

Northumbria Research Link

Citation: Bhalerao, Rasika, Hamilton, Vaughn, McDonald, Allison, Redmiles, Elissa M. and Strohmayer, Angelika (2022) Ethical Practices for Security Research with At-Risk Populations. In: 2022 IEEE European Symposium on Security and Privacy Workshops (EuroS&PW). Proceedings - IEEE European Symposium on Security and Privacy Workshops (Euro S&PW), 1 . IEEE, Piscataway, US, pp. 546-553. ISBN 9781665495615, 9781665495608

Published by: IEEE

URL: <https://doi.org/10.1109/eurospw55150.2022.00065>
<<https://doi.org/10.1109/eurospw55150.2022.00065>>

This version was downloaded from Northumbria Research Link:
<https://nrl.northumbria.ac.uk/id/eprint/50072/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)

Ethical Practices for Security Research with At-Risk Populations

Rasika Bhalerao[§]
New York University

Vaughn Hamilton[§]
Max Planck Institute for Software Systems

Allison McDonald[§]
University of Michigan

Elissa M. Redmiles[§]
Max Planck Institute for Software Systems

Angelika Strohmayer[§]
Northumbria University

Abstract—A growing body of security and privacy research focuses on at-risk populations – those who are marginalized, stigmatized, and/or criminalized – and who may face significant harm from research conducted about themselves and their communities. For example, recent research has studied family members of those in prison, survivors of domestic violence, undocumented immigrants, and sex workers. At-risk communities have a heightened need for confidentiality, consideration for possible past trauma, and research justice given inherent power differentials. Here, we offer a set of ethical research practices we have deployed in research with multiple at-risk communities. We hope these practices will serve as guidance and a springboard for discussion about what it means to conduct ethical research, particularly with marginalized, stigmatized, and/or criminalized groups.

Index Terms—ethics, privacy, human subjects, trauma-informed practice, research justice, vulnerable populations

1. Introduction

In the U.S., an institutional review board (IRB) is a “committee that performs ethical review of proposed research.”¹ Similar such boards exist in other countries, which may be called ethics review boards (ERB) or other names. However, many institutions that conduct research such as private companies and universities in some countries may have no such board available; progress is necessary to ensure that researchers have access to their expertise [1]. Additionally, the requirements and decisions of such boards may differ widely in terms of what research they require to be reviewed and the decisions they make with regard to the research they review [2].

Increasingly, research communities are realizing that IRBs and ethics review boards are “not always sufficient to establish that a paper [or research effort] is ethical” [3]. Aside from cases of researcher malice (that is, malicious or deceptive researchers failing to fully disclose critical details of their research prior to conducting it), ethics boards may fail to fully protect participants because they lack sufficient authority to enforce ethical practices or expertise in particular research methodologies or communities [4]. Additionally, prior work in other domains studying IRBs has accused them of being “dysfunctional, in

crisis, and ‘...more concerned with protecting the institution than research participants’” [5]. Thus, some research communities such as the security and privacy community have established ethics committees as part of the peer-review process at multiple conferences to review the ethics of submitted papers.²

IRBs typically enforce ethical principles set forth in the Belmont Report [6] or the Menlo Report [7]. We propose that principles from more recent ethical frameworks such as Care Ethics [8] or Distributive Justice [9] may be more relevant for research with at-risk populations or projects focused on social justice or equality. Our guidelines are meant as a set of considerations for research design and aim to bring the issue of avoiding harm to light.

What does it mean to protect participants from harm?

While evaluating a study’s ethics at time of submission may prevent the publication of papers that set unethical standards for future research, such methods do nothing to protect the participants and communities already subjected to harm. Nor is ethics board review prior to the research commencing necessarily sufficient protection, both for the reasons aforementioned, and because board standards may not emphasize clearly enough the importance of concepts like research justice [10], [11]: ensuring that research not only avoids harming participants but *benefits and empowers* them and their communities.

In this paper, we discuss our practices for protecting at-risk populations as part of measurement and usability research. Our practices are drawn from our work with sex workers [12]–[18], migrants [19], low-socioeconomic status groups [20], [21], LGBTQ+ folks [22], women in touch with the criminal justice system, people experiencing homelessness [23], those recovering from addiction, and folks who sit at intersections of all of these communities (see e.g., [24]).

We discuss:

- (1) **Confidentiality Practice:** practices for ensuring confidentiality of both participant information and the community resources research may identify.
- (2) **Trauma-Informed Research Practice:** practices for avoiding re-traumatizing participants and protecting researchers themselves.

[§]. Equal contribution.

¹. As defined by the U.S. federal Office for Human Research Protections: <https://www.hhs.gov/ohrp/irbs-and-assurances.html>.

². For more detail, please see [3].

- (3) **Research Justice Practice:** practices for ensuring research benefits and empowers communities.

We offer these practices as guidance to researchers as well as food-for-thought concepts for discussion, expansion, and generalization. It is important to note that we are neither the first to cover all of these topics, nor do we cover all ethical issues of research with at-risk populations (e.g., we do not discuss ethics around data scraping) nor all possible ethical considerations and practices. Significant work is needed to expand, refine, and pursue ethics and justice as part of security and privacy research and we hope this work is but one small part of this larger effort.

2. Confidentiality Practice

Research participants require confidentiality in two main areas: their personal information and the resources – such as circumvention or other safety tools – they use in their community.

2.1. Protecting Participant Privacy

Populations that are vulnerable or criminalized such as imprisoned people, undocumented migrants, sex workers, or members of the LGBTQ+ community in regions where their profession or identity is currently illegal have a heightened need for protecting their personal information. Knowledge of their participation in a study about their community poses risks including fines, incarceration, deportation, physical violence, and further discrimination if knowledge of a participant’s membership in a criminalized community reaches law enforcement or other authorities. Further, publishing details that can be used to contact or identify a participant as a member of such a group increases the chance of harassment directed at them and risks “outing” them in areas of their life where their identity or profession was previously kept secret. As researchers, journalists, or policymakers who impose these risks on participants despite good intentions, we must prioritize the protection of participant privacy.

Below, we discuss approaches for protecting participant confidentiality in interview or survey studies. We note that many of the same principles apply to measurement studies: great care should be taken to avoid publishing any details (usernames, post-content that could be reverse searched, demographic information including region, etc.) that alone, or in combination, could risk identifying a participant. For further discussion of ethics in studies with found data (e.g., data obtained via scraping or visiting online communities), see, e.g., [13], [25]–[27] for points to consider.

2.1.1. Logistics. While complete anonymity cannot be guaranteed, our practices aim to reduce the personal information collected at all stages of the research process and prioritize the confidentiality of any information that is collected. Recruiting participants for user studies requires collecting a certain amount of participant information. For example, it may be necessary to ensure that the potential participant belongs to the community being studied via a screening questionnaire for an interview study or at the beginning of a survey study questionnaire.

Recruitment. Often, ensuring high quality research requires ensuring that a wide range of demographics and identities are represented amongst the recruited participants. However, not all participant communities may feel comfortable having their demographic information collected as part of screening, and collecting or disclosing such information in research reports may pose significant risk depending on the size of the community of study. For example, though it would be ideal for the racial distribution of the participants to match that of the general population in order to avoid harm resulting from disproportionately representing certain groups, studies have shown that requesting this information from some groups of interview participants beforehand is not preferred by participants [14]. Wider participation can instead be encouraged by working with communities of diverse populations (e.g., a community for LGBTQ+ people of color) to distribute recruitment materials and diversifying the locations in which posters and flyers are distributed.

Scheduling. When conducting qualitative interviews, researchers must schedule a time to converse with the participant. Care must be taken to ensure that the scheduling system used minimizes the amount of personal information collected. We recommend software such as Calendly³, which requires only an email address to place an interview event on the calendar. This process should be supplemented with information on how the participant can create a throw-away privacy-preserving encrypted email account (e.g., using Protonmail⁴), which they can use just for the purpose of the receiving the interview reminders. Alternatively, if collecting email addresses even with the option to create a throw-away account is too sensitive for the research population at hand, researchers can allow participants to pick an interview slot as part of the screening survey and, at the end of the survey, provide participants with the link at which the interview will take place. While this eliminates the ability to remind participants of their interview appointments, which may lead to significant drop-off rates in the recruitment pipeline, such an approach enables recruitment without the collection of any personal information.

Conducting interviews. The method for conducting the interview should not require further personal information and should be end-to-end encrypted to avoid potential interception of sensitive information. Further, participants should have the option to participate in whatever mode is best for them: chat, audio, or (if appropriate and desired) video interview. For example, interviews can be held via meeting software such as Jitsi Meet⁵ or Cisco Webex (only with end-to-end encryption enabled⁶), which have meeting rooms that can be used at any time and do not require scheduling personalized meetings for each participant. These meeting options also have the benefit that they can be used in an internet browser without the participant needing to download additional software and interviews can be held using any combination of audio, video, and chat.

3. <https://calendly.com/>

4. <https://protonmail.com/>

5. <https://jitsi.org/>

6. <https://help.webex.com/en-us/article/WBX44739/What-Does-End-to-End-Encryption-Do?>

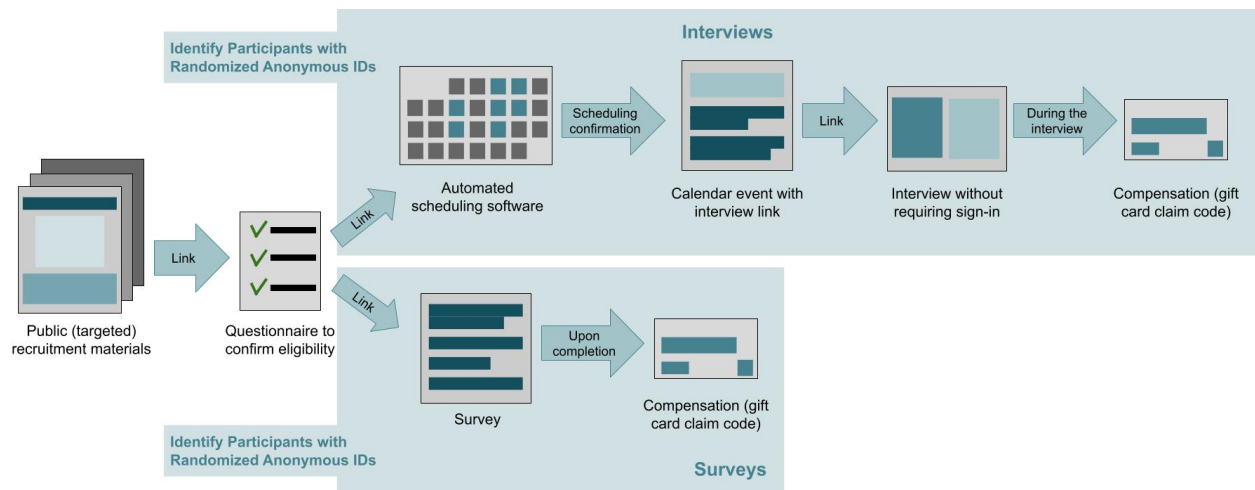


Figure 1. A flowchart of platforms used to recruit, schedule, and conduct interviews to minimize unnecessary interaction and personal data collection.

Compensation. Research participants should be compensated for the time and effort they put into research participation. For either interview or survey studies, compensation can be provided via several methods. For in-person studies, cash is an ideal form of compensation. For online studies, gift cards provide privacy, especially if they are awarded by providing a gift card claim code at the end of the interview or survey itself. The major drawbacks of gift cards are that many necessities cannot be purchased with them, and they may need to be customized based on the geographic location of the participant. To address this tradeoff, researchers can use platforms like Tango Card⁷ and Ryybon⁸, which allow participants to choose a desired type of gift card and thus may address liquidity issues and issues of internationalization. Alternately, if desired by participants, researchers can offer less anonymous compensation via payment platforms such as PayPal.⁹

For surveys, providing a gift card code immediately upon survey completion risks exploitation by research scammers, who maliciously complete surveys they do not qualify for with random answers [28]. Alternatives include emailing the code (or link to gift card selection platform) to the respondent at a later date (see aforementioned information on providing instructions for participants to create a throw-away, encrypted email address) or hosting a webpage at which participants can enter a randomly generated participant ID in a few days to receive their compensation if they were approved.

2.1.2. Analyzing and Publishing Data. Interviewers must obtain consent from participants to record audio or video, to copy down chat logs, to transcribe recordings, and to take notes during the interview. Methods of analysis will depend on the formats of data that were consented to. Of course, all participant data must be stored with security controls such as passwords and encryption to reduce the risk of unauthorized access, and all personal information of participants must be deleted upon completion of the study. This includes any personal information explicitly

or implicitly contained in interview transcripts. Participants whose data is stored should also be organized using randomized identifiers such as 3-digit numbers instead of personally identifiable information such as names or email addresses. Interviews that are audio recorded will likely need to be transcribed for qualitative analysis; automated transcription software, while less accurate, may offer more confidentiality than human transcription depending on the privacy protection and data use policies of the service. Such software can be supplemented by manual review and transcription by the research team. Alternately, a trustworthy transcriber, including potentially a member of the community of study (see further discussion in Section 4 below) if community size is sufficiently large that privacy risks can be mitigated, can be considered with appropriate data protections.

It is critical to avoid disclosing personal information in any resulting publications, including possible deduction of interviewee participation via, e.g., a differencing attack [29] or linkage attack [30]: think deeply and critically about how a combination of demographics, location information, and direct quotes if they are from found data (e.g., forum data) could be reverse searched or combined to identify participants, and check thoroughly whether participant information could be deduced using contextual clues (e.g., how many people in existence can reasonably fit a given description). Participants quoted in publications can instead be identified via the randomized numbers used to identify participants in the data or other similar anonymous identifiers. If needed, researchers may consider omitting demographic details completely or describing only the broad demographics of their sampled population without distinguishing which participants had which demographics. Finally, in some cases researchers may need to paraphrase participant quotes to protect confidentiality; care should be taken to ensure that this is done *only* for participant protection and not as part of a colonial practice to de-center or stigmatize participants' own language [31].

2.2. Protecting Participant Resources

Criminalized populations in particular, but also otherwise vulnerable populations, find themselves on internet

7. <https://www.tangocard.com/>

8. <https://www.ryybon.net/>

9. <https://www.paypal.com/>

platforms hostile to them, using payment platforms that make their income precarious, and needing additional protection measures in many other aspects of their lives. It is important for researchers to protect these resources from being discovered by authorities or platforms that may seek to remove these tools of preservation. Thus, we (researchers, journalists, policymakers, and the like) must not publish the names of these resources. For example, sex workers keep within their community lists of violent or dangerous clients [16]. These lists are confidential and not shared outside the sex worker community; inviting outsiders to view or contribute to such a resource by publicly identifying it would compromise the integrity of the resource and further affect the safety of the sex workers using it. Not only should resources dedicated to the safety of vulnerable populations be intentionally kept secret, but mainstream platforms on which these populations depend should also not be named publicly. For example, if certain vulnerable populations are precariously existing on some mainstream social media platform, publicly stating that they are doing so would make the community even more precarious. Similarly, practices that vulnerable populations employ such as coded language should be kept confidential to avoid exploitation of the protocols by bad actors.

Finally, it is important to consider the safety of research data that you do not intend to publish: on a collaborative project, a researcher new to working with at risk populations asked one of the authors if she could download some data to use offline and was told yes, but only if she could fully encrypt the data (transcripts that had been de-linked from PII), and if she was prepared to defend her laptop from border officials when travelling. As sex workers regularly wipe devices before crossing borders or simply leave them at home, we explained that in our research practice we should not ethically take fewer precautions with their words.

3. Trauma-Informed Research Practice

Trauma-informed care is an approach to service provision from social work and public health [32] that seeks to account for the pervasive nature of trauma and avoid re-traumatization. An estimated 70% of people experience a traumatic event in their lifetime [33], and many marginalized and at-risk communities have high rates of traumatic experiences. Thus, it is important that the research we conduct does not exacerbate or recreate that trauma, e.g., by making participants recount their traumatic experiences in interviews [34]. This is of particular importance to the security and privacy community, as research often investigates negative experiences that occur when technology fails to protect people [35].

Before beginning research with a community with high rates of trauma, researchers should consider whether direct interaction with participants is necessary to achieve their research goals. Instead of collecting new data from participants that may prompt them to divulge or describe traumatic experiences, consider whether appropriate and ethical use (see prior section) of existing data like forum posts could suffice. Alternatively, conducting focus groups or interviews with organizations that offer services or support to at-risk populations—for example, professionals

supporting survivors of intimate partner violence—could generate equivalent insights while not requiring trauma survivors to relive their trauma. Each study will need to weigh the costs of new data collection against the importance of centering community voices.

If conducting research directly with community members is necessary, there are multiple ways researchers can minimize harm. Making participants feel safe is critical. Following the confidentiality practices in Section 2 like minimizing collection of identifiable data will help build trust between researchers and participants. As will be discussed further in Section 4, researchers should pay attention to the power differential between themselves and the participants and empower participants where possible. For example, researchers should be transparent about their research goals and the possible risks of participation, and ensure that the participant knows they can skip questions or end the interview at any time without losing their compensation. If the interviews are conducted in-person, the researchers should prioritize finding a location that is safe and familiar for participants (e.g., public library) rather than one of convenience (e.g., in the computer science building on campus). Similarly, research has shown that racial differences between interviewer and participant can impact interviewee responses [36]; researchers should carefully consider how their identities may impact the comfort and candidness of their participants, and consider including community members in the research team.

Researchers should attend to the ways their interview questions and interview style may (re)traumatize participants. It is important to note that participant discomfort is not the same as distress; offering space for participants to have their stories heard and valued can be a positive and therapeutic experience [37]. Nevertheless, it is critical that researchers approach the interaction with care, and prepare to accommodate participants who are distressed, up to and including ending the interview.

We offer a few concrete trauma-aware practices here. First, when community members are not a part of the research team (see further discussion in Section 4), researchers should consider hiring someone from the community to review materials before launching a study. Second, researchers should alert participants as part of sign up that the research procedures may bring up sensitive memories about, e.g., assault. Third, throughout the research process, including in publications, researchers should pay attention to the language the community/participant uses to describe their experiences and mirror that, rather than imposing their own language onto the participant. For example, if an interview participant describes being harassed and stalked by an ex-partner, but does not use the term “abuser,” the researcher should also not use the term in clarifying questions. Fourth, researchers should be prepared to allow participants a moment to pause after sharing a traumatic experience and/or to offer resources to participants as needed. For example, if a participant shares an experience with suicidal ideation during an interview, the researcher should be prepared to offer resources like contact information for a suicide help-line [34].

Additionally, if a study will frequently deal with trauma and traumatic experiences (e.g., working with survivors of intimate partner violence), the research team should take care to consider the impact of secondary

trauma [38]. Taking the time to debrief and to care for your own mental health is a service both to yourself and to your participants, who will benefit from having a resilient and rested interviewer.

Psychologists at your university's counseling center may be able to provide trauma-awareness skills training for your research team and can provide support for secondary trauma.

4. Research Justice Practice

Research Justice is often defined as a “strategic framework that seeks to achieve self-determination for marginalized communities. It [centers] community voices and leadership in an effort to facilitate genuine, lasting social change.”¹⁰

Research justice can take many forms and centrally focuses on ensuring that communities are empowered to “wield all forms of knowledge and information” about themselves. Critically, research justice involves taking steps to shift from research as an extractive process – taking community stories for the gain of a publication – toward a co-creative one. In its most realized form, research justice empowers communities to leverage research for justice aims (e.g., advocating for resources that would improve community safety).

Considering justice is critical in all research, but especially in research with marginalized groups since “the extractive dimensions of academic research are heightened for stigmatised groups,” who are likely to be over-researched and extremely underrepresented in academia [39].

Here, we touch briefly on concepts and techniques researchers can use as they consider embedding justice elements in their research. Other works offer additional considerations for research justice (e.g., [10], [11], [15], [39]).

We note that when working with marginalised communities, we may run into activities and needs of communities that are counter to what is widely accepted as ‘just’ – Nancy Fraser terms these instances where legal understandings of ‘justice’ are seen as unjust by oppressed communities ‘abnormal justice’ [40]. When working in such settings, it is important to be aware of where we stand as researchers. Legal and regulatory frameworks are ever-changing and, as a result, research work can be a valuable input to ‘evidence-led policymaking.’ As such, researchers should be mindful that research processes and outcomes can be a way of shaping policy and legal discussions that affect the communities with whom we work.

4.1. Positionality

Research is a collaborative process, ideally between academic researchers and community members, but at least between academic researchers and participants. Given this collaboration, and the degree of interpretation on the part of the researcher inherent in any research process, researchers, particularly those studying marginalized groups of which they are not members, should consider including a statement of positionality [41] discussing their

relationship to the research they are conducting and how that relationship may have guided their research. Such a statement is not simply a statement of identity (e.g., “I’m a white woman”), but rather a discussion of how the researcher’s beliefs, demographics, and/or experiences related to the subject at hand might have influenced the research process. What impact does the researcher’s identity have on their choice of research questions, interpretation of research results, and choice of discussion topics? When working with at-risk populations, what position is the research taking in relation to the risks this population faces, how does the research relate to these risks, and how does our wider research practice relate to this beyond the immediate paper? For example, where do you stand in relation to policies and laws that affect the population of study? How does this shape the research and your choice in and engagement with research partners?

While our discussion here is focused on the role of researcher positionality in empirical research, ultimately, positionality is more than a section in a research paper; it is about self-awareness and critical reflection about how your relationship to your work may affect that work [42].

We note that it is critical to balance public positionality discussion (e.g., of membership in a marginalized or criminalized group) against personal safety. For example, in our research work we do not disclose whether authors are members of the criminalized and/or marginalized community of study (e.g., sex workers, undocumented immigrants) but rather disclose and discuss our positionality on the relevant community issues (e.g., carceral and anti-carceral approaches toward sex work and migration). When considering whether and what information to disclose in a positionality statement, it is important to consider power dynamics (e.g., representation in the research field, career stage) and size of author pool, among other factors.

4.2. Selecting Research Questions

Research that has the potential to affect humans needs to consider ethical frameworks. There are many of these, but we have chosen to explore care ethics [8] and distributive justice [9] for this paper. These are two frameworks that allow us to focus on the complexities of working with marginalized or otherwise vulnerable communities in a way that prioritizes equity, respect, and the redistribution of power, knowledge, and skills throughout the process. In addition to this, we also present information as set forth in the Menlo Report [7].

The principle of *Justice* is at the forefront when performing research involving vulnerable populations: the effort and risks of the research largely fall upon the vulnerable subjects. This principle suggests that the benefits, if any, must be targeted towards the same community. Ideally, research goals will align between the community and academic researchers. Indeed, some research is pursued at the behest of the community. However, such alignment is often challenging and time-consuming, as the research questions suitable for academic publication may differ from the research goals of communities. Academic-focused research which does not benefit vulnerable communities, and thus does not follow the principle of justice, but which also does not lead to harm is often tolerated

10. <https://www.datacenter.org/services-offered/research-justice/>

by vulnerable communities. In such cases, justice-oriented practices include engaging in the additional labor of producing non-academic reports or toolkits on top of the academic publications – or doing these first and then writing the work up in academic papers.

Under the principle of *Beneficence*, researchers must always minimize harm to subjects: the duties of minimizing risk, maximizing benefit, and even foreseeing the potential levels of risk and benefit belong to the researchers. By the principle of *Stakeholder Perspectives and Considerations*, researchers should also seek to identify unconsidered or unintended stakeholders and broaden their analysis of benefits and risks to include these communities. Further, for justice-oriented research practice, we must not only intend no harm, but be aware of and acknowledge when we do cause harm; for this we need accomplices outside academia who trust us enough to let us know about our harm [43].

Following the principle of *Respect for Persons*, we must respect the rights and autonomy of our research subjects regarding participation in the research. Informed consent of participants is crucial and “leveraging intended benefits to coerce or entice consent from subjects fails the voluntary participation element” [7]; i.e., we must consider the level of autonomy present in our prospective participants’ choice to participate and contribute to the research.

Finally, as always, the principle of *Respect for Law and Public Interest* applies: we must honor “laws, regulations, contracts, and other private agreements” while upholding “transparency and accountability” [7]. However, we argue that while we cannot break the law, we may at times need to be critical of the law when working with marginalized groups – especially when working with sex workers and others whose work or identities are criminalised. If we hope to work towards justice with these communities, that often means advocating to change laws and policies – so our work should be useful for this too where applicable.

4.3. Contributing to the Community

As aforementioned, a key principle of research justice is ensuring that research empowers communities to achieve their goals. How research might contribute back to the community is especially important to consider in the case of research that follows beneficence rather than justice in its nature.

We note that some marginalized communities are more cohesive than others. In the case of highly fragmented communities or communities with contradicting views, not all approaches to research justice and community contribution we describe may be practical and other strategies may be needed. However, we emphasize that awareness of community norms, values, and needs and alignment with community well-being is critical in any human-centered research. Here it is perhaps also to reflect on what we mean when we talk about ‘communities’ - and whether the group we are working with are or even should be made generalisable.

One approach toward justice-oriented research is to involve community members as peers in the research (see Section 4.1) and/or to incorporate the community’s

goals into the research (see Section 4.2). Such practices involve negotiating and acknowledging power imbalances between researchers, peer-researchers, community organisers, activists, and others who may be involved in a research project. Bringing in community members to research teams requires ongoing work to navigate bureaucratic hurdles (e.g., difficulties hiring community members without academic credentials), norms (e.g., payroll and payment delays), and interactions (e.g., ensuring community researchers without typical academic titles – student, postdoc, etc. – are included and respected). Inclusion of members from criminalized communities may be particularly difficult.

Another direction toward community contribution is ensuring that communities have access to research results so that they can use these results to achieve justice. Ensuring research papers are open access is a good start, but it is also important to ensure that research results are presented in a variety of usable and accessible formats. For example, under the advisement of community members, we can create 1-page plain-language briefs or short videos summarizing research outcomes so that these outputs can be used in advocacy work.

A third approach to community contribution – and especially if the research process was more extractive than collaborative in nature (that is, served the purposes of the researcher more so than the community) – is to provide services such as software development, ghostwriting, etc., to contribute in a non-research way to the well-being of the community of study. Alternately, researchers may consider contributing back to the community by hiring community members to partake in other parts of the research such as transcription. And, of course, research participants need to be compensated appropriately.

A final approach to community contribution and the practice of research justice includes centering the community at all steps including in public science communication such as panels and interactions with journalists, as we discuss next.

4.4. Speaking About the Community

When asked to speak on behalf of the community, whether on panels or in the popular press, researchers may consider first ensuring that community voices are centered before their own. This way, community members may better control the narrative around themselves, their goals, and their needs.

Journalists or event organizers may ask for community contacts or guidance recruiting community members. To protect confidentiality of community members, it is always necessary to seek permission prior to providing any contact information. Additionally, researchers may consider providing a guidance document, which could emphasize the importance of justice-oriented reporting, examples of best practice participant protections you have implemented as researchers, the fact that you compensate participants for their labor, that the population the journalist seeks to report on may be understandably fatigued from being over-researched and over-reported, and the fact that working with marginalized communities requires significant trust capital. An example of such a document can be found in [44].

Finally, it is important to consider the angle from which event organizers or journalistic venues may be approaching topics related to the community of study. There are many organizers and journalists who have experience with sensitive settings. This of course also includes those who themselves are members of the communities with whom you are working. These kinds of people can be strong allies in developing an understanding about journalistic or event venues to ensure they are reliable and reputable.

5. Concluding Thoughts

In this paper we offer a set of ethical practices for security and privacy researchers to consider in their work. While we focus on practices that we have used in our empirical research with at-risk populations, we emphasize that these practices are appropriate for consideration in nearly all research, whether you build systems, conceive of novel technologies and their applications, or measure threats in the world around you. Finally, we emphasize that ethical practice is a continuing journey. As we evolve as a research field, so too must our ethical practices evolve. In this evolution, we must consider how to best center safety and justice as part of our research practice.

References

- [1] M. Jackman and L. Kanerva, "Evolving the IRB: Building robust review for industry research," *Washington and Lee Law Review Online*, vol. 72, no. 3, p. 442, 2016.
- [2] J. Vitak, N. Proferes, K. Shilton, and Z. Ashktorab, "Ethics regulation in social computing research: Examining the role of institutional review boards," *Journal of Empirical Research on Human Research Ethics*, vol. 12, no. 5, pp. 372–382, 2017.
- [3] "IEEE S&P'21 program committee statement regarding the "Hypocrite Commits" paper," https://www.ieee-security.org/TC/SP2021/downloads/2021_PC_Statement.pdf, May 2021.
- [4] J. Pater, C. Fiesler, and M. Zimmer, "No humans here: Ethical speculation on public data, unintended consequences, and the limits of institutional review," *Proceedings of the ACM on Human-Computer Interaction*, vol. 6, no. GROUP, pp. 1–13, 2022.
- [5] C. Grady, "Do IRBs protect human research participants?" *JAMA*, vol. 304, no. 10, pp. 1122–1123, 2010.
- [6] T. N. C. for the Protection of Human Subjects of Biomedical and B. Research, "The Belmont report: Ethical principles and guidelines for the protection of human subjects of research," 1979. [Online]. Available: <https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html>
- [7] H. S. Science and Technology, "The Menlo report: Ethical principles guiding information and communication technology research," 2012. [Online]. Available: https://www.caida.org/catalog/papers/2012_menlo_report_actual_formatted/menlo_report_actual_formatted.pdf
- [8] R. E. Ashcroft, A. Dawson, H. Draper, and J. McMillan, Eds., *Principles of Health Care Ethics*. West Sussex, England: John Wiley and Sons, Ltd., 2007.
- [9] J. Lamont and C. Favor, "Distributive Justice," in *The Stanford Encyclopedia of Philosophy*. Metaphysics Research Lab, Stanford University, 2017. [Online]. Available: <https://plato.stanford.edu/entries/justice-distributive/>
- [10] A. Jolivéte, *Research Justice: Methodologies for Social Change*. Policy Press, 2015.
- [11] M. Asad, L. Dombrowski, S. Costanza-Chock, S. Erete, and C. Harrington, "Academic accomplices: Practical strategies for research justice," in *Companion Publication of the 2019 on Designing Interactive Systems Conference 2019 Companion*, 2019, pp. 353–356.
- [12] V. Hamilton, H. Barakat, and E. M. Redmiles, "Risk, resilience and reward: Impacts of shifting to digital sex work," *arXiv preprint arXiv:2203.12728*, 2022.
- [13] H. L. Barakat and E. M. Redmiles, "Community under surveillance: Impacts of marginalization on an online labor forum," in *Proceedings of the International AAAI Conference on Web and Social Media*, 2022.
- [14] R. Bhalariao, N. McDonald, H. Barakat, V. Hamilton, D. McCoy, and E. M. Redmiles, "Ethics and efficacy of unsolicited anti-trafficking SMS outreach," 2022.
- [15] A. Strohmayer, M. Laing, and R. Comber, "Justice-oriented ecologies: A framework for designing technologies with sex work support services," *Routledge International Handbook on Sex Industry Research*, 2018.
- [16] A. Strohmayer, M. Laing, and R. Comber, "Technologies and social justice outcomes in sex work charities: Fighting stigma, saving lives," in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, 2017, pp. 3352–3364.
- [17] C. Barwulor, A. McDonald, E. Hargittai, and E. M. Redmiles, "'Disadvantaged in the American-dominated Internet': Sex, work, and technology," in *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 2021, pp. 1–16.
- [18] A. McDonald, C. Barwulor, M. L. Mazurek, F. Schaub, and E. M. Redmiles, "'It's stressful having all these phones': Investigating sex workers' safety goals, risks, and practices online," in *30th USENIX Security Symposium (USENIX Security 21)*, 2021, pp. 375–392.
- [19] T. Guberek, A. McDonald, S. Simioni, A. H. Mhaidli, K. Toyama, and F. Schaub, "Keeping a low profile? Technology, risk and privacy among undocumented immigrants," in *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 2018, pp. 1–15.
- [20] E. M. Redmiles, S. Kross, and M. L. Mazurek, "Where is the digital divide? A survey of security, privacy, and socioeconomic," in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, 2017, pp. 931–936.
- [21] E. Redmiles, "Net benefits: Digital inequities in social capital, privacy preservation, and digital parenting practices of US social media users," in *Proceedings of the International AAAI Conference on Web and Social Media*, vol. 12, no. 1, 2018.
- [22] C. Geeng, M. Harris, E. M. Redmiles, and F. Roesner, "'Like lesbians walking the perimeter': Experiences of U.S. LGBTQ+ folks with online security, safety, and privacy advice," in *30th USENIX Security Symposium (USENIX Security 22)*, 2022.
- [23] A. Strohmayer, R. Comber, and M. Balaam, "Exploring learning ecologies among people experiencing homelessness," in *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 2015, pp. 2275–2284.
- [24] M. Laing, D. Campbell, M. Jones, and A. Strohmayer, "Trans sex workers in the UK: Security, services and safety," in *Policing the Sex Industry*. Routledge, 2017, pp. 39–52.
- [25] J. Vitak, K. Shilton, and Z. Ashktorab, "Beyond the Belmont principles: Ethical challenges, practices, and beliefs in the online data research community," in *Proceedings of the 19th ACM conference on computer-supported cooperative work & social computing*, 2016, pp. 941–953.
- [26] C. Fiesler, A. Young, T. Peyton, A. S. Bruckman, M. Gray, J. Hancock, and W. Lutters, "Ethics for studying online sociotechnical systems in a big data world," in *Proceedings of the 18th ACM Conference Companion on Computer Supported Cooperative Work & Social Computing*, 2015, pp. 289–292.
- [27] G. Eysenbach and J. E. Till, "Ethical issues in qualitative research on internet communities," *BMJ*, vol. 323, no. 7321, pp. 1103–1105, 2001.
- [28] T. Krueger, "Finding better research participants and avoiding fraud," <https://uxplanet.org/finding-better-research-participants-and-avoiding-fraud-eef18bb82f98>, October 2018, (Accessed on 03/16/2022).

- [29] N. Ashena, D. Dell'Aglio, and A. Bernstein, "Understanding ϵ for differential privacy in differencing attack scenarios," in *Security and Privacy in Communication Networks*, J. Garcia-Alfaro, S. Li, R. Poovendran, H. Debar, and M. Yung, Eds. Cham: Springer International Publishing, 2021, pp. 187–206.
- [30] Y. Shen, F. Wang, and H. Jin, "Defending against user identity linkage attack across multiple online social networks," in *Proceedings of the 23rd International Conference on World Wide Web*, ser. WWW '14 Companion. New York, NY, USA: Association for Computing Machinery, 2014, p. 375–376. [Online]. Available: <https://doi.org/10.1145/2567948.2577208>
- [31] S. M. Ali, "A brief introduction to decolonial computing," *XRDS: Crossroads, The ACM Magazine for Students*, vol. 22, no. 4, pp. 16–21, 2016.
- [32] B. A. V. der Kolk, *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma*. City of Westminster, London, UK: Penguin Books, 2015.
- [33] Y. Neria, E. J. Bromet, S. Sievers, J. Lavelle, and L. J. Fochtmann, "Trauma exposure and posttraumatic stress disorder in psychosis: Findings from a first-admission cohort," *Journal of Consulting and Clinical Psychology*, vol. 70, no. 1, pp. 246–251, 2002.
- [34] L. A. Voith, T. Hamler, M. W. Francis, H. Lee, and A. Korsch-Williams, "Using a trauma-informed, socially just research framework with marginalized populations: Practices and barriers to implementation," *Social Work Research*, vol. 44, no. 3, pp. 169–181, 2020.
- [35] J. Chen, A. McDonald, Y. Zou, E. Tseng, K. A. Roundy, A. Tamer-soy, F. Schaub, T. Ristenpart, and N. Dell, "Trauma-informed computing: Towards safer technology experiences for all," in *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, forthcoming.
- [36] D. W. Davis, "The direction of race of interviewer effects among African-Americans: Donning the black mask," *American Journal of Political Science*, vol. 41, no. 1, pp. 309–322, 1997.
- [37] T. Hirsch, "Practicing without a license: Design research as psychotherapy," in *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, ser. CHI '20. New York, NY, USA: Association for Computing Machinery, Apr. 2020, pp. 1–11. [Online]. Available: <http://doi.org/10.1145/3313831.3376750>
- [38] L. Van Dernoot Lipsky, *Trauma Stewardship: An Everyday Guide to Caring for Self while Caring for Others*. Oakland, CA, USA: Berrett-Koehler Publishers, 2010.
- [39] S. Parmanand, "Some reflections on decolonising sex work research," London School of Economics and Political Science: Engenderings, blog, 2022. [Online]. Available: <https://blogs.lse.ac.uk/gender/2022/02/21/some-reflections-on-decolonising-sex-work-research/>
- [40] N. Fraser, "Abnormal justice," *Critical Inquiry*, vol. 34, no. 3, pp. 393–422, 2008.
- [41] B. Bourke, "Positionality: Reflecting on the research process," *The Qualitative Report*, vol. 19, no. 33, pp. 1–9, 2014.
- [42] N. Walji, P. K. Sheridan, P. Kinnear, R. Irish, and J. Foster, "Who you are and how you work: Embedding positionality in engineering design," *Proceedings of the Canadian Engineering Education Association (CEEA)*, 2020.
- [43] D. d. C. Leal, A. Strohmayer, and M. Kruger, "On activism and academia: Reflecting together and sharing experiences among critical friends," in *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, ser. CHI '21. New York, NY, USA: Association for Computing Machinery, 2021. [Online]. Available: <https://doi.org/10.1145/3411764.3445263>
- [44] A. Strohmayer, J. Slupska, R. Bellini, L. Coventry, T. Hairston, and A. Dodge, *Trust and Abusability Toolkit: Centering Safety in Human-Data Interactions*. Northumbria University, 2021.