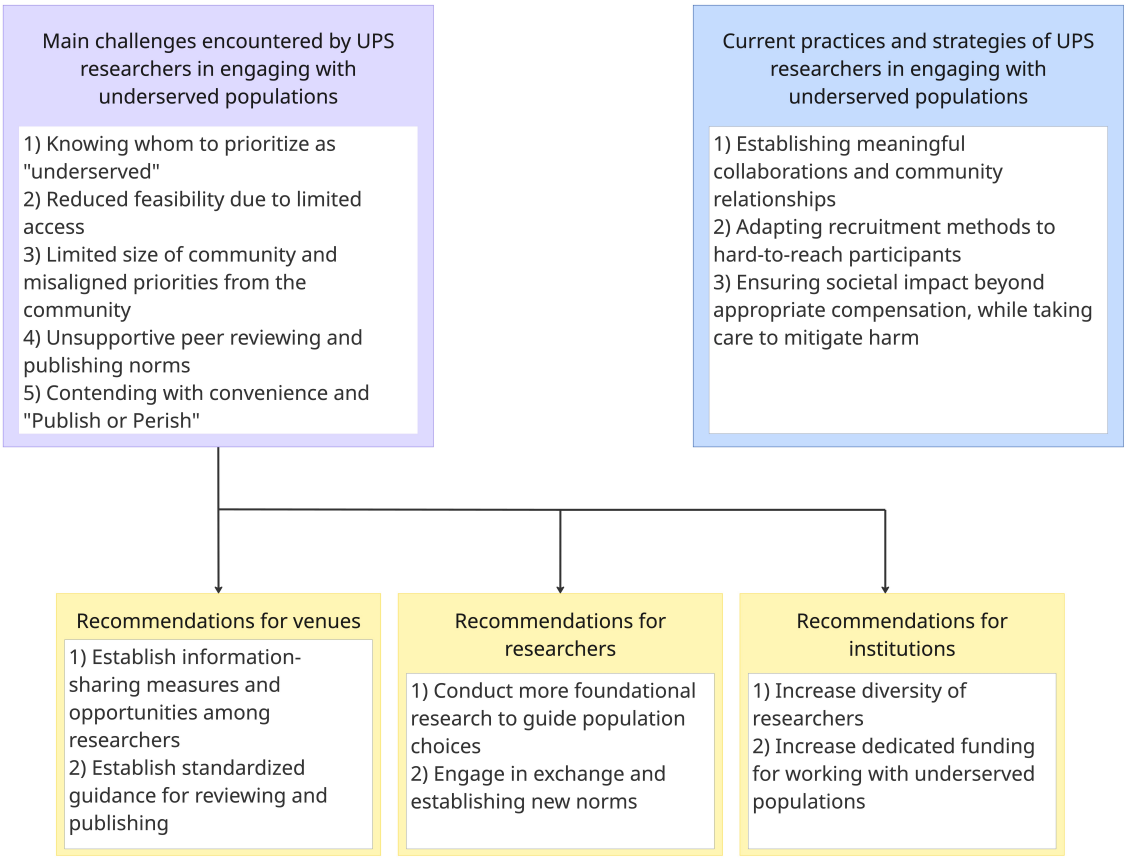

Figure 1: A brief overview of the observed challenges, practices, and recommendations for working with underserved populations

researchers themselves, as scholars in the community may themselves experience marginalization, while also undertaking research involving marginalized people [23, 97]. Practicing positionality is a meaningful way to help researchers recognize personal biases, privileges, power relationships, values, and ethical considerations while conducting research [60].

Positionality statements—describing how the identities of the authors relate to the research topic and to the identities of the participants [69]—have an increasing presence in social science and HCI literature [64, 73, 81], even being required in some journals [54]. Through an interview study with HCI researchers, Liang et al. [51] argued that positionality statements—albeit important in studies that involve marginalized populations—should not be a norm, since mandating researchers to disclose their identity could disproportionately and negatively affect researchers who experience marginalization [51]. Savolainen et al. critiqued positionality statements from a different angle, contending that more focus should be placed on the integrity of truth-seeking [73]. Singh et al. [80] argued that while positionality statements are typically expected for qualitative research, they are also relevant to quantitative researchers, since considerations around study motivation, design, and outcomes are not the sole provision of qualitative research.

UPS researchers have also started to grapple with the concept of positionality, especially when engaging with marginalized and at-risk populations. In a systematic literature review of papers on privacy and marginalization (2010-2020), Sannon and Forte found that only 23% of them included positionality statements, with most being brief communications of the authors' identities rather than deeper reflections on how these positionalities might inform or impact the research [71]. Similarly, Bhalerao et al. recommended that researchers focus the statements more on their positionality on relevant community issues (e.g., carceral and anti-carceral approaches toward sex work) rather than author identity (e.g., sex workers or not) [9]. Furthermore, Klemmer et al. [45] argued for the inclusion of positionality considerations in the broader pursuit of transparency in UPS research.

To the best of our knowledge, no prior research has directly engaged with UPS researchers on how they practice positionality and reflexivity in their own work. Our study fills in this gap: instead of examining existing positionality statements, we interviewed

researchers to investigate how they make sense of their own identity in relation to the contexts and populations they study.

3 Methodology

We conducted 20 semi-structured online interviews with UPS researchers between September 2023 and July 2024. Below, we describe our recruitment process, study protocol, analytical approach, and reflect on our positionality.

3.1 Recruitment & Inclusion Criteria

We recruited expert UPS researchers to participate in our study. Researchers were required to have at least three years of experience working with UPS topics. We focused on experts because we aimed to interview those with the ability to make or influence funding decisions and study designs. We targeted UPS researchers broadly, rather than focusing only on those with an established track record of working with underserved populations. Our goal was to capture a wide range of perspectives, including potential epistemological differences between researchers conducting more system-focused versus human-focused work, as well as the challenges faced by researchers who aspire to work with underserved populations but are unable to do so in practice.

Drawing from our own knowledge as expert UPS researchers, we leveraged our social networks to recruit prospective study participants through academic and industrial connections and word-of-mouth. We reached out to faculty at universities and research institutions, industry researchers, post-doctoral candidates, and late-stage Ph.D. students, while also relying on responses from a pre-study survey to verify the expertise and decision-making capacity of the recruited researchers.

All prospective participants received an invitation to participate via email. As compensation, we offered the participants the equivalent of 20 EUR for their time, which they could choose to receive or have donated to a charitable organization of their choice.

3.2 Study Protocol

3.2.1 Pre-study Survey. We reached out to prospective participants via email (see Appendix A.1 for recruitment email template), including a link to an online pre-study survey, which collected demographic information, expertise in the research area, and educational background (see Appendix A.3 for the specific questions). We used participants' responses to this survey to ensure that participants met our recruitment criteria (§3.1). The survey started with a consent form (Appendix A.2.1). Because the survey included optional questions about potentially sensitive topics such as research budget, for privacy protections, we did not ask for participants' email addresses or any other contact information, so we could only report participant demographics in aggregation and would not be able to link the survey responses to the interview data. At the end of the survey, participants could pick an interview slot via Calendly [13].

3.2.2 Interview Protocol. We developed a semi-structured interview protocol through a series of pilot interviews with other UPS researchers in our personal networks. We adjusted wording and framing based on their input to ensure the questions asked were suitable and clear. Potential participants who met the recruitment criteria were then invited to participate in the interview. The interviews were conducted in English via the Zoom video-conferencing service. We recorded the interviews using Zoom's built-in recording feature for later transcription and analysis. In addition to the online consent form (Appendix A.2.2), participants were verbally informed of their rights and asked for consent to record the sessions. The interviews lasted between 60 and 90 minutes.

Our interviews consisted of seven main parts (see Appendix A.4 for all questions), including the following.

1. Introduction: To gather background information, we asked participants to summarize their current interests, research topics, positions, and professional trajectory.

2. Research approach and populations of interest: We structured this part in two brainstorming tasks. We first asked participants to reflect on factors that influenced their research approach positively or negatively. This question was intentionally broad and intended as a warm-up to gain an overview of their general thought processes in approaching their research. When necessary, we provided scaffolding to this broad question by asking researchers to focus on the top five factors they consider. If a researcher requested additional input, we explicitly encouraged them to consider both internal and external factors. Next, we asked participants to think more specifically about their recruitment decisions, such as factors considered when deciding their recruitment populations and strategies. We also elicited participants' practices and strategies for reaching study populations. Participants could also ideate and take notes on blank Miro boards[3] while answering the questions.

3. Perceptions of positionality: We then asked participants to share their understanding and views on positionality, before showing the "Positionality Wheel" [64] as a discussion guide for various aspects of social identity. We also noted biases, power, values, ethics as elements that could be considered as parts of one's positionality. We specifically asked participants if they write positionality statements in their work and what their general thoughts were on including positionality statements.

4. Reflections on positionality: After the discussion on positionality, we returned to the first brainstorming task with the Miro board, and asked participants to reflect on how their positionality tied in with their research approach. We suggested participants refer to the Positionality Wheel as a starting point and prompted them to reflect on whether/how their positionality impacts their overall research approach and, more specifically, their recruitment decisions and strategies.

5. Challenges in recruiting desired populations for studies: To discuss researchers' potential challenges in reaching their desired demographics—while keeping in mind our discussion on the researcher's positionality in their work—we returned to the second brainstorming task with the Miro board. We elicited researchers' experiences and sometimes frustrations in trying to reach their desired populations, alongside the workarounds with which they engaged to overcome any challenges.

6. Consideration of underserved populations: We explicitly asked participants whether and how they consider underserved populations in their research, along with examples of populations they

[3] https://miro.com/

consider underserved, in order to gain an understanding of participants' views of underserved groups in their research and their reasoning for working (or not) with underserved groups. Additionally, we probed participants about their conceptualizations of the populations, such as whether and how they see any difference between "marginalized" and "underserved" populations.

7. Wrap-up: To conclude, we asked researchers what obstacles they identified for the UPS research community in being able to work with underserved groups. We also elicited their recommendations for improving the status quo, gaining insights into how researchers think the research community can work towards more inclusivity.

3.2.3 Ethics. For informed consent practices, we gave each participant two consent forms—one before the survey and another before the interview—to ensure they were informed of all the tasks and potential risks involved in our study; that the interviews would be recorded and transcribed for analysis, and that they were free to stop participating and/or request the deletion of their data at any time. At the time of conducting this study, our institution did not have an independent ethics board. However, all authors have undertaken the CITI trainings on research ethics [14] for working with human subjects. Furthermore, we ensured that our practices adhered to the General Data Protection Regulation (GDPR) [24], the Association for Computing Machinery (ACM) Code of Ethics and Professional Conduct [5], the Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association [4], and the Declaration of Helsinki [6].

3.3 Participant Demographics

Since the UPS research community is small, we report participant demographics in aggregate to mitigate risks of breaking anonymity. Our sample included 20 UPS researchers;[4] seven of them focused more on system-building with some usability evaluation, and the remaining focused more on qualitative and/or quantitative research with people. In terms of gender distribution, our sample consists of eight women, nine men, one non-binary participant, and one who preferred not to disclose their gender. Among all participants, 12 were based in the United States, three in the United Kingdom, two in Germany, one in China, and one in Denmark. Seven of our participants grew up in non-Western countries (Bangladesh, Botswana, China, India, and Saudi Arabia), although most of them now work at Western-based institutions.

In terms of research experience, four participants had over 10 years of experience, 11 had 6–10 years, and four had 3–5 years. Participant roles varied and included one industry researcher, nine assistant professors, two associate professors, five postdoctoral researchers, one graduate researcher, and one faculty member (rank unspecified). Almost all participants (18) held doctoral degrees, while one held a master's degree. Collectively, they reported publishing over 400 papers across various privacy and security venues. Eight participants reported having a dedicated research budget, but only four of them had funds specifically set aside to support equity or accessibility in their research.

[4]We also conducted but had to discard data from three interviews due to incompletion (caused by participant time constraints) or emerging conflicts of interest. One participant did not complete the demographics survey, so our reported demographic data is based on 19 participants.

3.4 Qualitative Data Analysis

We transcribed the first round of interviews locally using WhisperAI [65]. The remaining transcripts were manually transcribed using a GDPR-compliant transcription service, Amberscript [3] Automatic transcriptions by WhisperAI were additionally manually checked by a student research assistant. Prior to coding, all transcriptions were proofread by the primary researcher.

We conducted thematic analysis on the proofread transcripts to capture participants' opinions, experiences, and suggestions. The primary researcher thoroughly went through the transcript of the first conducted interview to identify possible themes, assign themes through codes, and establish a preliminary codebook. The second researcher used the established codebook to code the same transcript, adding their own code suggestions and corrections. Both researchers then discussed their codes to resolve conflicts and update the codebook to best reflect their interpretations. The codebook emerging from this exercise was then used to code another two transcripts. We intentionally selected two transcripts wherein participants spoke about diverse research topics (e.g., blockchain, authentication, and smart homes), so that we could develop a wide range of codes together. New codes were iteratively discussed and added to the codebook after every co-coded transcript. The third researcher co-coded another two interviews with the primary researcher, reviewing added codes, further adding new codes, and refining the codebook.

After a codebook was established based on multiple transcripts and input from the research team, the primary researcher used the codebook to code the remaining transcripts, adjusting or adding codes as needed. The third researcher reviewed the codes added by the primary researcher at intervals of a few transcripts. Joint discussions led to modifications, such as merging codes or restructuring themes where necessary. We do not calculate inter-rater reliability (IRR) because our coding is a tool for identifying themes and concepts, not an end in itself [57]. Instead, we ensured reliability through the triangulation of multiple researchers' perspectives during analysis.

While the Miro boards were used as an instrument to support our participants in their thinking and brainstorming process during their interviews, we decided not to include drawings from the Miro boards, as our preliminary analysis revealed that the Miro board drawings did not yield any new themes or codes that were not already covered in the interviews.

3.5 Limitations

We attempted to reach out to expert UPS researchers, who are a hard-to-reach community with limited bandwidth for scheduling lengthy interviews [83]. This left us with fewer participants than what would have been ideal. While we reached out to over 70 prospective participants, only 23 were able to participate. Self-selection bias likely played a role in who participated in our study, as is typical in other interview studies [44].

There are also limitations associated with our sample. Despite our best efforts to achieve geographic diversity, our recruitment

process relied heavily on familiar social circles and snowball sampling from our direct contacts. This approach aligns with prior work such as Nath et al. [63], but it led to a sample skewed towards those located in Western universities, thereby—ironically—perpetuating and exemplifying the very issue we have critiqued in our paper. When we conducted the study, we weighed alternative strategies with greater reach, such as advertising our study at international conferences. In the end, we opted for our current approach to have more control over the information flow, as inviting the wider community would also inflate the number of conflicts of interest when we submitted the paper in an already small community, a concern also highlighted by Soneji et al. [83]. In retrospect, we could have chosen a middle ground by systematically emailing authors of recent papers in the field to broaden the reach while preserving the oversight as done in prior works [58, 83].

3.6 Positionality Statement

This project was a collaboration among four UPS researchers. All research team members have more than three years of experience in conducting, writing, publishing, and reviewing UPS research, while focusing on marginalized and/or underserved communities. We approach this study as researchers situated within the UPS and HCI communities. Our interest in this topic stems from our own experiences conducting qualitative security and privacy research with marginalized populations, wherein we have identified, firsthand, several constraints and challenges, and aim to understand the extent to which these constraints and challenges happen at scale. Three of the authors grew up in non-Western countries but now work at Western institutions. The fourth author spent a considerable amount of time in different non-Western countries. Such experiences of being connected to, yet simultaneously detached from, both worlds shape our understanding of who is underserved, particularly in cross-cultural settings. We acknowledge that our dual roles as interviewers and as fellow researchers in this space may have influenced how participants shared their experiences, while also enabling us to engage with them more meaningfully. At the same time, our positions as UPS researchers limit our ability to interpret findings beyond the perspectives of our own discipline. Our vision for this work is to serve as a starting point for our research communities to work together in addressing the challenges of conducting inclusive research and enacting changes.

4 Results

We report on our findings for the themes we explored during our study. As a middle ground between indicating the prevalence of themes and avoiding the quantification of qualitative findings—and following the practice in prior work [22, 98]—we use the following quantifiers when presenting our findings: a few (0-20%), some (20-40%), about half (40-60%), many (60-80%), and almost all (80-100%). However, we note that the analysis and findings are qualitative and not intended to be interpreted quantitatively.

4.1 Efforts & Practices in Working with Underserved Populations

Collectively, researchers in our study have experience working with a wide range of populations. Some of them have been considered marginalized, underserved, or at-risk according to prior work [55, 94], such as blind and low vision people, LGBTQ+, people with substance abuse, older adults, sex workers, intimate partner violence (IPV) survivors, journalists, activists, refugees, and undocumented migrants. Researchers also mentioned working with a few other difficult-to-reach populations, such as industry engineers, lawyers, and expert software developers; even though these groups are not conceptualized as "at-risk" or "marginalized" populations in existing frameworks [8, 85, 94], the limited access means they remain understudied and underrepresented in the UPS literature.

While some researchers work with more general populations and rely on convenience sampling methods to reach their participants, other researchers make dedicated efforts to reach and engage with underserved populations, with a few concrete strategies.

4.1.1 Establishing Meaningful Collaborations & Community Relationships. Researchers intending to work with underserved communities actively seek to establish meaningful collaborations with fellow researchers. This can take many forms—reaching out to other researchers with the necessary skills or contacts either among one's own network or through recruiting students with suitable interests, or waiting for other researchers to come up with collaboration suggestions. While researchers all agreed on the crucial roles of collaborators, the motivations and values reflected in establishing such collaborations vary. Some researchers see collaborators as people who can provide diverse perspectives and expertise on how to best approach and meaningfully engage with the community: *"They (collaborators) also bring other perspectives and positionalities. When they have these ideas, they can take the lead on formulating research questions and ideas and working out methods to talk to the right people"* (P20). Other researchers frame the collaborations as means to overcome challenges related to accessing a hard-to-reach population, as P18 shared, *"Working with a collaborator who has a connection or . . . experience doing research with (a certain community) is one of the ways to get those studies going."* However, P03 expressed reservations regarding establishing collaborations solely for the access purpose, cautioning that researchers must also critically reflect on what themselves can bring to the table: *"I could say, do you want to conduct a study and analyze it? But what would I contribute?"*

The collaboration further extends beyond academic contacts to underserved communities themselves where long-term engagement and relationships take place. The engagement involves attending community meeting places and speaking with members, as well as participating in community events to establish trust and familiarity. P15 recounted their experience of relationship building in the case of working with older adults: *"We (build) relationships with local community centers and senior centers and support organizations and using those as an entry point for recruitment."* P12 also emphasized the importance of community involvement in very early stages of research design even before recruitment: *'We were also trying to get the organization's leadership input on the research questions that we were asking . . . Making sure that we were asking things that would be safe and reasonable and that people would be able to talk about."*

Trust is a recurring theme in researchers' accounts of relationship building with communities, as a normative value beyond practical reasons: *"There should be trust between the researcher and the community you're trying to study. That trust oftentimes takes a lot of effort. Sometimes it takes time and takes money. Sometimes it requires that you are part of that community"* (P11).

P06 reflected on their journey of building trust with a disability community: *"What I did is … running some workshops to understand the current state of different technology usage among these … users and attending different community meetings … just to understand how this community communicates their needs."* During this journey, their process for understanding a community has also changed: *"When I started as a new researcher, I kind of emphasized more on literature to find the research gap. But moving forward, that gap in the literature might not reflect the full picture of what the community exactly needs at that time."*

4.1.2 Adapting Recruitment Methods to Hard-to-reach Participants. When the underserved population is also hard to reach, researchers often adapt and innovate their recruitment methods. However, the specific approaches they use are shaped by their own connections and level of community membership. For researchers without existing connections, some described taking an open-ended approach, aiming to first understand and then adapt their recruitment methods to align with community practices and needs. As P06 explained: *"As I start this communication, I get to know their interaction and how they like to interact with researchers, as well as within their community. And I kind of learn and adapt. It's not the same approach for all communities."* P16 described their approach as a combination of many possible channels: *"I try to diversify … [Reaching out to] my colleagues and asking them to help me recruit … I also use my social networks … outside work … I also go for community organizations, people at NGOs."*

Other researchers, such as P11, had baseline knowledge of community-based connections and spaces, which they leveraged for proactive outreach: *"We post flyers in the local communities. You're able to get people who are actually interested. I send out emails to some of the groups that I know I'm part of, then they are able to give us participants."* Researchers who are already members of specific communities are often motivated to work within their own communities and tend to find it easier to engage with participants who share that same community membership.

4.1.3 Ensuring Societal Impact Beyond Appropriate Compensation, while Mitigating Harm. While having appropriate compensation for participants is a common standard for general human subjects research [92], researchers reflected on what "appropriate compensation" means when working with underserved communities. P10 highlighted that the compensation should be aligned with factors more than time spent in the study: *"Is there something that you use to determine what you would like to pay participants? Is it their expertise, their experiences, or their age?"*

Moreover, some researchers reflected on how they can give back to the communities in ways that go beyond the scope of simply receiving monetary compensation, as P07 said: *"Being able to include the personal knowledge of the authors as data is something … we're going to need to do as we study more underserved populations."* P12 gave example alternatives that can have positive societal impact such as *"running digital security training"* and *"releasing findings in a community report."* Indeed, the desire to create a positive societal impact is a major motivator for researchers when choosing to work with underserved populations. P10 expressed their desire to orient the knowledge production to the benefits of the community: *"I want to avoid publishing something new to researchers, but not helpful to participants. My goal as a researcher is ultimately to produce knowledge that would be helpful for the people that this knowledge is being produced about."* P18 echoed this motivation in their work with students in middle schools:

> *"I want to do something for … school children … an equitable solution for … school children, not just the ones in the big cities or the ones that have the internet access or the motivating parents who make them go online and do these extra extracurricular … I want to actually work with a … school that has those (hard) conditions … conditions that I want to improve"* (P18).

Not only do researchers deeply reflect on additional or continued benefits beyond just the duration of the research study, they also consider various ethical aspects of working with the population, such as how the research might *"negatively impact their lives"* (P16) or *"overload certain populations"* (P19), and attempt to ensure they prevent or mitigate negative effects. For instance, the topic's sensitivity influences their approach to engage with the community, so that sometimes they choose to work with adjacent populations that can still contribute insights into the sensitive matters without causing harm, as P12 reflected: *"Can we talk directly to the population without putting them at risk? … If we're asking about something that's very traumatic, is there an adjacent group that we can talk to instead?"* P11 highlighted the ethical considerations around research with children and the importance of junior researchers receiving proper training: *"I have my students going through … first-day training just to help out with the kids if anything happens."*

Key Findings (RQ1): Researchers working with underserved communities emphasize meaningful collaborations, drawing on colleagues, students, or collaborative suggestions, with approaches shaped by networks and community membership. They prioritize societal impact, adapting recruitment methods, mitigating potential harms, and sometimes avoiding studies that could negatively affect the community. Researchers emphasize the need for respecting how communities wish to engage, acknowledging that their interests may not align with community needs, and on avoiding imposing themselves where their involvement is unwelcome.

4.2 Challenges Encountered in Working with Underserved Populations

Despite researchers' ongoing efforts to recruit and engage underserved communities in their work, obstacles remain in the pursuit of this goal. Some of these obstacles stem from practical constraints, while others require more systemic changes to existing norms around publications and peer review.

4.2.1 Who We Should Prioritize as 'Underserved'. Researchers struggle to determine which populations to engage with. Two key

challenges they identified are: (i) the difficulty of knowing which populations to prioritize—that is, who needs more attention in UPS research and where to find people who need additional support, and (ii) the difficulty of knowing or measuring when the privacy and security needs of a population have been adequately met.

The difficulty in operationalizing who is underserved in UPS research is fundamentally tied to different notions of what constitutes a diverse sample. Many researchers mentioned demographics, either in a general sense of *"varying demographics"* (P09) or by pointing to specific factors: *"It can be racial. It can be family income. It can be the education level"* (P11). Other researchers, such as P01, emphasized that the meaning of diversity also depends on the research itself: *"We design a research question and that affects a certain target group, and depending on the target group, we always think about diversity, but how we consider it can take different shapes."*

Additionally, researchers expressed conceptual uncertainty regarding the term "underserved" itself. When asked to describe how they consider underserved communities in their work, researchers provided a wide range of related terms, including "underrepresented," "understudied," "vulnerable," "at-risk," and "marginalized." P09 admitted that "marginalized" and "underserved" are largely interchangeable in their own usage: *"I think that they're oftentimes related, but I don't have a very good definition of either . . . I might even use them interchangeably, even though this is probably wrong and someone who knows more would probably correct me on this."*

This ambiguity leads to further confusion about which groups could most benefit from the attention of the UPS community. Some researchers attempt to avoid these broad descriptive terms altogether, in favor of specific risk-based descriptors for their closer connections to the security and privacy literature:

> *"I tend to sidestep this difficult question in my own research by using a term that is also complicated but is somewhat used, which is 'high-risk' or "higher-risk' . . . Based on their relationship to privacy and security, if they're more likely to experience privacy harm or if the consequences are severe, then we'd call them high risk, which can be anything from [marginalized communities] or people who are experiencing something that is putting them more at risk"* (P12).

Some researchers also took issue with the term "underserved." P10 challenged this framing, explaining that they do not view research as serving people; rather, they see research as uncovering where people are underserved: *"I would not use the word "underserved" in research. I would use served to refer to how technology serves people . . . They (certain communities) are underserved by the technology."* Ironically, P16 noted that the UPS community itself is underserved because it is not well-equipped to conduct inclusive research: *"People were like, how? Isn't it obvious? Because right now, we are trying to work with people, but we don't even have standards, we don't have methods, we don't have frameworks."*

Even with guidance on identifying underserved populations provided by several existing frameworks in UPS and HCI literature [8, 51, 55, 94], challenges remain when these groups are treated as fixed attributes without reflexivity about the underlying mechanisms that produce marginalization. P10 reflected that, despite a growing shift toward working with underserved communities, there is still a limited understanding of the root causes that keep these populations underserved: *"There's still a very strong focus on individual people or groups of people in a very prescriptive way and focusing on these populations that are marginalized or underserved rather than the forces that marginalize or underserve people."* P20 further cautioned that researchers are also constrained by their own biases and limited perspectives: *"(Certain communities) are underserved because we don't know about what they're facing . . . In academia, we're in this ivory tower. A lot of us just have maybe blind spots to what's going on."*

Furthermore, even when researchers can identify certain groups as underserved, they may not know how to measure when a group's needs have been successfully met. As P09 asked: *"Is it when a specific tool is deployed back to those communities? Is it possible for the security and privacy community to establish a relationship with those communities?"* This uncertainty highlights the need for more foundational work to systematically identify and continually re-evaluate underserved populations. As P20 emphasized: *"This area of research is so valuable. The foundational user studies, like identifying needs, identifying challenges—It is useful because then it brings to the community . . . the problems that people face, that other people can then read and understand and try to do something."* To this end, researchers also identified the need for greater knowledge- and resource-sharing through workshops, shared platforms, or informal exchanges. Such collaboration would allow researchers to collectively discuss and reflect on which groups should be prioritized and to work toward a shared understanding of these challenges and potential solutions:

> *"The (problem) is a lack of communication between ourselves, not talking. When we attend conferences, we attend workshops together, but we never sit down and say . . . How do you deal with this thing? How do you recruit? Why are you not doing this problem with this particular group? If we start talking, that's when we are going to realize or be able to include some of these groups that we have excluded before"* (P16).

4.2.2 Limited Access Reduces Feasibility. Researchers identified various challenges related to gaining access to specific populations: *"I can dream up a study, but if I can't figure out how to do the recruitment, the study won't happen"* (P01). UPS researchers may lack the social connections and feasible means necessary to reach underserved communities: *"I think you need to have some social capital with people who are not a general user population"* (P08). This challenge is further compounded when researchers *"are not part of the underserved populations"* (P11) and when *"the majority of the researchers are from Western universities and education institutes"* (P06), limiting access to non-Western populations. A lack of social membership also restricts researchers' knowledge of where to best reach community members and how to motivate engagement. As P18 shared: *"It's often just hard to find them . . . Finding the right communication channel to advertise is difficult, and finding the recruitment texts that will connect with them is also difficult."*

To tackle challenges around accessing the underserved populations, researchers rely on collaboration to engage in *"interdisciplinary kind of work"* (P13) or with researchers from *"other cultural*

contexts" (P02). In P07's case, they got to work with various underserved communities by being approached by other researchers having social membership of the community: *"Someone has come to me and said, I have this question, I have access to the people that we've studied."* However, they also reflected on the disappearing feasibility without initiatives from other researchers: *"I've been thinking about how I (can) continue to do (such) research ... without relying on people to come to me, and how I (can) create connections and make sure I'm giving to them more than I'm getting."*

4.2.3 Limited Size and Misaligned Priorities from Communities. Balancing aspects such as gender, years of experience, and socioeconomic status with a particular topic or technology can be challenging, especially when the community is small to begin with. For instance, P16 described challenges in achieving gender diversity when working with parents: *"You end up just having mothers or people who identify as mothers ... You're also looking for men, but then they don't want to take part in the study."* As a result, they sometimes had to abandon projects due to a lack of participants.

Small population sizes also require researchers to work around participants' limited availability, such as *"time constraints on their part"* (P19). This challenge extends even to populations that are somewhat privileged but still underserved, because their security and privacy needs are not sufficiently supported due to limited access. As P01 explained, *"(For) specific expert groups, they might also be underrepresented in research because they are so hard to get to, but they might not be vulnerable in the sense that other groups are."* Another tension in engaging with small communities is the risk of overburdening members, which can lead not only to research fatigue but also to participants becoming non-representative of their community:

> *"I cannot come back to the same participants of that underrepresented population again and again to do multiple studies, because that would also overload them in a sense ... If it's on different security aspects, then it might also, in a sense, make people more aware of security issues, then suddenly they are not representative anymore of their underserved population"* (P19).

Researchers sometimes also become aware of, and need to navigate, situations in which the priorities of a population differ from their own assumptions. As P11 explained, *"If you're talking about privacy and security with the parents regarding their children online, then oftentimes the first reaction is, instead of privacy, they care more about safety."* The different priorities can also be shaped by cultural and social norms: *"Privacy is very different in some places in the world—Like in some societies, one may share certain information that would be considered private elsewhere. Otherwise, it can have negative implications from a societal perspective"* (P04).

4.2.4 Peer Reviewing Norms Do Not Provide the Necessary Support. Researchers identified several existing norms in the UPS research space that do not support work with underserved groups. Some of these challenges relate to qualitative methods—which are often well-suited for in-depth engagement with underserved populations—not being fully appreciated at technical computer security and privacy venues. Ethnography is one example: *"Given the current research-publishing norms in security and privacy, ethnography isn't really common and it's also relatively high cost"* (P10). Papers reporting on underserved communities are often constrained to small sample sizes, which conflicts with the emphasis on generalizability under a positivist orientation:

> *"The reviewing process is a little bit harsh towards a paper that needs a special handling or a different set of clusters ... In (a particular) study, we had 12 participants over six months. It was very difficult to get participants. We still get criticized a lot because of the sample size"* (P11).

Other norms that researchers find problematic include the existing literature's primary focus on Western contexts [40], which shapes a peer review culture that treats US-based populations as the default or baseline for comparison: *"If it's a different country, say China, maybe people will expect them to say in the title, this is a study of this problem in China or in the Global South"* (P13). Along similar lines, P18 highlighted that the scales and measures commonly used in UPS research are largely borrowed from Western contexts: *"Some of the scales that we use to measure privacy preferences ... They've been developed in a European context or Euro-American context. The moment you administer those in Asia, they don't work as well."* Moreover, P06 expressed frustration when encountering the expectation that all research must be generalizable to the US or other Western contexts: *"During the publication process, generalizability can be a question. I haven't found that question for (users with disabilities) who are in the United States, but whenever it is for the Global South, I get a ton of questions about generalizability."* P16 also shared concerns that reviewers from the Global North may not fully appreciate the challenges prevalent in the Global South, potentially leading to unfair dismissal of work involving less familiar populations. This expectation can pressure researchers to focus on populations that facilitate a smoother publication process. As a result, P13 primarily works with US-based populations: *"I feel this is a community norm thing, it cannot be changed by one person."*

Additionally, many researchers felt that the effort and care required to appropriately engage with underserved communities are often undervalued. Such work demands additional time, effort, intentionality, and resources, yet the reviewing process and publication venues do not appear to acknowledge this reality. As P06 noted: *"Even though you don't see that in the research paper, there is a lot of trial and error of reaching the community in different media and finding out suitable methods of recruitment."* This issue is not unique to UPS research with underserved groups but reflects a broader problem of overlooking behind-the-scenes work [58], which often goes unreported in academic papers. It is, however, particularly concerning in UPS research as attention to underserved users has already been identified as a critical priority [56, 71, 94].

To address these challenges, researchers suggested establishing guidelines and standards for working with underserved groups. P13 proposed introducing new guidelines for declaring study parameters related to demographics and methodologies as a way to navigate existing implicit norms: *"There could be metadata they could tag on the website. When you're submitting, you can fill out a standard form. This information will be specified on the paper's website, where everyone can see it."* P04 and P18 further emphasized that the research community must take collective responsibility

to foster a culture that supports engagement with underserved communities. One practical change could be more targeted funding and resources to support work with underserved communities. As P08 explained, *"That's going to help not only motivate people who need funding but also point to this as a demonstrated problem, and we're elevating it through this funding mechanism and showing that this has an implicit credibility behind it."*

4.2.5 Contending with Convenience and 'Publish or Perish'. Researchers find it challenging to navigate the limited access and meaningful community engagement required to work with underserved populations, alongside the temptation to conduct research with "general populations," which typically offers a more straightforward execution pipeline. This quandary is further compounded by the pressure to have reliable outputs to survive in the "publish or perish" academic environment.

While the choice of target population is often intrinsically tied to the research questions, researchers have to balance it with issues of access. Many rely on convenience sampling to meet time and budget constraints, even if, in an ideal world, they would prefer to reach a more diverse population. As a result, researchers often face difficult trade-offs between what they want to do and what they can realistically achieve within institutional constraints, existing recruitment channels, publishing timelines, and budgetary limits. Anticipated challenges in access can also discourage researchers from approaching certain populations in the first place. Some participants, such as P05, reported avoiding populations that felt beyond realistic reach: *"Maybe I would be interested in interviewing politicians, but I don't think it's realistic for me to really recruit a large enough sample, so I just wouldn't go there."* Others resorted to using more convenient proxies to study difficult-to-reach groups or topics: *"If this one sample is very hard to get to, is there a plan B sample that we can use and get similar or comparable findings with?"* (P01).

Researchers also identified the "publish and perish" culture as a significant barrier to pursuing meaningful community engagement. Even when attempting to recruit more participants, time and budget constraints remain pressing. P10 reflected: *"The main challenge is probably either the cost or the academic publishing cycle."* They also admitted, *"There are empirical methods where I might want to, in theory, recruit infinite people … Can I recruit infinitely? No, I have to publish something and then move on."* P11 highlighted the tension between slow, participatory research that could take years and the pressure of securing tenure: *"As a pre-tenured faculty … there's pressure for publications. You have to go through the tenure process. You won't be able to spend that much time building these connections. Some of them do, but in most cases, it's difficult."* Overall, researchers find that their ability to dedicate time and effort to the extra considerations required for working with underserved communities is restricted by academic expectations and norms, where success is often measured by the number of publications rather than the societal impact of the work.

Key Findings (RQ2): Researchers face challenges in deciding which populations to engage with in UPS research, including determining which groups need more attention and assessing when their privacy and security needs have been adequately met. Access to underserved communities is often limited by a lack of social connections, feasible recruitment methods, and collaboration opportunities. Recruitment is further complicated when communities are small or have different cultural and societal priorities, and when peer review norms over-emphasize generalizability and reinforce Western-centric perspectives. Consequently, researchers' capacity to dedicate the additional time and effort necessary for meaningful engagement is constrained by academic expectations, where success is frequently measured by publication output rather than the societal impact of the work.

4.3 Navigating Positionality in Working with Underserved Populations

We asked researchers about their perception and use of positionality statements, while also reflecting on how their positionality influences their research and methods. We found that the concept of positionality has only recently gained traction in the UPS field. Although this has led to an increase in the use of positionality statements, confusion remains regarding how to articulate positionality and the appropriate level of detail to disclose.

4.3.1 Researcher's Positionality Can Strongly Impact the Choice of Populations Studied. Participants reflected on the impact of their positionality on the populations studied, often unprompted. Some participants explicitly acknowledged that their choice of research themes stemmed from their personal identities and experiences. For instance, P03 connected their interest in gender-related topics to their own identity: *"I think I'm interested in the gender effect because I'm a woman. Maybe I wouldn't be interested in that as much if I were a [man]."* Similarly, P05 described how observing family members' behaviors became a source of research inspiration: *"(He) started putting some cloth on top of the (smart) camera … That personal experience became part of my research."* P11 attributed their research interests to their role as a parent, stating: *"I do kids' related research mostly because I'm a parent."*

A large part of the reflection is also about community membership and what it means to be part of a community. Especially when researchers belong to marginalized communities themselves, this became a key motivation for advancing diversity, inclusion, and justice in their work. The community membership can also be a way to open up access:

> *"I started with a research problem of understanding privacy and security for Global South users … I'm a person from [anonymized country], which is a population easy to reach out to for me as a researcher. So, I kind of emphasize recruiting (here) … than let's say [other countries] which are not in my close communication"* (P09).

However, researchers do not always hold membership in the communities they aspire to work with. Some researchers expressed the view that community membership is not a must. P18 explained that other aspects of their positionality—such as life experiences or other marginalized identities—can motivate them to explore the needs of a community to which they do not belong: *"I am myself*

not a member of those communities, but I could perhaps somewhat successfully argue that my own positionality makes me somewhat more eager to study those communities." P13 highlighted the value of bringing fresh perspectives as an outsider: *"Sometimes if you're not part of some community . . . you can bring very unique, much-needed perspectives to address some issues that were understudied before."* Meanwhile, other researchers emphasized the importance of self-reflection, particularly in determining whether they are the right fit to study a given population and whether their work will meaningfully benefit that community, as well as the need to maintain humility when engaging with communities in order to avoid conducting helicopter research [33]. P18 explained: *"I don't know everything, [and] the participant will know more about their own experience than I will . . . Being aware of what I know and what the participant knows is a very generic way of describing the power relationship."* There are also tradeoffs between being too distant or too close to a community, as P07 described:

> *"There is some benefit from going in as an outsider, but I don't feel right going in with no connection or no benefit that I'm providing. Do I have a sufficient connection, or am I providing a benefit that they actually want? Then the other side is . . . Is this too emotionally difficult because it's too close (to me)?"* (P07).

4.3.2 Positionality Impacts Broader Research Practices, Often Implicitly. Beyond population selection, researchers commented that positionality influences many aspects of the research pipeline, beginning with topic selection and extending to how a study is designed, conducted, and ultimately presented, even if researchers cannot always pinpoint exactly how this influence manifests. For instance, positionality can have an *implicit* impact on the problems researchers choose to address:

> *"Implicitly recognizing that there's an urgency (of a problem) probably has something to do with who you are in the social relationships that you're involved in, the values that you hold, and the things that you pay attention to just to notice that . . . and want to get involved"* (P08).

P15 similarly acknowledged the broad impact of positionality on their research trajectory, noting that this realization emerged gradually over the course of their career: *"There are certain aspects of positionality that have shaped me to be who I am and to be interested in privacy . . . But I can't directly say . . . because of this particular factor . . . this research topic was chosen."*[5]

On more specific examples, P18 reflected on how their upbringing shaped their worldview and values, which ultimately informed their research focus: *"I also had a decidedly socialist upbringing so that idea of like focusing on diversity and inclusion has always been much more to the forefront in my personal upbringing than perhaps some of my colleagues."* Expanding on how positionality influences data analysis and interpretation, P04 described how their cultural background shaped how they engaged with research results: *"Being someone from . . . a non-WEIRD country, for example . . . I might be over-explaining some things which someone else may not really interpret from the results, because they don't have the background that I have.* P07 discussed how language differences with participants introduced power dynamics, prompting them to adapt their study methods accordingly: *"For power dynamic reasons, it didn't seem like I should individually interview (them). Then we did focus groups with them."* Similarly, P16 reflected on how their position as a university professor affected daily interactions and, in turn, shaped the knowledge production process:

> *"When I'm asking questions, when I'm approaching my participants, how I'm dealing with my participants—they have a huge influence in terms of what . . . kind of work I do. And . . . the fact that I work at the university, (but) the groups that I work with . . . most of them don't go to school. So definitely, there's that kind of thing that somehow I believe influences the whole thing—not the topic but the actual little things within the topic"* (P16).

4.3.3 Researchers Intend to Write About Positionality, But Confusion Prevails. While our findings above show researchers' reflections on the impact of positionality in various ways, researchers are still in the process of understanding and navigating how to effectively articulate their positionality in practice. About half of the researchers reported being familiar with the concept, but many of them were still unfamiliar with the term "positionality." P11 noted that while they do not explicitly use the term "positionality" in their academic writing, they are conceptually familiar with the concept and embed related information within methodological descriptions: *"We actually have a paragraph that talks about the positionality perspective. We just don't call it positionality. . . . I'm familiar with the topic, but not the term."* The avoidance of explicit positionality statements may stem from conflicting norms across publishing venues, as explained by P08, *"I'm usually publishing in venues outside of social science and humanities. It's not a social norm where I publish."* P10 shared that the avoidance of a positionality statement could also come from collaborators in different work environments:

> *"Do I feel an industry collaborator would feel comfortable with a positionality statement, which is a more radical thing to do in the security and privacy research field? That has been a 'pick-my-battle' situation where sometimes I might include statements and sentences that are in the spirit of a positionality statement, but I wouldn't use the words"* (P10).

P08 elucidated further that they forego an explicit statement because it feels like a distraction to them,

> *"I'm not saying you couldn't do it, but I also think by including an explicit statement that says "positionality statement" in the publication, you're making a very explicit claim that—I guess that you're the type of person who and your positionality is that positionality is very important . . . It feels like a bit of a distraction unless I'm writing up a formal research study"* (P08).

On the idea of mandating positionality statements, researchers discussed both the benefits and drawbacks. Many stated that such statements are a useful way to inform readers of the broader context of a study. As P07 noted, *"When the research questions are drawn from . . . the author's personal experience . . . we should have included one."* Nevertheless, some participants remained unconvinced about

[5]This quote was lightly edited to preserve the anonymity of the participant.

the value of explicitly declaring one's positionality. P05 commented that a positionality statement alone is insufficient to capture the full context: *"It could be a good step, but I feel it's not a sufficient step for somebody else to get a clear picture."* Positionality statements may also pose challenges for researchers whose work falls between positivist and interpretivist paradigms, as they struggle to reconcile outlining their subjectivity with the desire to believe they have conducted their research in an "unbiased" manner:

> *"The ideal of research as we envision it is, we strive for objectivity and openness and not having a result before we actually do the research . . . I know it isn't the case, but ideally, it should not be influenced by gender or something else"* (P01).

P12 cautioned that positionality statements can also backfire if they become performative declarations of community membership, potentially reinforcing gatekeeping [51]:

> *"You can be technically in-community and have nothing, absolutely no overlapping experiences with the people that you're talking to. You can be out of the community and have all sorts . . . It's not something that I think should be used for gatekeeping, but I do think it helps signal the level of knowledge sometimes that someone would need to do the analysis with care" (P12).*

While positionality statements have increasingly become standard practice in the HCI field [80], the awareness and integration of positionality within the UPS field is a more recent development [66, 71]. Providing a positionality statement goes toward making UPS research more transparent [45], but participants' confusion about the scope, use, and benefits of positionality statements largely stems from a lack of standardized transparency norms across venues, as UPS researchers publish at both HCI venues such as CHI, computer security and privacy venues, and sometimes social science journals. As such, researchers may react to the ask of positionality statements but not knowing exactly what to expect: *"Should it only say . . . ethnicity? . . . Should [it] also include all their values . . . in which countries they have lived, and which languages do they speak?"* (P01).

Key Findings (RQ3): Researchers identify that their positionality—ranging from demographic dimensions, disciplinary backgrounds, to community membership—has significant but subtle impacts on both the population selection and the broader research practices. Despite reflections on positionality, researchers continue to navigate how to articulate it effectively, facing uncertainty due to the lack of standardized transparency norms and guidance on the nature and extent of disclosure. At present, the field largely relies on implicit norms derived from HCI, which are insufficient for UPS researchers who also publish at other venues with different norms. Establishing clear guidelines would provide a crucial path forward.

5 Discussion

Our findings highlight that identifying, recruiting, and working with diverse populations in UPS research is not straightforward, but rather fraught with uncertainty. We synthesize the key takeaways from our findings as three uncertainties that the UPS research community is grappling with, emphasizing that fully resolving them may be challenging [51], but there are potential paths forward.

5.1 Interpretations of Key Findings

5.1.1 Uncertainty in Deciding Which Populations to Work With. While recent UPS research has made significant progress in identifying and including underserved populations [8, 55, 94], our findings caution the confusion UPS researchers face in deciding which groups need to be prioritized and how to measure for success. While prior work can serve as pointers, and almost all researchers had some understanding of which populations need more attention, this understanding stems from a combination of personal interest and the researcher's particular social or academic contexts (§4.3.1) rather than a more systemic, evidence-based approach.

While all researchers could provide examples of underserved communities, they were less confident in labeling these communities or connecting them to broader concepts such as "underrepresented," "under-studied," "vulnerable," "at-risk," or "marginalized" (§4.2.1). This limitation reflects broader critiques of working with vulnerable populations in a population-specific approach, as noted by Tang et al. [85]. While insights derived may be specific and actionable for a single population, identifying patterns across multiple populations becomes more difficult. Moreover, framing the needs of specific communities as distinct from broader populations risks perpetuating stereotypes [85], particularly when the underlying contextual factors causing problems for the community are not considered [46]. As one researcher observed, populations are not underserved by research per se, but fundamentally underserved by technology and society (§4.2.1).

5.1.2 Uncertainty in Accessing and Recruiting Underserved Populations. Even after figuring out whom to access, the perplexities continue in terms of knowing where and how to find specific target populations. Researchers leverage online forums or offline avenues where members of a community naturally frequent (§4.1.2). From there, researchers broaden the recruitment efforts through contacts to these locations or by establishing relationships with community members that allow them to be present at these locations. While these approaches are somewhat effective, they are still bound by the limits of researchers' knowledge and personal networks. Having researchers who belong to different underserved communities would broaden the reach and collaboration, but as cautioned by Liang et al. [51], this approach might contribute to the tokenization and exploitation of researchers with marginalized identities.

With access to a population, participants described various efforts to ensure safe and ethical interactions with communities. Complexities and dilemmas arise when researchers seek to include community voices but risk retraumatizing participants on sensitive topics [8], or overburdening the few participants in a small target population (§4.2.3), which can lead to research fatigue and reduce representativeness [15]. Some contexts require even more nuanced handling. For example, one researcher noted that women in certain communities may avoid seeking professional help for issues such as cyberbullying or online harassment, due to fears of social repercussions that could threaten their physical safety or opportunities for themselves or their families. Furthermore, as researchers aim to provide broader benefits for communities and build long-term

relationships [51, 68] beyond appropriate compensation (§4.1.3), these goals often conflict with time and budget constraints imposed by rigid peer-review and publishing norms (§4.2.4).

5.1.3 Uncertainty in Navigating Positionality and Its Impact on UPS Research. While many researchers recognize how their own positionalities influence their UPS research, as well as their broader research goals and career paths, they sometimes struggle to explicitly identify which facets of their positionality have an effect and how to systematically account for these effects in their academic work. Our findings reveal two conflicting and co-existing perspectives: First, positionality statements can be helpful, providing additional context; and second, positionality statements can be unhelpful or even harmful for researchers (§4.3.3). The observed wariness among researchers in disclosing aspects of their positionality and identities—fearing their work may be discredited or discounted regardless of the rigor or care with which they address these issues—mirrors findings by Klemmer et al. [45]: Investing time and effort into transparency can leave researchers vulnerable in the peer-review process, potentially diminishing perceptions of a paper's validity or contribution.

Moreover, about half of the researchers reported not having written a positionality statement in their work, despite almost all recognizing the implicit or explicit influence of positionality on their research (§4.3.2). This gap stems from several factors: the complexities of navigating conflicting perspectives, uncertainty about which aspects of identity to foreground, and difficulty engaging with the concept of "positionality" when working with collaborators in industry, where such reflection is not always the norm. As a result, UPS researchers often feel ill-equipped to craft positionality statements. A similar pattern occurs in HCI, where researchers often struggle with positionality, reflexivity, and identity disclosure [51]. Building on the findings of Liang et al. [51], our study provides further insight into why reflections on positionality do not always translate into effective statements: it could result from tensions between interpretivist and positivist approaches, as well as complications in interdisciplinary collaborations. One possible way forward is to analyze and interrogate how positionality statements are written in UPS research—similar to Singh et al.'s analysis of CHI papers [80]—to understand whether existing positionality statements foster genuine reflexivity rather than becoming token gestures that reinforce existing power imbalances. Moreover, the UPS research community can also benefit from community-wide resources for reflecting on and drafting UPS-specific statements.

5.2 Recommendations

Existing norms can dictate and reinforce specific research directions, requiring a conscious and systemic shift in the ways in which we conceptualize and navigate working with diverse populations in UPS research. While researchers should consider ways to better address underserved populations, such efforts must also be supported at an institutional level. Based on our findings, we outline recommendations and avenues for making UPS research more inclusive. We also describe, for each recommendation, the specific problem it addresses—whether unique to UPS research or reflective of broader problems in academia—and note the trade-offs and balancing required in implementing these recommendations.

5.2.1 Recommendations for Venues.

Establish Information-Sharing Measures & Opportunities Among Researchers. Some researchers recommend dedicated information and/or resource sharing measures among researchers (§4.2.1). Specific to the UPS community, existing venues, such as the SOUPS Workshop on Inclusive Privacy and Security (WIPS) [1], which has entered its tenth edition, demonstrate the value of such structured spaces for knowledge exchange and network building. Another example is the inaugural Transparency@SOUPS workshop [89] in 2025, which drives community-wide collaborative development of guidelines for transparent reporting in UPS research and could lead to a more shared understanding of what to include in positionality statements. However, relying solely on conference-adjacent workshops limits participation, particularly for researchers in non-Western regions, who face geographic and visa barriers, and for early-career researchers, who often lack funding.

To broaden access, information-sharing initiatives should be intentionally distributed across regions and formats. First, regional workshops can help reach UPS researchers in areas underrepresented at major security conferences. For example, the inaugural Workshop on Security and Privacy for Asian Internet Communities at AsiaCCS 2026 works toward this goal by creating a community of researchers working on measurement, usability, human factors, and security and privacy in (South) Asia. Second, senior researchers with greater access to institutional resources can organize low- or no-cost local events independent of conferences—exemplary efforts include the NYC Privacy Day and the Capital-Area Colloquium on Trustworthy and Usable Security/Privacy (CACTUS/P) [11]—to mitigate financial barriers for early-career scholars. Finally, recurring virtual events can provide a globally accessible platform for exchanging resources, methods, and experiences related to UPS research with underserved populations.

Establish Standardized Guidance for Reviewing & Publishing. Researchers expressed frustrations around reviewing and publishing norms that do not support their work with underserved communities (§4.2.4). Working with underserved populations often requires slow, deep, community-based engagement that is best supported by qualitative methods. Such work typically involves small sample sizes, either because communities are small or difficult to access. Yet qualitative researchers are frequently asked to defend the generalizability of their interpretive findings, especially when their work is evaluated through positivist lenses—an ongoing tension also noted in HCI research [82].

Echoing the call by Wei et al. [95], the broader computer security and privacy community should be more receptive to epistemic diversity, including methods that uncover the missing "why" behind observed sociodemographic differences or that allow researchers from underserved communities to draw on their own experiences, such as auto-ethnography [25]. To counter pressures for ever-greater generalizability and the publication bias, one possible approach is the pre-registration of studies—an increasingly established practice in psychology [67]. During pre-registration, research questions, the methodology, analysis plans and the targeted sample are reviewed *before* the respective study is conducted. In doing so, researchers can get feedback on the participant pool among other aspects and publication depends more on the specific methods instead of the

results. In addition, institutional mechanisms, such as CSCW's Diversity, Equity, and Inclusion recognition help create incentives for HCI, CSCW, and by extension UPS researchers to pursue slow and community-centered science.

5.2.2 *Recommendations for Researchers.*

Conduct More Foundational Research to Guide Population Choices. One of the main challenges highlighted by researchers is identifying which communities could benefit from greater attention (§4.2.1). This difficulty reflects a gap in foundational knowledge regarding whom to prioritize, despite the growing body of scholarship in the area. Although frameworks exist for identifying "at-risk" groups in security and privacy research [8, 55, 94], the literature underpinning these frameworks is largely drawn from Western contexts and populations [40].

Drawing from medical and social sciences literature, Findley et al. [26] call for assessing *research-induced vulnerability* by shifting the focus away from predefined vulnerable populations toward a more nuanced understanding of how research practices and interactions can create or reinforce vulnerabilities. UPS research could similarly benefit from frameworks that assess the needs of underserved populations by considering their privacy and security challenges in a dynamic, context-dependent manner. Conducting such foundational research requires establishing equitable approaches, such as those outlined by Ramokapane et al. [68], involving participatory engagement with community members. However, these approaches are often slow science and necessitate a broader shift in how academic communities evaluate this type of work.

Engage in Exchange & Establishing New Norms. Although individual researchers cannot, on their own, dismantle society-level structural barriers, they can take a more immediate step—being more transparent about their trial-and-error processes and behind-the-scenes practices. Actively sharing insights on recruitment processes, challenges encountered, and strategies that succeeded or failed can foster a more collaborative and supportive research community. For example, De et al. [18] and Munyendo et al. [62] offer methodological reflections on their journeys in conducting qualitative research in majority-world contexts, including reasoning around recruitment and study-design decisions, demonstrating that these populations are not inherently hard to reach when context-appropriate recruitment strategies are used. Similarly, the team behind the Clinic to End Tech Abuse (CETA) [87] not only publishes research that informs the clinic at leading security and HCI venues, but also created a Technology Abuse Clinic Toolkit [17] for researchers seeking to replicate such clinics elsewhere. These efforts help cultivate an open, transparent research environment that supports work on real-world problems affecting underserved communities, extending impact beyond publications.

Changes are also needed to move beyond the current U.S.-centric norms in UPS research, where studies involving non-U.S. populations often face heightened scrutiny around generalizability. One step forward is to establish mechanisms that support the consistent creation of standardized metadata for UPS papers—for example, tags that clearly describe participant demographics and methodological details. Such practices would improve transparency and help address persistent ambiguities in reporting participant information [40, 71]. However, transparency efforts must be balanced against participant safety. Detailed demographic or contextual information can risk deanonymization in ways that harm participants, particularly for at-risk users ranging from abuse survivors to political figures [8]. In these cases, the best practice may be not to collect certain demographic or identifying data at all. Researchers should feel empowered to omit participant, recruitment, or methodological details when disclosure poses safety risks, guided by case-by-case assessment rather than rigid requirements.

5.2.3 *Recommendations for Institutions.*

Increase the Diversity of Researchers. Some researchers noted that UPS researcher populations are geographically, racially, and culturally limited, with most publications originating from Western universities and institutions (§4.2.2). Diversifying the researcher pool [40] offers value not only by incorporating a broader range of cultural and geographic perspectives but also by fostering more interdisciplinary collaboration. Ortloff et al. [66] highlight that different researchers can interpret the same data in different ways. Researchers in our study shared similar experiences, noting how their own positionality—their cultural upbringing, disciplinary training, and personal experiences—influences how they plan, conduct, and assess research. Including researchers with more diverse backgrounds and positionalities, therefore, can significantly contribute to producing more inclusive science.

However, there are challenges in implementing this suggestion that extend beyond the scope of the UPS community. Researchers from non-Western countries who are based at Western universities often enjoy greater social privileges and access. Adamu [70] reflected that training in Western methods can place researchers from diverse backgrounds "across and along conflicting boundaries in one's own community." When working at Western institutions, such researchers may also feel pressured to conform to institutional expectations regarding which populations they can study. Although the demographics of non-Western researchers moving to Western universities are changing, and an increasing number are able to pursue research at these institutions, such opportunities are still more accessible to those with greater privilege and social access.

Increase Dedicated Funding. Researchers discussed that the constraints imposed by available funding require them to carefully consider how much time, effort, and resources they can dedicate to working with underserved communities (§4.2.5). One approach is to allocate dedicated funding for projects involving underserved populations and to establish award systems—whether monetary or prestige-based—to recognize such work. Nevertheless, there are practical challenges of implementing these recommendations, especially given that funding for marginalized communities and academic research more broadly is highly vulnerable to political shifts, as illustrated by recent research funding cuts in the U.S. [10].

While increased funding can expand the resources available for a research topic, it is equally important to account for cultural and socioeconomic contexts. Funding initiatives—regardless of location—are typically tied to national interests and prioritize economic growth, public health, security, or the well-being of local

populations [53]. Programs that explicitly support research extending beyond local contexts, such as the "Expanding Online Trust & Safety Research Grant Program" launched by the Stanford Internet Observatory in 2024 [27], remain exceptionally rare. This may help explain why UPS research, especially work centered on marginalized populations, is seldom produced by researchers based in non-Western institutions. Local funding priorities and cultural norms can significantly constrain the types of topics that receive support. For instance, it is difficult—if not impossible—to persuade funding agencies in many Muslim-majority countries to dedicate resources to promoting the well-being of LGBTQ+ communities, given prevailing cultural and political opposition to sexual diversity in these regions [39].

6 Conclusion

Through 20 semi-structured interviews with expert usable privacy and security (UPS) researchers, we qualitatively investigated how they engage with the inclusion of underserved communities in their research, and, in doing so, how they navigate their own positionalities. Researchers highlighted community-level and institutional challenges—such as difficulties in systematically prioritizing and accessing underserved populations, publication and review norms that do not reward work with these communities, and resource constraints. Greater diversity and inclusion in UPS research require (i) the establishment of norms and structural incentives that value work with underserved communities, (ii) more foundational research that guides population choices, and (iii) more constructive exchanges and collaboration among researchers.

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A Appendices

A.1 Recruitment Emails

Following is the template we used to reach out to potential participants. Recruitment emails were sent out by three team members. Modifications were made based on each researcher's shared context or experiences with the intended participant, but the information outlined about the study itself remained the same.

> Dear [Name],
> I hope my email finds you well! I'm reaching out for an interview study my collaborators and I are running with fellow usable security and privacy researchers about their experiences and obstacles in conducting empirical studies. I think of you as an ideal candidate, and I wonder if you might have time to participate.
>
> The study is led by [Name]. The study would require you to (1) fill out a short survey, and (2) participate in a one-hour interview. The survey can be accessed using the following link. At the end of the survey, you can pick a time for the interview via Calendly: [Study link]
>
> If you decide to participate, as a small token of gratitude, you could choose to receive 20€ (or its equivalent) or have it donated to a charitable organisation of your choice.
>
> [Name] are happy to answer any questions you may have. We would be extremely grateful for your participation and insights.
>
> Cheers,
> [Name]

A.2 Consent forms

We provided participants with two consent forms—the first at the time of signing up for the preliminary online study, and the second at the time of signing up for an interview slot. To reduce redundancy, the sections of the consent form that are unique to each are outlined first (Appendices A.2.1, A.2.2). The sections that are common to both are outlined second (Appendix A.2.3). The complete consent

forms are therefore a combination of Appendices A.2.1 and A.2.3, and Appendices A.2.2 and A.2.3.

A.2.1 ***Consent form sections specific to the online survey.*** Consent to be part of this research study
Project Title: [Project name]
Principal Investigators: [Names]
Project Description: This study is part of the [project name]. In this particular study, we want to ask fellow usable security researchers about problems they experience in conducting studies.
Eligibility: You are eligible to participate if you are 18 or older, are comfortable filling out a survey in English, and are an expert usable privacy & security researcher.
Study Procedure: For this part of the study, you will be asked to complete an online questionnaire regarding personal data, such as your age and gender, alongside questions regarding your research and professional position. The data is collected with GDPR/DSGVO compliant survey software (Qualtrics, https://www.qualtrics.com/). You are also invited to participate in an interview (you will receive another consent form for the interview) following this.
Risks and Benefits: The risks to your participation in this online questionnaire study are those associated with basic computer tasks, including boredom, fatigue, mild stress, or breach of confidentiality. The benefits to you are the learning experience from participating in said research study, and a contribution to the state of scientific knowledge on this topic.
Duration: Participation in the online questionnaire could take up to 15 mins.

A.2.2 ***Consent form sections specific to the interview.*** Consent to be part of this research study
Project Title: [Project name]
Principal Investigators: [Names]
Project Description: This study is part of the [project name]. In this particular study, we want to ask fellow usable security researchers about problems they experience in conducting studies.
Eligibility: You are eligible to participate if you are 18 or older, are comfortable responding to interview questions in English, are an expert usable privacy & security researcher, and have participated in the preceding online questionnaire.
Study Procedure: For this part of the study, you will be asked to partake in an in-depth interview in person or online using Zoom, during which you will be recorded, with your consent, for ease of transcription and analysis later.
Risks and Benefits: The risks to your participation in this interview study are those associated with basic computer tasks and discussions, including boredom, fatigue, mild stress, or breach of confidentiality. The benefits to you are the learning experience from participating in said research study, and a contribution to the state of scientific knowledge on this topic.
Duration: Participation in the online study could take up to 90 mins.

A.2.3 ***Consent form sections common to both parts of the study.*** **Compensation:** Upon completion of both the initial online questionnaire, and the subsequent interview, you can choose to receive **20€** (you will receive an email requesting payment details via bank or PayPal at the end of the interview part of the study), or to have it sent to a charitable organization of your choice.
Participant's Rights: Your participation is voluntary. You may stop participating at any time during the study, without any negative consequences. For the online questionnaire, you can stop participating by exiting or closing the browser window. You continue to have full rights over how your personal data is handled.
Future use of the collected data: To maximize the benefits of your participation in this project, by further contributing to science and our community, your anonymized information may be stored for future research. Research data at our institution is typically stored for 10 years in order to be available for questions and concerns about the research. Your anonymized data may also be used for teaching purposes.
Data Protection: The data collected in this study will be treated confidentially and pseudonymously during the study. After the study, it will be stored anonymously. In all cases, the use of the collected data is subject to the standard data protection regulations of the [institution name] and corresponds to the General Data Protection Regulation (GDPR).
Pseudonymization means "the processing of personal data in such a manner that the personal data can no longer be attributed to a specific data subject without the use of additional information, provided that such additional information is kept separately and is subject to technical and organizational measures to ensure that the personal data are not attributed to an identified or identifiable natural person" (see Art. 4 GDPR Definitions No. 5). The pseudonyms are stored to allow data access and deletion on request. After the study, the data will be stored anonymously and cannot be linked to you. The analysis of the collected data is based exclusively on anonymous data. All reports and publications of the results will not contain your name or any other information that could identify you. Anonymous citations can be used for research purposes.
The data may also be made available anonymously to other researchers, provided they agree to keep the data confidential and comply with the conditions stated in this document. Neither a scientific publication nor a scientific presentation reference is made to identifiable data.

The Service **Qualtrics**[6] is used to host the questionnaire and to store your task results and answers temporarily. We will delete the data from Qualtrics 30 days after the completion of the study.

The Service **Calendly**[7] is used to schedule a date for the interview. The audio track of the interview will be recorded and then transcribed while ensuring that personal identifiers are removed. The audio track is recorded locally (not in the cloud). Audio recordings are destroyed after transcription.

Within the framework of the legal requirements, you have the following rights:
Confirmation as to whether personal data concerning you is

[6] https://www.qualtrics.com/
[7] https://calendly.com/

being processed by the aforementioned parties,
Information about this data and the circumstances of its processing,
Correction where the data is incorrect,
Deletion, if there is no justification for the processing and no obligation to retain (any longer),
Restriction of processing in specific cases determined by law; and
Transmission of your personal data—if you have provided it—to you or a third party in a structured, common and machine-readable format.
In addition, you have the right to revoke your consent at any time. This results in the consequence that the processing of your personal data, in accordance with your declaration of revocation, by the latter will become inadmissible in the future. However, this does not affect the lawfulness of the processing carried out on the basis of the consent given until the revocation. Please note that, while we will delete all personal data at your request after we de-identify data and can no longer link it to your request, it may still be used in our research.

To send a request for the deletion of your data or any other request within your rights, please send an email with your request to [name]. Please note that by sending your request using your personal email, temporary deanonymization of your data is required to fulfill the request.
Contact: For additional questions related to this study, you may contact the following persons.
Researchers: [Names]
PIs: [Names]
Data Protection Officer: [Name]
In addition, we draw your attention to the right to complain to a data protection supervisory authority. The contact details of the competent data protection supervisory authority are: [Contact details]

Note: In Qualtrics, participants are required to click and agree with each of the following statements to be allowed to proceed with the study. If they do not select any of the statements, they are directed out of the study.
Please confirm the following to proceed:

(1) I have read and understood the information above.
(2) I am above 18 years of age.
(3) I consent to the processing of your personal data as stated above.
(4) All of the questions that I had so far about this research have been answered.
(5) I have chosen to participate in this study with the understanding that I may stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.
(6) I am aware that I may revoke my consent at any time.

A.3 Online survey

Following are the questions we asked participants to fill out for recruitment.

- Hi, I am [Name]. I am a PhD student with [Name] group, and I would really appreciate your input for my research. This questionnaire will only take 10 minutes of your time. Thank you for your interest! :)
  (1) Please choose a pseudonym for yourself (use the name of a popular fictional character): ___
  (2) Age (years): ___
  (3) With which gender do you most identify? *(Single choice)*
    – Woman
    – Man
    – Non-binary
    – Gender diverse
    – Prefer not to say
    – Prefer to self-describe: ___
  (4) What is your country of residence? ___
  (5) What is your country of birth? ___
  (6) What is the highest degree of education you have achieved so far? *(Single choice)*
    – Masters
    – Doctorate
    – Habilitation
    – Other (Please specify): ___
  (7) How would you briefly describe your educational background (hint: subjects, topics you specialized in)?: ___
  (8) How long (in years) have you been involved in the "Usable Privacy and Security" research space?: ___
  (9) Which of the following best describes your current role as a researcher? *(Single choice)*
    – Post-doctoral position
    – Faculty (Please specify your position, e.g., Juniorprofessor, Universitätsprofessor): ___
    – Industry researcher
    – Other (Please specify): ___
  (10) Have you published work in the "Usable Privacy and Security" space in the past five years? If yes, please write down an approximate number for your contributions. *(Single choice)*
    – No
    – Yes: ___
  (11) What are the top 3 conferences you aim to publish at (in no particular order)?: ___
  (12) Do you have a dedicated budget for your research? If yes, would you be willing to share the allocated budget? *(Single choice)*
    – No
    – Yes: ___
  (13) Do you have a dedicated budget for ensuring the accessibility or equity of your research? If yes, would you be willing to share the allocated budget? *(Single choice)*
    – No
    – Yes: ___

  Thank you for participating. Your answers have been recorded. You will now be asked to click on a link which will take you to Calendly.com, where you will be asked to choose a calendar slot that best suits you to have a follow-up discussion, and to share your email address for future communication. After you choose a calendar slot, you will receive a confirmation email containing a Zoom link for the discussion. Please be assured that your responses to the

questionnaire so far will not be linked to your email address and will remain anonymous.

A.4 Study protocol

Following are the questions we used as a guideline for our semi-structured interviews with researchers.

(1) *Introduction:*
Hi, I am [Name]. I am a PhD student with [Name] group, and I would like to learn how you approach your research as a UPS researcher. Before the interview, please read the consent form, and let me know if everything is okay for you. Let me know if you have any questions. Our interview will be recorded and later transcribed for analysis. I would also like to make notes of and record your answers. Is this okay with you? I'll let you know once the recording starts and finishes. Please let me know if at any point you do not wish to be recorded, or do not wish to continue answering. You can cancel your participation at any time. All data from you recorded until then will be deleted.
   (a) Could you briefly summarise for me your current research topic and position?
   (b) For how long have you been doing usable privacy and security research?
   (c) What motivated you to become a usable privacy and security researcher?

   Thank you for sharing your motivation with me.
(2) *Research approach and populations of interest:*
   - *Brainstorming exercise 1:* Now I'd like us to do a brief show-and-tell, using a Miro board. Are you familiar with a Miro board?
     (a) Can you think of all the factors that affect your approach to your research, either in a positive or a negative way? If you would prefer another method to share your thoughts with me, we could also use a whiteboard to make sketches, or you can use a piece of pen and paper on hand and then send me a photo of this. [*If participant requires further scaffolding:* Please think of the five factors that have the most influence on your approach. These factors could be internal or external.]
     (b) Now that we've written down your thoughts, let's take a look at them. Is there anything missing? Is there anything that you would like to add?
     (c) Now let's try organising the different items into categories. It is also okay to place one post-it in different categories.

     That looks very interesting. Thank you for sharing that with me. We will come back to this in a bit.
   - *Brainstorming exercise 2:*
     Now we will work on a second Miro board.
     (a) What factors do you consider important when you plan empirical studies? - Please sort the stickies in order of importance.
     (b) What factors do you consider when deciding your recruitment population and recruitment criteria? - Please sort the stickies in order of importance.
     (c) Now that we are done, similar to before: Please look at the board and reflect on the two questions. Is anything missing?
(3) *Perceptions of positionality:*
   Let us return to the first Miro board we worked on, do you still have the link? [*If necessary, reshare link to Miro board from "Brainstorming exercise 1".*]
   (a) How familiar are you with the term 'positionality'?
   (b) Could you explain to me what that is in your own words?
   In our research project, we use the following explanation: "Positionality refers to the personal and social constructs that define our identity, and shape how we see and interpret the world around us, as well as how the world sees and interprets us."
   Here are various aspects one might consider when thinking about their positionality (please refer to Figure 2):
   (a) Do you have any questions about this image? This wheel is not an absolute guide; it's a general guide, and in our field of research, we often look more at values, ethics, power, biases, than at aspects of social identity.
   (b) Do you include a positionality statement in your academic writing?
   (c) If no, is there any context for which you might be inclined to?
(4) *Reflections on positionality:*
   With your description of your values and aspects of your identity in mind, let's take a look at this Miro board again.
   (a) Would you now like to add anything to the board?
   (b) How do you think any of the descriptors you used to describe yourself, affect your research? Eg: When using qualitative methods where you have had direct interactions with your participants, have you ever experienced that your identity influenced the responses of your participants?
   (c) Can you think about how your identity and experiences affect how you analyse and interpret the data you collect?
(5) *Challenges in recruiting desired populations for studies:*
   Now, I'd like for us to discuss a bit more about the recruitment of participants.
   (a) What are the main challenges then of reaching your desired demographics for participants?
   (b) Would you consider marginalised and underserved populations to be the same? How are they different?
(6) *Consideration of underserved populations:*
   (a) When you think of underserved groups in privacy and security research, what groups come to mind?
   (b) How do you consider these groups in your research?
   (c) Do you make particular attempts to reach diverse and/or underserved groups(why/why not)? How do you achieve this?
(7) *Wrap-up:*
   (a) Do you try to study representative samples?
   (b) How were your experiences when you tried to study representative populations?
   (c) How do you think we, as researchers, can lessen the gap and ensure UPS research results take into consideration underserved populations?

(d) What do you think are the factors standing in the way of accomplishing this?
(e) Is there anything we haven't talked about that you would like us to talk about?

Thank you for your time, and for your valuable insights. Please feel free to reach out to me if you would like to add or redact anything. Before we end, I'd also like to ask you if you have anyone in mind who might be a good candidate for this study? Anyone with a few years of experience in the field under their belt would fit our recruitment criteria—like another professor, a post-doctoral researcher, or a PhD student at the end of their degree.

A.5 Positionality Wheel

The positionality wheel is intended to help people identify their identity and worldview, such as their privilege, their social and political status. It has been largely used in classrooms to help students identify exclusionary practices.

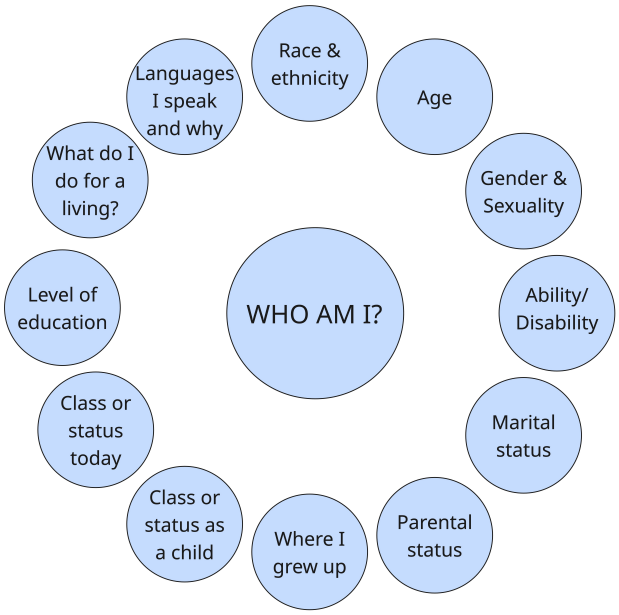

Figure 2: Lesley-Ann Noel [64] proposed the wheel as a tool for participants to reflect on their identities in individual or group activities (redrawn for this submission for easier viewing).