

Behind the Red Lights: Methods for Investigating the Digital Security and Privacy

Experiences of Sex Workers

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“There’s one!” I exclaimed, trying to be quiet. We darted down the nearby alleyway, headed for the red and pink neon lit windows. I was getting better at spotting brothels.

As we ducked inside the entrance, we saw three women clustered around a high table, smoking. Opening the door next to them, we stepped into a dark bar. “Wie kann ich dir helfen?” (How can I help you) asked the sole man in the room. My colleague explained that we were researchers from the university. We were conducting an interview study. We wanted to leave a flyer to see if anyone would be interested in talking to us, it paid well, we said.

He shooed us away. “My girls,” as he called them, “are only here for a month. They wouldn’t be interested.” As we walked out, I slipped a few flyers on the high table, next to the “girls” who were smoking. Thank goodness for smoking, I murmured to my companion.

I came to Zurich with an explicit goal: to study the online safety experiences of sex workers, in an effort to understand how online security and privacy practices are shaped by risk, and how online and offline experiences of threat can blend together to create a singular experience of safety (Elissa M. Redmiles, Bodford, & Blackwell, 2019).

This research started long before this moment recruiting door-to-door at brothels: plotting out city maps filled with brothels and dragging friends and family with me into the red-light districts of Switzerland and Germany. When beginning research in uncharted territory – arguably an apt description of doing research on the technology use of sex workers, and specifically the online security and privacy practices of sex workers – we, or I at least, often start with inductive qualitative work. In this case, I and four collaborators read hundreds of online forum posts and inductively generated a high-level framework of sex workers’ technology uses. Following months of forum reading, I began to put together a semi-structured (*Data Collection Methods. Semi-Structured Interviews and Focus Groups*, n.d.) interview protocol, anchored by the frameworks that emerged from our forum coding. I and a German-speaking colleague conducted 27 semi-structured interviews with sex workers in Switzerland and Germany. We discussed a wide range of online and offline, safety-related experiences during the interviews.

In this chapter, I discuss my motivations for studying this group; as well as online forum analysis methods and how this analysis helped develop a foundational understanding of technology use in sex work that informed the development of a safety-focused interview protocol. I then detail my experiences and pitfalls, attempting to recruit participants in the insular, justifiably authority-wary community of sex workers across two countries – Switzerland and Germany – as a non-German

speaker. I then discuss the process of conducting the interviews including: experiences adapting to interviewee formality, learning to manage appropriately bearing witness to workers' intense experiences, and maintaining consistency in data collection across two languages, two interviewers, and three interview modes (video, audio, and text). Finally, I conclude with a brief discussion of next steps and lessons learned.

Motivation: Why Study Sex Workers to Fix Cybersecurity?

Computer science researchers who focus on security – security researchers – make a lot of noise about risk. If only the users understood the risks, we bemoan, *then* they would behave securely.

But alas, as one of my interview participants for another study, with a general population of users, told me early in my Ph.D., “With computer security, I’m securing myself from threats that I don’t even know anything about...I know when somebody walks up with a gun that I should be worried” (E. M. Redmiles, Malone, & Mazurek, 2016).

Over the past decade, the field of usable security and privacy has focused on trying to understand what drives users to adopt, or reject, digital security and privacy practices. These efforts have led to more user-friendly privacy settings, as well as improvements in warning messages and password policies. Despite these successes, many open questions remain about how and why users make security and privacy decisions, and how to help them make safer choices. One particularly difficult challenge is making risks salient to users. This challenge also manifests as a methodological limitation: studying those who do not feel at risk limits the utility of surveys and laboratory studies about security conducted with general users.

In my own work, I have built scalable, online platforms to run highly controlled behavioral economics experiments in an effort to simulate properly the risk and cost tradeoffs that users make in security situations (Elissa M. Redmiles, Mazurek, & Dickerson, 2018). Yet, little can proxy for true risk, particularly for the blur between online and offline risks that face highly at-risk populations, such as journalists, undocumented immigrants, and sex workers.

Sex workers use the internet to find and communicate with clients and to create and maintain a professional image, often simultaneously concealing their “real” online identity. While recent work shows that the internet has provided many benefits for sex workers (Cunningham & Kendall, 2016; Cunningham & Shah, 2018), their online presence may also put them at increased risk of stalking, physical violence, and harassment. Thus, sex workers are a population of internet users for whom security and privacy risks are especially salient. Further, sex workers are especially at risk of digital compromise from people they know. Thus, their experiences and protective techniques provide a unique view into a growing, yet little studied, area of online threat: compromise by people known to the user. This form of compromise has been shown to be especially relevant in cases of domestic violence (Freed et al., 2017), (Matthews et al., 2017), yet traditional methods of security (e.g., asking for answers to personal questions) do little to defend against such threats (Elissa M. Redmiles, 2019). Finally, unlike more-studied groups like journalists (McGregor, Charters, Holliday, & Roesner, n.d.; McGregor, Watkins, Al-Ameen, Caine, & Roesner, n.d.), sex workers rarely receive specialized digital security and privacy

training, and, unlike undocumented immigrants (Guberek et al., 2018), they often must maintain a potentially risky online presence in order to sustain their livelihood.

Using the methodology described in the remainder of this chapter, I aimed to collect data regarding: (i) what makes a privacy or security risk salient, including contrasts between legal and physical risk, (ii) how online identity among those in a marginalized group manifests online and how this online identity intersects with privacy threat models and defenses, (iii) how sex workers defend themselves against a little studied yet broadly applicable threat model (Elissa M. Redmiles, 2019): attacks from people who know them; and (iv) how technology can be improved to help keep sex workers and those with similar threat models (e.g., domestic violence victims) safe.

As the first of my four research questions related to the contrast between legal and physical risk, I sought to study two countries in which sex work is legal (Switzerland, Germany) in contrast to a country in which sex work is not legal (United States). As I speak a small amount of German and I have lived in both Switzerland and Germany for periods of time, I selected these countries over e.g., the Netherlands, another country where sex work is legal. In this chapter, I discuss only the Europe portion of the study, which was conducted first.

Foundations: Understanding the landscape of technology use in sex work.

While there are an estimated 42 million sex workers in the world (0.6% of the world population) who drive over \$180 million in business per year (“How Many Prostitutes Are in the United States and the Rest of the World? - Legal Prostitution—ProCon.org,” n.d.), there has been little prior work on technology use among sex workers (Jones, 2015). Thus, before launching into a project about online safety among sex workers, I first needed to develop an understanding of how sex workers use technology in their work.

To do so, I decided to read forums in which sex workers discussed their work and experiences. After many Google searches, I eventually identified four relatively active forums: the “sex workers only” subreddit ([reddit.com/r/sexworkersonly](https://www.reddit.com/r/sexworkersonly)), the SAAFE forum for UK sex workers, sex work sub-forums on the website FetLife, which is “the Social Network for the BDSM, Fetish & Kinky Community”, and “sexworker.at”. In the first three forums, users converse in English, while in the last they converse in German.

I began by simply reading the (English) forums, immersing myself in the experiences of those who were posting. I learned about different types of sex work, became invested in debates regarding whether conversing with clients for free by text message was “giving away the cow for free”, and empathized with the concerns of those who were not sure how to begin setting boundaries with a good, but quirky client. Within a few days of reading the forums I realized that the posts were rich with data and merited a more formal analysis beyond my cursory reading.

I enlisted three collaborators: two other English speakers and one native German speaker who also speaks English fluently. We divided up the forum analysis, each analyzing one of the four forums. To avoid data contamination, we each performed our own, inductive, open coding (Thomas, 2006) on the forum data: developing a set of codes and noting exemplar quotes. Over a period of four months we developed our code books by reading through posts on “our” forum.

After each person felt that they had reached saturation and had gone through at least six months of posts, I consolidated the four codebooks into one high-level framework of technology use among sex workers. I included a few exemplar forum posts for each theme and then asked each of my collaborators to review the consolidated code book for any omissions.

I found that each of us had identified the same four types of technology use: client acquisition (advertising and setting up appointments), client maintenance (conversing with clients, giving gifts, etc.), payment processing, and support seeking (looking for advice, watercooler conversation, other support from other sex workers).

We also found, especially among illegal sex workers, a high frequency of discussion about security and privacy-preserving tools such as bitcoin, Tor, and country-specific anonymous payment platforms. However, the discussions were sufficiently vague so as not to answer our main research questions, but rather to provide starting points for interview discussions. In our codebooks, we made note of each technology discussed and the nature of the discussion.

Finally, these months of forum reading not only provided me with a framework for thinking about technology use, but a dictionary of sex-work-relevant words such as “full service” – everything up to and including sex, “out call” – going to a client’s home or location, “in call” – having a client come to your home or location, and “gfe” – girlfriend experience, a type of sex work that involves acting as if you are in a romantic relationship with your client.

Recruitment

The portion of the project about which I was most worried was recruitment. It was also the research step about which anyone I told about the project was most skeptical.

A test run: “would you be willing to talk to us?”

To assuage my fears, I did a trial run of recruitment strategies before I was ready to begin recruitment for real. While located in Saarbrucken, Germany, Kathrin – the colleague mentioned above who speaks both German and English fluently – and I called a number of German brothels to ask those working there if they would be interested in being paid to talk to us about how they used the internet. We also visited a brothel in Saarbrucken that has open windows in the city center. The brothel is located across from a playground and in between a number of bars and restaurants, so those who work there are used to talking with a variety of people who are not potential clients. In response to our inquiries, we were repeatedly told to drop off a flyer or email a letter with information about what we wanted.

This trial run provided me with a basis on which to develop a recruiting plan, and gave me at least some reassurance that the answer to “would you be willing to talk to us?” was not a flat-out no. I planned to recruit by emailing sign up information to brothels and sex work organizations, and by going to brothels in person to drop off informational materials. Thus, I created recruitment flyers and emails in both English and German.

In order to track the success of these different recruiting methods, I created separate vanity URLs (a short, customized URL; e.g [go.umd.edu/arbeit-studie-\[some extension that I used for tracking](http://go.umd.edu/arbeit-studie-[some extension that I used for tracking)

origin of signups]) for each recruitment mode: street recruitment, emails to brothels, and emails to organizations. The vanity URL system I used through my university provided no privacy sensitive information (e.g., IP addresses) about who had clicked the link, but did keep a count of link clicks.

Recruiting by emailing brothels and sex work organizations

Once I had my interview protocol, recruitment flyers, and recruitment emails approved by my institutions' ethics review board, I started with email recruitment. I compiled a list of all the brothels in three cities in Switzerland (Basel, Lugano, Zurich) and in Germany (Berlin, Saarbrucken, Hamburg) that I could find, including their phone numbers, email addresses and/or links to online contact forms. I also compiled a list of contact information for sex work organizations and unions in both Switzerland and Germany. In the end, I had over 50 email addresses and 20 online contract forms for brothels in both locations and eleven sex work organizations.

In order to avoid sending a multitude of individual emails, I used Google Sheets to send customized emails automatically to each organization and brothel with one click. Google Sheets is Google's version of Excel. You can link a script in Google sheets to a Google email address (my university email address is a Google-linked email address) and then use the script to send batch emails from that email address (tutorial available here: https://developers.google.com/apps-script/articles/sending_emails).

Recruiting on the street

In addition to recruiting using email, I also recruited participants by directly visiting brothels; part of my purpose in being located in the countries from which I was trying to recruit. For recruitment, I created flyers advertising the study and a recruitment survey that allowed for participants to sign up for interview time slots. I created flyers and the recruitment sign up survey in both English and German, because sex workers are often from a different country of origin compared to the country in which they are working and their clients are often from different countries, thus, even though Germany and the eastern portion of Switzerland are German-speaking, sex workers in these areas do not always speak German, and English is often the language used in the brothels.

The first time I went out to recruit by directly visiting brothels, I asked a colleague who spoke French, German, and Swiss German – a German dialect spoken in the eastern half of Switzerland – to come with me. I anticipated talking to brothel managers or those working in the brothels and was not sure if English would be the language of communication. I printed out flyers (Figure 1, English version) and constructed a map of brothels in Zurich using Google searches and input from colleagues about the “hot” red light areas where there were typically sex workers standing outside brothels in addition to a high density of erotic massage parlors, brothels, and cabaret or strip clubs.

Are you working in the sex industry?

**Anonymous paid interview study
about how you use the Internet
in your work and in your daily life.**

Your participation will help us design technologies especially for people working in the sex industry.

\$75 USD for a 60 minute interview



Interviews can be conducted via:
online text chat, by phone, or by video call.
Interviews can be conducted *anonymously*.

To qualify you must:
- Work in the sex industry (provide sexual services for money or goods)
- Be 18 years of age or older
- Work in the USA

visit go.umd.edu/arbeit-studie-de to sign up

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ZurichTM  MAX PLANCK INSTITUTE
FOR SOFTWARE SYSTEMS  UNIVERSITY OF
MARYLAND

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Figure 1. English version of the first iteration of the recruitment flyer.

Association with institutions or authority does NOT build trust

During our evening recruiting, my colleague and I attempted to discuss the project with the – male – managers who approached us the minute we entered a brothel or the – female – workers who were standing outside the brothels smoking. We quickly found that being affiliated with a university – providing the implication of authority – did not help us build trust, but rather raised suspicion, inspired immediate fear and led to curt responses.

While work in survey methodology shows that in research with more traditional populations, affiliation with a university or trustworthy organization improves response rates (Groves, Cialdini, & Couper, 1992), for marginalized populations that may have a justifiable fear of authority (Kurtz, Surratt, Kiley, & Inciardi, 2005), associating with institutions may not necessarily be effective.

After determining that associating with authority was not helping us, my colleague and I took a less direct approach to recruitment. We slid flyers under ashtrays outside brothels, in between bars on brothel windows, popped inside brothels and placed the flyers on cigarette dispenser machines, and even put flyers in decorative trees outside brothel doors.

Since women very, very rarely enter brothels, our gender identity and the unusual nature of our activity (dropping off flyers and leaving) led to few questions and no challenges. Throughout two hours of visiting over 30 brothels, cabarets and erotic massage parlors, only one worker who was sitting outside smoking asked us about the flyers we were dropping off. Yet, when I got home that night four people had already clicked the signup link and three had signed up.

As a result of this first night of recruitment, I learned that de-emphasizing association with authority on the flyer (e.g., reducing the emphasis on university logos) was likely to help with recruitment. Additionally, from the questions asked by the one worker who spoke to us – what did she need to do for the study?, would the study hurt her brain?, and what would she get paid? – I determined that the flyers should be refined. As shown in Figure 2 (English version), in the second iteration I significantly shortened the amount of information provided (all relevant information was still contained in the study consent form shown at the beginning of the sign up form), emphasized the payment amount and clarified what the study entailed (“chatting with a researcher”), and removed the university logos, leaving only the sentence at the bottom of the flyer stating the university sponsorship. This also conveniently made the flyer short enough that I could put both the English and German versions on the same page. Thus, despite sending the recruitment

Get 75CHF for talking with a researcher

Do you work in the sex industry?

Anonymous, paid interview
about how you use the Internet



Get 75 CHF for a 60 minute interview

secure online text chat, phone, or video call.

sign up: go.umd.edu/arbeit-studie-ch

Or: email arbeit-studie@mpi-sws.org

Project run by the University of Zurich (Switzerland), Max Planck Institute (Germany), and the University of Maryland (USA)

Figure 2. Second version of the recruitment flyer in English. The flyer was significantly shortened and affiliation with authority (universities) de-emphasized.

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materials through review by many colleagues and a US sex worker, this goes to show that nothing can proxy for real-life recruitment experiences and feedback.

At this point in the recruitment process, I had observed three clicks on the signup form from the links I had sent to the brothels and I had received one reply from a brothel: asking if we could do the interviews in Italian – we could not. I had also observed four clicks on the links we had distributed door-to-door on the flyers. I aimed to recruit 20 participants, so I was getting a bit worried. Given the usual rate of participant no shows for qualitative work – around 50% in my experience with general populations recruited on Craigslist – I would have at most three interviews despite all the emails and two hours of walking around Zurich in the cold.

Determined to do better with recruitment, I printed out my edited flyers and asked another friend to join me the next week to go “brothel hopping”. Once again, we spent over two hours, and walked more than four miles throughout Zurich handing out flyers. Additionally, as I lived on one of the red-light district streets, I distributed a few flyers on my street every night as I came home from work – a perk of working late, most brothels in Zurich open around 7pm.

Safety as a researcher

I was only comfortable distributing flyers on my street home from work as it is in the center of Zurich and well-populated enough that I could easily ask for help if needed. I always brought someone with me when recruiting in other “red light districts” as, at times, I was followed by clients who thought I might be working. Unfortunately, red light districts also can come with drug-dealing and violent crime due to the prevalence of sizable cash-based transactions in the brothels (Lidz, 2016). Thus, I took care in ensuring that I was safe when doing street recruitment by bringing a companion. I also considered how to dress, eventually deciding that I did not know what type of clothes would “fit in” among those working in the brothels, I decided to go with my usual work clothes: pants and a professional top and a backpack in which I kept the flyers that we would hand out.

Respect and etiquette for “street” recruitment

In addition to taking care with my own safety, I also took care to be respectful when I entered brothel-heavy areas. Workers often congregate outside convenience stores, go to eat in local cafes, and are otherwise highly visible outside of the brothels in these areas. While it is typically easy to perceive visually who is a worker, I thought it would be disrespectful to hand someone a flyer about a sex work-related study directly. Thus, I always left flyers on tables, near ashtrays or cigarette dispensers as described above.

Lucky breaks with sex work organizations created a landslide of sign-ups

As I continued street recruitment, clicks on the links slowly trickled in. Kathrin and I began conducting interviews in German and English, respectively. With the hope of getting more participants, we also told interviewees that if they referred friends and emailed us with the email address the friend used to sign up, we would provide them with an additional incentive of 10 EUR/CHF.

One of our first two interviewees was the PR chair for a sex work union in Germany, she complimented us on the respectfulness of our interview and that we were trying to help those in

the sex industry. She promised to pass along information about the interviews to members of her union. Through the interview, we ascertained that she had wanted to participate in an interview before passing along information to make sure that we meant well and were conducting our research respectfully.

Eight days into recruitment and interviewing we got a second lucky break: one of the sex work organizations that I had contacted emailed back enthusiastically and said that they were going to send out a link on their list serve. Less than five hours later there were over 35 signups through our signup form.

While thrilling, this led me to a late-night scramble: I stayed up until three in the morning emailing to confirm some participants and rescheduling others, as we had ended up with over 12 interviews a day, each, for both myself and Kathrin.

After this point, clicks continued to trickle in from door-to-door recruitment and the brothels I had emailed, but the bulk of our participants came through this list serve blast and the pass-alongs from the woman who was a representative for a sex work union. In total, we ended up with 12 link clicks from door to door recruitment, 25 from brothel emails, and 127 from sex work organizations.

Constructing the interview protocol

Ultimately, using interview-based data collection, I sought to understand sex workers' security and privacy experiences and practices. In the interviews, before digging into security and privacy experiences, I needed to gain a bit of background regarding my participants in order to anchor my questions in their personal experience appropriately.

Thus, in the interviews I first asked briefly about what the respondent did for (sex) work and for how long they had been in the sex industry. I then asked about non-work technology use including questions about length of technology use and typical behaviors. Then I asked about technology use specifically for sex work. I asked broadly about sex work technology use, but I used the four types of sex work technology use we found in the forum coding portion of the study as an anchoring point for my own prompting and keeping track of our conversation.

This anchoring approach turned out to be invaluable when conducting the interviews. Participants' often shared multiple, disconnected anecdotes about sex work technology use. Especially when shared via a chat-based interview this was a lot to keep track of and engage with throughout the exchange. Having a framework to organize the shared anecdotes helped me refine my follow-up questions and make sure that I had covered the full scope of technology use. The sex work technology use categories we found through the forum analysis covered all, but one use of technology that emerged in the interviews: covering. Covering is the practice of telling a friend where you will be and for how long and making an agreement that if you do not text or call by a particular time the friend will follow a series of protective steps (coming to where you are, contacting the police, etc.).

Next, I constructed a series of questions to probe security and privacy topics of interest including persona separation between work and personal life, definitions of safety ("What is safety to you as

a sex worker? How do you define safety?”), negative prior safety experiences (both online and offline), and support sources/learning methods for safety skills.

Respecting participant privacy

You may notice that in the interview I did not ask participants about their ages, gender, country of origin, socioeconomic status, or other demographic information. I also did not ask these questions on the short interview sign up form.

To avoid marginalizing participants, in all questions I asked in any part of the study, I worked to be highly respectful and ask only the bare minimum information that I needed to answer my research questions. This offered a tangential benefit: I thought deeply about each and every question I asked and how I would use it in future analysis. Doing so helped me identify gaps where I needed to add questions and reduce information collection in places where I was only trying to gather background to better personalize the interview (e.g., technology use for non-work activities).

Considering the minimum set of data necessary to collect from participants bears consideration for research projects even with non-marginalized participants. I, at least, often worry that I will not have a second chance to collect my data and thus try to include a relative kitchen sink of demographic variables “just in case”. This project, as well as increasing conversations about the ethics of online platforms over-collecting data (Lecuyer, Spahn, Geambasu, Huang, & Sen, 2017), served as a good reminder for me to reconsider the necessity of each of the variables I typically include in my research.

Additionally, when designing the interview sign-up form I was also cognizant of privacy considerations. Typically, when I conduct interviews, I collect participant email addresses in order to schedule interview appointments and remind participants of their interview appointments and send payment (either via Amazon gift cards or PayPal). Initially, I wanted to avoid collecting any personal information including email addresses from participants. However, I realized this would not be practical, as qualitative studies typically have a high no-show rate – and removing interview reminders was only likely to make this worse. Also, providing gift card codes only during the interview with no backup would be a risky proposition. As a compromise, I asked participants to select an interview time slot as part of the recruitment survey – to minimize email interactions – and I provided information about how to create an encrypted, throw-away email address just for this study using ProtonMail (protonmail.com). Three of those who signed up ended up signing up with a ProtonMail account.

Finally, to ensure that the interviews themselves would be sufficiently private and to ensure that potential participants felt comfortable with the method of the interviews, I conducted all interviews using the service appear.in. Appear.in is an end-to-end encrypted video, phone, and chat conferencing platform. This means that no communication between two or more parties in a conference room is transferred through any central server. Instead, this information is only transferred between the two parties in the conversation and the transfer is done in an encrypted manner. Appear.in allows you to create conversation “rooms” with permanent URLs (e.g., appear.in/arbeit-studie) and is a free platform. With a small subscription fee you can record any conversation and lock your conversation rooms, such that only you as the account owner can allow

people to enter (this helps prevent accidentally having two participants enter the room at once). I provided a brief description of the Appear.in privacy guarantees in the sign-up form and also provided a link to their relatively easy-to-read privacy policy.

Review by a participant

In addition to having my draft interview protocol reviewed by five collaborators with different domains of expertise (sociology and communication, computer science, human computer interaction, cybercrime). I also had the protocol reviewed by a sex worker to ensure that the questions and language used in the protocol were respectful and appropriate. One of my collaborators was connected with a sex worker in the United States who was willing to review our protocol. We paid this consultant for their time and got helpful feedback on rephrasing a few of the questions.

Ensuring multi-lingual equivalency

Once the interview protocol was finalized in my native language (English) we needed to translate it into German as many of the interviews were likely to be conducted in German. Kathrin, who would be conducting the interviews in German, took great care while translating the protocol to ensure the intent and phrasing of the questions were maintained given such nuances as the German language's distinction between feminine and masculine, and formal and informal language.

Interviewing

In total, Kathrin and I conducted 27 interviews with sex workers. Kathrin conducted 16 interviews in German and I conducted 11 in English.

We conducted our first two interviews on the same day: one in English and one in German. After these first interviews, we realized that the interview protocol was taking us between 90 and 120 minutes to complete. Thus, I quickly started revising the protocol, making significant cuts especially to the introductory sections and reducing the number of prompts. The original protocol had 43 questions (some of which had sub-questions or prompts) and the revised version had 24, nearly a 50% reduction. After the protocol revision, our interviews consistently took between 50 and 75 minutes.

Conversational style

In addition to noticing interview protocol length within our first two interviews, Kathrin and I also noticed a high level of conversational informality. Typically, when I have conducted interview studies, I have asked questions in a conversational but relatively formal way and received relatively formal replies (no cursing, etc.). However, in this study, participants were far less formal. The first German-language participant specifically preferred using informal pronouns and to address Kathrin that way as well. The first English-language participant wanted to do the interview via chat, and our conversation was peppered with smiley faces and colorful anecdotes such as "...and then I blocked his ass so fast." As we continued our interviews, we continued to find that participants wanted to converse very informally, both in German and in English, and we adapted our interview style accordingly.

The mode of the interview (chat, audio, video) also altered the conversational style. Prior to conducting this study, I had only done interviews by audio, video, and in-person. As well-

described in Annette Markham's *Life Online: Researching real experiences in virtual space*, conducting chat-based interviews requires a large amount of patience (Markham, 1998). People do not read nor type nearly as fast as they listen and speak. Additionally, the Appear.in interface I was using did not have typing "bubbles" or any way to indicate that the other person was typing. So, at the beginning, I ended up "chatting-over" my participants. I quickly learned that I needed to wait an extra 30-60 seconds after every message they sent to insure they were done with their thought. Chat-based interviews can also offer benefits, however. It was far easier for me to make notes of topics on which I wanted to follow up while I was waiting for my participant to respond, and I could copy and paste certain questions from the interview guide into the chat box, making the question-asking portion of the interview go more quickly.

Learning as You Interview

In addition to refining the interview protocol and conversational styles during the early portion of the interview process, while conducting the interviews I was constantly learning about the sex work industry. Participants in the interviews worked in a broad range of sex-work roles. For example, Kathrin and I spoke with erotic massage parlor workers, female dominants (referred to as "femdoms"), bondage specialists, and performance artists who were also kink-positive sex workers (typically meaning that the worker and their clients do not have binary gender identities). To explain their experiences, participants sometimes shared assets such as links to their performance videos or carefully described how their work was conducted. This type of interaction outside the interview conversation, through what I call additional research assets, was not something I anticipated. However, when participants chose to share these assets, I found that this improved my understanding of participants' experiences, which were very different from my own.

Staying in Sync: Multi-Lingual and Multi-Interviewer Considerations

Throughout the interviewing process, Kathrin and I needed to ensure that we stayed in sync despite the fact that we were conducting interviews in different languages. To do so, we touched base after every five or so interviews that we conducted to check interview length, briefly recap our findings, and talk through any issues that may have occurred. After the shortening of the interview protocol and discussions of interview formality, we found it quite easy to stay in sync while interviewing, in contrast to other multi-lingual, multi-interviewer studies where I used a more complex process of interviewer training and syncing (Elissa M. Redmiles, 2019) to ensure data from each interviewer was comparable.

Bearing Witness: Interview Intensity

The greatest surprise for me while conducting the interviews was the emotional intensity of the experience. In each conversation, I was bearing witness to someone's experiences of sexual assault, of coming to terms with their own sexual preferences and cultural disapproval of those preferences, of joy in finding a community in which they were fully accepted, admired and appreciated, and more.

While the vast majority (all but two) of the sex workers we interviewed primarily had positive experiences with sex work, there were still many intense experiences that shaped participants' paths to their work, their sense of safety, and their everyday lived experience of being sex workers. As a researcher asking questions about these experiences, especially to some participants who were not open or "out" about their work in the rest of their lives, I was bearing witness to personal, deep

experiences while seeking answers to my less personal, research questions. This required deep emotional work on my part – and on Kathrin’s part – to respond to sharing of experiences empathetically and in a way that made participants feel heard, but without biasing research data with too much interviewer commentary.

While I am not sure there is research training – aside from social work or therapy training – that would have prepared me for this portion of interviewing, I discuss it here so that future researchers who plan to conduct similar studies may prepare themselves. In addition to thinking about how you might respond to the sharing of intense experiences, interviewers should also consider how interview scheduling may affect their own well-being and ability to bear witness to participants’ experiences properly. In prior, less personal interview studies I have conducted five to eight interviews in a single day. In this study I quickly discovered that I could do at most four interviews with one hour breaks in between. During these breaks it was important for me to focus on self-care, which in my case included doing something completely mindless like watching TV or cooking to recover my stamina.¹

Next Steps and Lessons Learned

After finishing 25 interviews, Kathrin and I met to determine if we had reached data saturation. We summarized our high-level findings (which we had been doing regularly throughout the study) and found that we had reached saturation. As we had two more interviews scheduled, we finished those interviews and then closed recruitment.

Best Laid Plans

As evidenced by the fact that I needed to revise the recruitment materials significantly after the first round of street recruiting, stay up very late to schedule and reschedule participants, and needed to shorten the interview protocol considerably after the first few interviews: you can only prepare so well. Despite aiming to send out recruitment emails in the morning and during a slow week so that I would have time to deal with adjustments and scheduling, with snowball samples you never know when you may end up having a flood of participants sign up for a study. Similarly, I had research materials reviewed by multiple collaborators and by a sex worker who was a paid consultant for the project, yet there is no proxy for real-world experience working to collect data. Thus, especially when working with understudied populations, it is best to prepare yourself for unexpected surprises and timelines.

Offline Networks and Place Matter, Even for Digital Research

Finally, in addition to flexibility, support systems are very important, especially for work with marginalized communities and in cultural contexts different from your own. While designing and conducting this project, I was a visiting researcher at the Max Planck Institute for Software Systems in Saarbrucken, Germany and then, for the bulk of the project, located in Zurich as a visiting researcher at the University of Zurich in Switzerland. Initially, when I realized that the most participant-producing method of recruitment was emails with sex work organizations, I questioned whether I even needed to be physically present in Switzerland and Germany to do this work at all.

¹ In our discussions, Kathrin felt similarly about the intensity of the interview experience and need for refreshing downtime between interviews.

However, upon reflection, I realized that sense of place comes with multiple important gains for the research. Colleagues and contacts who were from the places in which I wanted to recruit provided contact information for some sex work organizations that were hard to locate online, context for where might be best to do street recruitment, as well as companionship and safety in numbers for doing street recruitment. Further, discussing my project and asking for help from colleagues and friends in these places allowed me to find Kathrin, who conducted 16 interviews in German and translated all the study materials. Finally, as I move forward with interview analysis, local colleagues have helped me find someone who specialized in German to English interview transcription and translation.

Finally, talking about my project with colleagues – particularly those who were located in Germany and Switzerland where I was doing the research – provided me with an important source of support. While I did not anticipate the intensity of this research ahead of time, as discussed in the interviewing section, bearing witness to very personal experiences – even positive ones – while rapidly immersing in an unfamiliar subculture can be extremely draining and intense. Because my Swiss and German colleagues were more familiar with the basics of how the sex industry worked, due to living in countries where sex work is legal, I did not have to provide context first or justify why it was important to address the needs of sex workers. This shared sense of culture and place allowed for me to debrief with a wide variety of people, which was incredibly helpful to maintain my well-being as a researcher and gain interesting insights and perspectives as I did.

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