Understanding fraudulence in online qualitative studies: From the researcher's perspective

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ABSTRACT

Researchers are increasingly facilitating qualitative research studies online. While this has made research more accessible for participation, there have been notable encounters with "fraudulent" participants. By fraudulent, we refer to individuals who are deceptive about meeting the inclusion criteria, their identity, or experiences. Fraudulent participants have generated new challenges for researchers who have to interact 1:1 with these individuals, face ethical dilemmas on appropriate next steps, diagnose and prevent the issue from happening again, and deal with their own identity as a scholar. In this study, we interview 16 HCI researchers to understand and learn from their experiences. We contribute: (1) an understanding of how HCI qualitative researchers deal with fraudulent participants; (2) a guide for qualitative HCI researchers on how to handle fraudulence; and (3) a reflection on how the HCI research community might better improve our science and training efforts.

CCS CONCEPTS

• **Human-centered computing** → **Collaborative and Social Computing**; *Empirical studies in collaborative and social computing.*

KEYWORDS

fraudulence; deception; qualitative research; online studies; human research participants; ethics; data integrity;

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1 INTRODUCTION

Online research has become prevalent because it carries many advantages that make it a good (or in some cases, better) fit for a wide range of research contexts [13]. Researchers can engage more diverse sets of participants compared to local recruitment and provide a more equitable experience for those with limited abilities or resources to travel to study sites [16, 29, 42]. Remote studies can enhance understanding, increase accessibility, and streamline data collection with screen sharing, recording, closed captioning, and automated transcription tools. While there has been debate on whether adopting online-based approaches has impacted the ability to collect rich and highly contextual qualitative data [74], studies have supported their effectiveness, pragmatics, and efficiency [4].

Within the Human-Computer Interaction (HCI) community, there has been increased interest in research over video conferencing technologies, which in turn called for reflecting and reconsidering how the research community thinks about study design and ethics [39]. This paper builds on this call to examine how fraudulent participation is experienced and handled among qualitative researchers in HCI. We are primarily motivated by our own experiences as HCI researchers conducting qualitative research online. All doctoral student authors in the years since the onset of the COVID-19 pandemic experienced deceptive or suspicious individuals in our research studies, making us question the validity of our research and our capacity to do research. This in turn led us to seek resources to improve our study design, clarify our understanding of appropriate next steps, and learn from other HCI researchers.

During this process, we found much of the research around fraudulent participation in qualitative research exists mainly in the health and social sciences domains (e.g., [19, 24]), with little known on how HCI researchers interact with and respond to this phenomenon. Roehl and Harland [62] and Ridge et al. [61] confirmed and supported our experiences by introducing the notion of "imposter participants," individuals who were dishonest and faked their identities and experiences. In health research, such incidents were attributed to individuals wanting payment or access to not-yet available treatments [24]. Based on these reported cases, and from our own experiences, we highlight how to address fraudulence in HCI research to decrease the potential impact of qualitative data integrity and harm to populations whose stories and experiences get misrepresented.

We also point to how an understanding of fraudulent participation is crucial for the HCI community because of the danger it poses to researcher well-being, in addition to research quality. Qualitative researchers, by the nature of their role, take on an active role in the research to directly interact with participants and facilitate research activities in every stage of research. This puts qualitative researchers front and center, obligating them to make decisions on how they interact with, respond to, and overcome fraudulent experiences.

Therefore, to provide insights into how to improve knowledge about fraudulent participation in HCI qualitative studies and how to prepare qualitative researchers for these experiences, in this study, we focus on three research questions:

- How do qualitative HCI researchers identify fraudulence?
- What is the impact of fraudulent experiences on a researcher?
- What strategies do researchers employ to handle or mitigate fraudulence?

To answer these research questions, we conducted semi-structured interviews with 16 qualitative HCI researchers with diverse research experiences. Participants shared their fraudulent encounters, recounted their strategies for identifying and handling such experiences, and shared how these experiences impacted their personal and professional wellness. We brainstormed with participants about potential institution- and research community-level actions and open questions in response to these incidents.

This paper makes three contributions:

(1) an empirical understanding of how HCI qualitative researchers experience and respond to fraudulent participation across research contexts and institutions;
(2) a guide for HCI qualitative researchers on how to handle fraudulence; and
(3) considerations and suggestions on how the HCI community can collectively improve training, mentoring, and transparency while maintaining researcher well-being and data integrity.

2 BACKGROUND

Fraudulent activity or behavior in research studies is when study respondents (eligible or ineligible) sign up for participation, either for personal gains or nefarious purposes [7, 67]. Other forms of fraudulence do exist, especially from the researcher's side when there is misrepresentation of work or stealing of credit [53]. In this work, we focus on instances of fraudulence occuring from the participant's side.

Prior work operationalizes suspicious respondent behavior in numerous ways. Jones and colleagues [31] use the term "fraudulent participants" to describe individuals who complete tasks inappropriately and whose data is untrustworthy [63]. Roehl and Harland [62] use the term "imposter participants" for individuals who exaggerate, intentionally mislead, and fake information for participation in studies. The term "catfish" is also used for fake representation, however, its use is mainly in contexts of online dating vs. research studies [37, 62].

In our work, we understand fraudulence as (1) being characterized by a range of problematic behaviors comprising of, but not limited, to those already reported by these prior studies [31, 37, 62, 63], (2) being capable of adapting to different study designs with an intent to be dishonest or deceptive, and (3) causing harm in a research setting. The "harm" caused by fraudulence is key to its understanding and discussion. The first harm is to the integrity of the research results as they may be informed by false responses and data that is not representative of the target populations [24, 31, 65]. The second type of harm is to "real" or well-intentioned participants, who may find themselves in situations like focus groups where they are sharing confidential information about themselves next to an imposter or a fraudulent participant [67]. The third type of harm is to researchers, who have to diagnose what went wrong and figure out how to proceed in a way that is fair and protective of human subjects [61]. Researchers also often have to manage any setbacks to the research itself and their growth as a researcher.

Historically, such forms of fraudulence began from quantitative studies, such as online surveys, where an individual taking a survey could maintain their anonymity and misrepresent their answers and experiences. For instance, some of the common instances of survey-fraud are submitting duplicate entries [38, 67], providing misinformation [5, 59], or using automated systems (known as "bots") and other actors [17, 56] to meet study criteria. To mitigate survey fraud, common measures that are currently in use are attention checks, quality assessment tools, reCAPTCHA, permitting only one entry per IP address, and bot detection software [31, 57]. Additional measures, such as gatekeeping the survey link [31], have also been recommended to ensure that only authentic, pre-screened individuals can access the survey. Although we acknowledge fraudulent participation happens in quantitative studies (e.g., surveys [58, 76] and social media research [10, 75]), based on the scope of the study presented here, we focus on fraudulence in qualitative studies.

Since qualitative research has become increasingly online [14, 39, 44], similar to online surveys, participants can take part in research without in-person interactions. Online qualitative studies, such as online interviews or focus groups, also have limitations when it comes to social cues that help contextualize participant identity and experiences. For example, video-based interviews may only afford a "head and shoulders" view [74] and not be telling of body language and movements. This has contributed to fraudulence becoming especially prevalent in recent online qualitative studies [55, 61, 62]. This is not to say that fraudulence did not take place in qualitative research before; for instance, Flicker's 2004 study details the researcher's experience interacting with a youth living

with HIV and encountering a situation where the youth's story did not make sense [19]. Online qualitative studies have simply, as an unfortunate side-effect, made participation more accessible to fraudulent individuals in addition to well-intentioned participants.

Furthermore, the relative newness of these incidents, either in their reporting or occurrence [3, 61, 62, 65], highlight the need for better guidelines or best practices among researchers and ethics review boards. In Roehl et al. [62] 's work, they detail their experiences from a singular study and produce strategies to reduce imposters and fraudulent actors in various stages of the research process. In contrast, we take a systematic approach, specifically targeted at HCI researchers across different experience levels, to investigate how pervasive these incidents are and what the HCI community can do to share strategies and support researcher training. In doing so, we also aim to gain additional insights on the third type of harm, that to the researcher, whilst conducting research. For instance, how do fraudulent encounters impact researchers personally or professionally during a research study?

We also examine the ethical implications of assessing participants for fraudulence. For instance, Jones et al. [31] argue that qualitative data is rich in detail and hence is easier to spot fraud. However, as Ridge et al. [61] present, *"just because a participant does not provide a detailed description, does not necessarily mean they are an imposter"*. So how do researchers say for certain there is foul play? Additionally, research activities are supposed to enable participants to feel respected and empowered whilst sharing their stories [2] and as qualitative researchers, there is an innate desire to take participants at their word [65]. Therefore, if fraudulent incidents and encounters were to increase, what tensions would arise from qualitative researchers taking a more critical eye towards participant accounts?

Finally, when there is suspected fraudulence, how do qualitative researchers manage compensation and reporting? For surveys with quantitative measures, there are established guidelines on how to handle outliers [65] and determine whether the data should be discarded if it does not meet a certain standard. Flicker's 2004 [19] work, based on a suspicious respondent in qualitative public health research, suggested exclusion, selective inclusion, or inclusion of the data based on study contexts and discretion. However, when making decisions related to the inclusion of possibly compromised data, there is a risk of participant misrepresentation – *"when the views and voices of previously silenced or overlooked populations, such as marginalized or disadvantaged social groups, are misrepresented"*[3]. In a highly interdisciplinary field like HCI, where there are diverse user groups, how can research integrity decisions avoid propagating biases and stereotypes through participant misrepresentation?

In this paper, we contribute to advancing the knowledge gap on how qualitative researchers handle, cope, and learn from fraudulent encounters. We discuss the implications of fraudulent encounters for research integrity, ethics, and training efforts. We also build on HCI's rich history of researchers sharing their experiences [1, 21] and examining HCI methods [8, 28] to improve scholarship.

3 METHODS

We conducted 16 semi-structured interviews to understand how HCI researchers experienced "fraudulence" in qualitative studies.

We examined how they identified fraudulence, how it impacted them as researchers, and how they learned to cope, adapt, and navigate challenges arising from these encounters.

3.1 Recruitment

We sought to recruit a range of early-career and experienced researchers who self-reported some form of fraudulent behavior from their qualitative study participants. In our recruitment material, we avoided defining "fraudulence" as a contained phenomenon and instead provided examples derived from our own interactions with fraudulent participants. The goal of this step was to leave it open-ended and elicit a range of responses that provide nuance and detail to how fraudulence can occur. We recruited participants online by sharing recruitment flyers on social media and through our personal contacts and research network (word-of-mouth). The recruitment flyers linked to a screener survey that collected demographic information and context on the incidents. A key consideration we made whilst designing the screener was to include a validity check of the respondents to ensure they were not fraudulent. The validity check required that participants provide an email address from their affiliated institutions (e.g., workplace or school) and their preferred contact email. We only contacted researchers who entered their affiliation information.

Overall, 216 people started the screener, 149 people completed the screener, and 101 people provided a fraudulent affiliation email address. All responses, upon passing the validity check, were anonymized. Responses that did not meet the validity check were discarded. A limitation of this method was that participants, in theory, could provide an affiliation email belonging to someone else. We did not email to double-check this and maintained our promise of anonymity. To our knowledge, none of the researchers we interviewed were fraudulent or deceptive about their identities or experiences. We sought to balance researcher experience and thus invited 18 potential researchers for an interview and ultimately enrolled 16 researchers. Indiana University's review board approved all study procedures.

3.2 Participants

We interviewed 16 HCI researchers, of which seven held senior researcher, project lead, post-doctoral, and professor positions. There were nine PhD/Masters-level students, and one was a Research Coordinator. For clarity, in this paper, we refer to study participants as Researchers throughout. This was done to avoid confusion with their descriptions of their own study participants when talking about fraudulent incidents they experienced. All Researchers are denoted with an "R" alongside their numbers (i.e., R01, R02).

All Researchers were both located in and conducting research within the US. Researcher affiliations were distributed across 10 universities, one research center, and one major tech company. 12 Researchers identified as female, three as male, and one chose not to disclose their gender identity. Eight Researchers self-reported their race as White/Caucasian, three as mixed race, three as Asian/Pacific Islander, one as Hispanic/Latino, and one chose not to disclose race. Refer to Table 1 for the complete participant list and demographic.

Table 1: Interview Participants N= 16

ID	Title/Position	Affiliation	Gender	Race/Ethnicity
R01	PhD Student	Academia	Woman	White/Caucasian and Asian/Pacific Islander
R02	PhD Student	Academia	Woman	Asian/Pacific Islander
R03	PhD Student	Academia	Woman	White/Caucasian and Hispanic/Latino
R04	Research Coordinator	Academia	Did Not Disclose	White/Caucasian
R05	PhD Student	Academia	Man	White/Caucasian and Hispanic/Latino
R06	PhD Student	Academia	Man	White/Caucasian
R07	Master's Student	Academia	Man	Asian/Pacific Islander
R08	PhD Student	Academia	Woman	White/Caucasian
R09	PhD Student	Academia	Woman	White/Caucasian
R10	UX Researcher	Industry	Woman	White/Caucasian
R11	Assistant Professor	Academia	Woman	White/Caucasian
R12	Postdoc	Academia	Woman	Did Not Disclose
R13	Assistant Professor	Academia	Woman	Asian/Pacific Islander
R14	Research Project Leader II	Industry	Woman	White/Caucasian
R15	Assistant Professor	Academia	Woman	Hispanic/Latino
R16	Assistant Professor	Academia	Woman	White/Caucasian

3.3 Study Design

All 16 semi-structured interviews were conducted remotely on Zoom. Researchers provided consent to being audio-recorded. Each interview lasted between 33 and 82 minutes, averaging 62 minutes. We collected a total of 992 minutes of audio recording. All interviews were first transcribed using Otter.ai [1] and then anonymized. Participants were compensated with a $30 Amazon Gift card for their time.

We developed our interview protocol to collect Researcher stories and experiences about experiencing fraudulence. We followed up Researcher stories with specific detailed questions about frequency of occurrence, recruitment method, and study design. The interview protocol also included (1) challenges that were identified/experienced; (2) impact on the researcher and the research study; (3) speculations on what was triggering the incidents; and (4) strategies taken to combat or mitigate fraudulence. Additionally, we explored how researchers defined or operationalized these incidents and asked speculative questions on the future of technology and how they envision research community support when handling fraudulent participants. For researchers we identified as senior or experienced researchers, we included probing questions on how they provided training or social support to early-stage researchers they supervised or collaborated with.

3.4 Data Analysis

Corrected and anonymized transcripts of the interviews were uploaded to a textual analysis tool, the Saturate app [2], for collaborative qualitative coding. Six study authors performed open coding on the first three interviews and then met to discuss and refine the initial codes. These were then put into a codebook to ensure that all authors had a common understanding of the codes used, eliminate duplication, and organize emergent themes. This codebook was updated as the data analysis progressed. Each interview was individually coded by a minimum of two of the study authors. Data collection continued until data saturation - *"the point in data collection and analysis when new information produces little or no change to the codebook"* [26].

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[1] https://otter.ai
[2] http://www.saturateapp.com/

3.5 Researchers' Positionality

We acknowledge that the research team comprises junior, mid-career, and senior researchers in HCI. Although the research team currently conducts research primarily within the United States, our education and training were received worldwide. Among the researchers, five graduated from universities in Asia and started their doctoral programs in the USA. The rest of the research team had their education from universities in the USA. Six junior researchers separately experienced fraudulent participants for the first time while conducting qualitative research studies (i.e., interviews and collaborative workshops) online. Although the senior researcher occasionally had some fraudulent participants early on in their 20-year career, in the last three years, they have had to change how they mentor students to design studies and analyze data in an attempt to understand data providence and quality.

4 FINDINGS

In the following sections, we present findings on researchers' experience encountering, facing, and handling fraudulent participants in qualitative research. First, we describe how researchers identify fraudulent participants – specifically, what characteristics and actions stood out to them as strange or inconsistent. Second, we describe how fraudulent experiences impact researchers at personal and professional levels. Lastly, we describe the strategies researchers employ in handling such incidents, especially across various stages of the research process.

4.1 Identifying fraudulent participants

Researchers talked about how they started noticing patterns after a few incidents where it was likely that the participant was possibly fraudulent. These included untrustworthy characteristics in participant-provided data, behavioral inconsistencies, uncooperative behavior, and the Researcher's gut instinct that something was not right.

4.1.1 Suspicious-seeming names and emails. While recalling their interactions with fraudulent participants, Researchers shared that they encountered fake or phony-seeming information filled into the screener survey. For instance, R07 described a recurring pattern of common names and random-looking emails among fraudulent participants:

"So another commonality, that I've seen in these fake responses, you get really fake sounding names like 'Grace White' being on the phone [referencing a prior incident]. And also, a lot of the emails have a format of first name, last name couple of letters @gmail.com." –R07

Researcher R01 similarly recounted an incident where she had already determined the participant to be untrustworthy (based on other evidence-supported factors), but noted how their identifying information also appeared to be fake or made up. R01 also expressed that the name could technically belong to someone, but in the context of fraudulence, a common-sounding name in conjunction with other falsified-looking information (e.g., email format, inconsistent survey, or session responses) was a red flag.

"It's like I said, the numbers or the emails are too similar. Or maybe this one sounds counterintuitive, but I realized that some of the fake emails are these very straightforward ones, where they're like, my name is Jerry Smith. And you would think, okay, that's like a real name, it works out. But usually those people end up not being real participants." –R01

4.1.2 Lack of study context and knowledge. Researchers detailed that one of the most evident characteristics of fraudulent participants was their inability to answer questions with any level of depth or specificity. For instance, Researcher R03 mentioned how one participant's answers deviated significantly from the norm. When probed further, they could not provide additional detail or clarifications.

"One participant, I went through with the whole interview, but they had trouble answering a lot of the questions. So I asked, 'How often do you go to [care practice]?'. The response was, 'Oh, I go three times a week'. I'm like, "Wow, three times a week." I didn't express that to them. But for me, that's a lot. People usually go once a week, max twice a week, if they are in a really severe position, right? Or if they are hospitalized, and they need to go more. So like, this person could be lying. They don't know how [care practice] works.... When I tried to get more information from this person, on why those [reasons], they couldn't really give me much." –R03

Researcher R06 also experienced the same and described how in his case, he tried to ask for more specific details on the individual's participation in a a study-specific experience and was met with vague and generic responses.

" I asked her [a participant] questions, and she just had, like, zero responses or context for what the study was. And then, when I pushed, and asked some follow-up questions. She was visibly confused and gave me responses that were entirely irrelevant to the thing I was asking about. So I've described the [study context]. So I asked, you know, a pointed question about her participation in that [experience]. And she said, Oh, yeah, I love [experiences], like I [engage in that experience] with my friends. And I was like, great, but what about this one? And she didn't know what it was. " –R06

4.1.3 Mismatched Information. Another way researchers determined fraudulence was when there was a clear mismatch of what participants said during study sessions with information collected or tracked prior to the session. In the case of Researcher R01, she noted how people would accidentally reveal their actual birth years when asked again suddenly during the session, not realizing or forgetting that they had put in some false information beforehand.

"So I look at the spreadsheet. And then I started asking people, at the very beginning of the interview, before we start recording and everything. Like what year they were born, some people, I guess, aren't clever enough to remember that they're lying about their age. So they accidentally say the real year they were born, or they have to really think about it. And it's still always awkward, because it's just like, Okay, well, that's not what you said on your screening application" –R01

Similarly, Researchers R05 and R03 became suspicious when individuals they interviewed revealed different names from what they had indicated during screening. R03 noted the name displayed on Zoom was different, with the individual explaining it as being their roommate's Zoom account. R03 was not in a position to question that; however, it added to the list of things that were off about that interaction.

"And then my collaborator started the interview with this person. And immediately, right off the bat, gave a different name from what they had registered with on either form. And so that was like the confirmation that this genuinely was not a real person." –R05

"The first participant that I interviewed.. another thing that was different is that their email was like Henry something and in the end their name was something else. They were like, 'Oh no, I'm Paul, this is my roommate's Zoom.' which okay happens so that was another thing where I can't say 'oh, they're lying.'" –R03

Researchers also used location and IP address mismatches to detect fraud. For instance, R15 and R03 were recruiting participants from the United States only, but found through IP information collected by Qualtrics[3] that individuals were taking the survey from other parts of the world and trying to represent themselves as being located in the US.

"And so when I checked the database, it told me, it tells me their location. And her location was in Africa. And so, she was not supposed to be in this study because the study was only US-based. So that's how I detect some participants." –R15

"In the screening survey, because I used Qualtrics, I could see people. First, I had a spreadsheet where I copied some of the information. Maybe they said they were in the United States, but the IP address map showed them somewhere else in the world. So I was like, 'Okay, I cannot use this person.'" –R03

4.1.4 Resistance and uncooperativeness. Some researchers experienced participant atypical behavior, resistance, and a general

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[3]https://www.qualtrics.com/

uncooperativeness toward study requirements. In many of these cases, it was challenging for researchers to say for sure that it was fraudulent behavior, but when combined with other factors, it stood out to researchers. For Researchers R12 and R07, an individual's resistance or reluctance to turn on the video, considering their unique study contexts or requirements, struck them as strange.

Researcher R12 expressed that although some participants kept their video off, a participant's choice and language made her doubt their trustworthiness.

> "For accessibility purposes, we didn't have a strong requirement that someone has to have their video on. So they did not turn on the video, they talked through chat. Again, this is not an uncommon practice because often Deaf people use chat for communication. I asked them if they would rather prefer to have ASL interpreters, which they strongly was against. So that again made me doubt if they are being dishonest about their disability. And also some of the languages they use. So, for example, they use the term crippled to describe their collaborator, and I know that recently crippled is something that is maybe considered to be almost a slur in terms of disability, so it's not encouraged for people to be using that term. And so that again, made me, kind of, you know, question if they are being dishonest about their experience" –R12

For Researcher R07, his usability testing study required that participants be able to use video and screen sharing. Despite this being a requirement, some participants did not want to turn on their video or did not log in through a computer. R07 also clarified that this alone was not what made them fraudulent, but it was an indicator.

> "So after having to go through the two fake participants, the commonalities between the two would be like, they both joined on a mobile device, super reluctant to share their screen or turn on video. And also, generally, well, yeah, they're fake participants... when basically pressed for any kind of screening type of question, they usually give something like a really, really general non-informational answer." –R07

> "So what we have them do is log into our website, then mobile screen capture them screen sharing their experience. It's pretty involved in the tech side of things. they needed a computer to get it done. It's not just like, you know, you get to jump on the phone call and call it a day kind of situation." –R07

4.1.5 Researcher perceived inconsistencies and red flags. In some cases, based on an individual's responses or appearance, researchers were able to form an opinion that the participants were being disingenuous or deceptive. In the case of Researcher R01, a participant reported a chronic illness that was questionable based on the participant's age and current medical knowledge in early on-set dementia.

> "But for example, someone filled out the survey, and I see that they say that they're 16. And they say that they have Alzheimer's, I'm like, 'okay, that's really, really unlikely.' And it, you know, kind of makes me think,

> like, they just googled, like, what is a chronic illness? And they kind of picked the first one." –R01

Researcher R15 recalled when a lab mate interviewed individuals who did not seem to be the age they self-reported. This was an especially challenging situation to identify what action to take since it was difficult to verify and make sure.

> "So they [my lab mate] did Zoom interviews. And there were some people that looked older than like, they would say that they were 15. And they didn't look 15. They looked much older. But again, we didn't have any way to verify it" –R15

4.2 Impacts of fraudulent experiences on Researchers

Researchers reflected on the impacts of fraudulent encounters on a personal level and on a larger scale when considering its ripple effects on their teams, institutions, and research community. At a personal level, researchers expressed feelings of self-doubt, anxiety, and fear after such encounters. Beyond the personal level, they shared concerns about not meeting recruitment requirements, loss of funding, uncertainty of data integrity, and fear of misrepresenting populations. We organize these as micro-level and macro-level impacts.

4.2.1 Micro-level Impacts. Researchers shared how they started doubting themselves and their credibility as researchers after interacting with fraudulent participants. This feeling of self-doubt was more evident among early-career researchers for whom this experience was unexpected and overwhelming. As an example, Researcher R10 mentioned losing confidence and questioning her ability to design a research study after a fraudulent encounter.

> "I think there's like the personal aspect of the researcher. Did I do something wrong? Do I not know how to design a screener? Or like, am I as good as I think I am? Did I ask the questions in the right way? Was I the one confusing? Did I give them false expectations for what they should be talking about? Like, is it me? You know, so you go back and you look at your materials." –R10

Some researchers expressed online safety concerns, especially as they had to share their personal information (e.g., name, email address) to communicate with study participants. For instance, R01 worried she was more susceptible to harassment as she had to publically share her real name and contact information to adhere to IRB guidelines.

> "I feel it's a very unfavorable position to be in because of the type of work we do, and the IRB regulations, we have to disclose our full names or contact information where we work, which by extension is like where we live. And it's like, you don't know anything about these people. So, part of me worry that there's gonna be problems with that." –R01

Researchers revealed how they sought social support (e.g., emotional, informational) to address the negativity and frustration after experiencing fraudulent incidents. For example, Researcher R08 described that talking to her academic advisor and figuring out

the next steps helped her cope with the situation and soothe her worries.

> "As soon as it [fraudulent incidents] happened, I messaged [my advisor] and then we had a chat about it and it helped...[the advisor] was the one who helped me, talk me through it, and figure out what I wanted to do to try and prevent it from happening in the future...it kind of helped me. I guess I feel calmer." –R08

Researchers were vocal about sharing their experiences with their labs, departments, and institutions. They wanted to help bring awareness, have open conversations as a community, and figure out ways to tackle fraudulence. Researcher R07, for instance, speculated how he would like to have a "venting platform", where researchers can have community discussions and develop strategies to address fraudulence.

> "I like having a place to vent about it [fraudulence] and also contribute towards not having someone else experience the same thing I had to deal with... The more people talk about it [fraudulence], the more aware people are going to be about it. And subconsciously, people will start making their questions, or more deeply analyzing their responses, to hopefully weed out some super obvious fake participants and could maybe save them some time in the future." –R07

4.2.2 Macro-level Impacts. Researchers described how they considered more stringent screening processes to ensure that only authentic participants obtained access to their study. While this worked fine for some, for Researchers working with populations that were already hard to access, this meant an even smaller recruitment pool. For example, Researcher R12 described the challenges of making a stringent screener when working with people with disabilities, for whom some technologies were already inaccessible.

> "I can try to craft more difficult screening questions, but also, that sometimes limits participation when we think about people with disabilities or other kinds of marginalized populations. Because a lot of times, a lot of technologies are not accessible. So if I make my eligibility criteria more stringent, that means essentially, I'm excluding people with certain kinds of disabilities. ... So I think I would probably just rely more on community-based recruitment processes." –R12

Researchers experienced a lot of moral and ethical dilemmas on whether it was okay to rely on their gut instincts when something said by a possibly fraudulent individual did not make sense. Researcher R03 illustrated this dilemma by describing the range of questions that went through her mind in an interview session. She wondered if she was being fair, that there was something she was unaware of. She also thought about how she might argue not proceeding with the interview if it came to that.

> "I don't know if I'm being fair. If I'm dropping them from the study, and they're actually doing [care practice] that are different. But, it just felt like that very strong gut feeling of like, this is not right. This is very different from our other participants. That's not usually how [care practice] is conducted in the country. But maybe part of me is also like thinking maybe I'm being unfair, maybe they are actually here [in the US]. Maybe they just do a very different type of [care practice]. So how do I argue dropping them? Can I really just drop them because of my gut feeling that this is very different from everybody else?" –R03

Researchers also worried about the high incidence of fraudulent encounters impacting their ability to have good, trustful interactions with participants. For instance, R06 talked about how the researcher-participant rapport was important in qualitative work and that it would be difficult for participants to tell their stories if they sensed underlying mistrust from the researcher.

> " I think that the presumption of fraud might impact how participants respond to me a little bit. I think it's more than just [participants] sharing [their] experience, period. It is a difficult thing to do often. And, you know, I want to honor that. So to me, like starting off from like a presumption of mistrust I think maybe violates the spirit of that a little bit." –R06

> "I think if you, as a participant, don't think that the researchers trust you, and what you're saying, like why should I tell you the full extent of my experience? Like, what are you going to do? Like, you're not going to value it anyways." –R06

When probed on what would be the ideal way to ensure authentic or reliable participants, Researchers expressed concerns about potential tensions between participant privacy and invasive verification requirements. For instance, R13 and R06 both stated that while technically participants could be asked to go that extra step and verify who they were, it was still problematic and disrespectful.

> "The low-hanging fruit would be problematic. To gather all of the person's data to make sure that the person is fitting with what you're doing, like the pattern of their usage of whatever systems is actually matching with the inclusion criteria that you say. That's very problematic, though. How are you going to allow someone to do that? Maybe someone who's willing to do it can do it, but still, it has a bit of an ethical implication in doing that" –R13

> "One thing that I could have done... ask folks to pull up their profile and show that they had this [verified] badge. Reasons I didn't want to do that though is, I'm not sure if that was IRB sanctioned. And also, I didn't want folks to feel like they had to, you know, show me their post history. Because that seems like too far outside of the context of my particular study.... might be an invasion of, of some expectation of privacy" –R06

In a few cases, researchers were only able to determine that the participant was fraudulent after the study was conducted. This led to them losing time and also having to make decisions on data handling. Researchers R09 and R01 both had to discard the interview data due to uncertainty about the individual's authenticity.

> "So we ended up throwing out at least three interviews. There was a couple that we never really anticipated that we were going to use. If they were good, we were going to keep them. But if they weren't, we know what

we're doing. Altogether, we ended up throwing them out" –R09

"I hated it [fraudulent event]. Because it's like a waste of resources, and then you can't use that data." –R01

Researchers expressed that fraudulent encounters often gave them a false sense of their study progress. For instance, R03 was initially quite happy that she had a very diverse pool of respondents, but felt let down when she realized that a lot of them were fake.

"I think that was the worst for me to have a false perspective that they had a more diverse pool of people. Because in [care domain],.. it's a lot of white women. It made me think I had more Black participants than I really had, and it made me think that I had more men participants than I really have." –R03

Another major impact for researchers was the wastage of research funds. Most of the time, researchers could not prove that the participants were deceptive and ended up having to compensate them fully as per their IRB or compensation agreement. This was highlighted by R06, who expressed that he wished there was language that gave him some control over compensation distribution.

"I didn't have any language in my screener that said I reserve the right to withhold payment if you're lying about this, but I kind of wish I did." –R06

This did lead to several researchers, such as R15, making changes to their compensation clause on their IRB:

"We made that change after the fraudulent thing...we're like, 'you have to finish the whole study to get however much money you end up getting.'" –R15

4.3 Researcher strategies for handling, reducing, or eliminating fraudulent incidents

When prompted on how they dealt with potentially fraudulent participants, Researchers shared several small-scale strategies they used during the recruiting, screening, facilitating, and compensation stages of the research process. Additionally, Researchers also revealed their hopes and aspirations for more large-scale action relating to institutional guidelines, community support, and non-extractive research methods.

4.3.1 Small-scale strategies.

During recruitment. Researchers shared speculations on how they thought fraudulent parties gained access to their recruitment material and why they signed up for research studies. The most common speculations were; (1) easy participation with no domain expertise or identity validation required, (2) gift cards or other incentives being a motivator, and (3) spamming and organized malicious behavior that is expected in online studies .

With these possibilities, some participants discussed tracking recruitment at the source, especially when social media is involved. R06, who determined that when their study was shared on Facebook, their fraudulent responses spiked up:

"So I think the couple of participants who were not particularly informed on the topic came from Facebook, and I didn't post on Facebook at all. I did allow for snowball sampling, that made me think that maybe it

was coming from, like a Facebook group where people share studies or whatever, which again, in itself is fine. But that was maybe a little bit of a red flag for me, I think." –R06

Another suggestion at the recruitment level was to limit publicly available compensation information, although this generated some Researcher dilemma on whether this was the right thing to do. R06 expressed this dilemma when he contemplated not sharing the specifics of compensation until a participant was sent an informed consent.

"If I were to do this again, and I will at some point, I think I would [choose not to disclose specific compensation information]. And I feel shitty about this, frankly, because it feels deceptive to me. But I would say that in recruitment materials, it would be a paid study. But I probably wouldn't disclose the terms of the payment until the actual informed consent document, maybe I don't know if that's IRB approved." –R06

During screening. The screening survey was where the majority of our study participants reported making active changes to combat fraudulence. Participants relied on a number of survey-captured parameters to check participants. For example, Geolocation, time zones, and IP addresses were used to determine if participants met study specifications. Researcher R15 narrated an incident where she realized that participants were unable to access her diary study because they were in a timezone that did not correspond to their reported location.

"...that's how I found out because I realized that these people were not in the correct time zones, like in the US time zones, because the app, the survey wasn't opening at the time that it was supposed to open." –R15

Similarly, R04, R11, and R15 used collected IP address information to ensure that the survey respondents belonged to the geographic area they were recruiting from.

Another strategy used was the inclusion of a qualitative or open-ended question to gauge respondent's response quality and richness. Although R03 did not do it for her study, she shared that, in the future, she would consider including a question that required participants to share contextual knowledge on the study topic.

"It's just more like asking a more elaborate question in the screening survey, like, 'tell me how you feel about the [care practice] that you go to?' And then from there, you can already have an idea.." –R03

R03 also elaborated that it would not be grammar or extensive detail she would be looking for, but thoughtfulness and authenticity demonstrated through familiarity with the practice. Other strategies included having a CAPTCHA (R11, R15) and checking survey time completion (R15).

During research session. Having to interact and carry out a research session with a possibly fraudulent participant proved to be a difficult experience for some researchers. According to R05, *"it was like pulling teeth. It was just a painful interview,"* due to these individuals not having any interest or specific examples to bring

up. Additionally, Researchers were unsure how to handle the situation, especially when there is no correct or ethical way to end the session. R03, stated, *"Because I cannot really judge people, I cannot really just drop them from the study"* to recount this dilemma. Staying within IRB protocols (especially in the case of academic institutions) was another tricky balance to maintain. For instance, R05 also highlighted that even a suspected fake participant needed to be compensated as per their institution's standard IRB guideline.

> *"Part of the constraints in play here is, with how our interview protocol is currently written. As soon as the interview starts, and the participant consents to it, they're getting paid, right? They can back out at any point. We still compensate them. Even if they're fraudulent, we still compensate them, like all of the criteria have been met for them to be compensated."* –R05

Due to these challenges, Researchers employed strategies to re-check participant eligibility and also stall or buy more time if needed. For instance, R08 relied on re-asking demographic information before the session started recording.

> *"And that's also when I moved the demographic questions to the front. So that I could ask people details about their [condition] upfront before doing anything else in this study, and just double check eligibility criteria before I started."* –R08

This re-asking created a way for Researchers to present evidence (if any) on why the participant was ineligible for the study (R15) and end the session before proceeding further.

In other cases, researchers stalled or gathered more time to think. R04 described an incident where a fellow researcher had to fake a personal emergency to communicate to the rest of the research team that something was wrong.

> *"He [fellow researcher] ended the call by making a fake emergency that happened just to connect with the rest of the team because he realized something was off. Oh, and he immediately brought it to our attention through [messaging platform]. And then the PIs and everyone was on the case"* –R04

R15 had a similar experience, where she realized during a call that the participant was being deceptive. She then ended the call citing technical issues and once her suspicions were fully confirmed, emailed the participant that they were not eligible for the study.

> "I was like, Oh, that's weird. Well, let me go talk to my tech people, and I'll get back to you. Because that's when it confirmed my hunch. And so I ended the call. And then what I did was after I verified, yeah, this participant was fraudulent." –R15

In these examples, stalling was done to either consult with a mentor or re-check the data and confirm the suspicion.

During compensation. In most cases, Researchers had to compensate suspected fraudulent participants fully even if the session ended quickly and the collected data was unusable. This was especially the situation when there was no hard evidence or grounds to determine fraudulence. Upon going through many such participants, some Researchers explored strategies such as asking for a physical address. For instance, R02 asked, *"can you share with me*

an address? What if I have to mail your gift card?" R02 described that this led to the fraudulent participant sharing more suspicious data; *"And she shared a very generic address, like on Google it did not look like a residential address or something."* R04 also talked about asking for an address so that a cheque could be sent to the suspicious participant. R04 thought if participants strongly insisted on digital payment, that would trigger a need for a closer look.

R03 had a different strategy of partial compensation. She described an incident where she had to tell a participant, who proved to be deceptive about their location without a stable network connection, *"I'm sorry, I'll have to cut the interview short, but we'll pay you half of the gift card"*. However, this was only possible because it was part of their IRB protocol that participants be compensated half the incentive in the event the session was stopped or ended abruptly.

4.3.2 Large-scale strategic action.

Validating HCI research participants. A key challenge for HCI online research studies, identified by Researchers like R10, is that HCI researchers tend to recruit participants from the general public, such through social media, online forums, or mailing lists, without validated mechanisms to prescreen participants. This was also highlighted by R13, who contrasted HCI research with clinical research and shed light on the risks associated with recruiting from any source and without any validation.

> *"They [clinical researchers] don't recruit from Craigslist, like we HCI and computing researchers do or maybe some humanities or social science researchers might do this as well. But I don't think clinical people really do this. So that might be our challenge, as HCI researchers, kind of used to studying general populations, it doesn't matter that it comes from a specific site. And so we're so used to just recruiting from any source. And we don't quite think about validating it."* –R13

When probed about the future of research and technology with regard to handling fraudulence, Researchers contemplated validation technologies and strategies. For instance, R01 described the possibility of third-party mediation platforms doing identity verification checks.

> *"I could envision something that's like a third-party platform. And it verifies the participants' identity without necessarily sharing that with researchers. Like, we don't need to know their full name or address… But it would be good for someone to verify that, some independent group or intermediate person.".* –R01

R10 speculated on the possibility of "verified participants", similar to the verified badges on social media profiles (e.g., blue check marks), However, potential participants may not have the incentives to sign up for pre-verification. Even so, R10 stated that it could still be an option for people to verify their profiles, especially on recruitment service platforms.

> *"Give people that option. It's like verified profiles anywhere, a little bit more trustworthy. … We don't know who these users are. So if you ask them to verify, you might get, okay, you actually are this person, you actually are that person. "* –R10

Lastly, Researchers, such as R16, acknowledged that technologies and platforms that perform verification do exist, however, they are not always accessible to researchers in academia.

> "Yeah, like there are other platforms that industry people use or other kinds of platforms that they kind of verify. They have a pool of participants, and they are kind of verified. They have different background information from them. It's really easy to collect data, but it's expensive for researchers in academia to use those platforms. So I hope in future, that kind of platform will become more accessible to everyone." –R16

Communicating credibility of research in publications. Researchers also talked about fraudulent participants within the context of integrity and credibility of the research, and how that might be communicated in academic publications. For instance, R15 experienced a high number of fraudulent participants through social media and chose to completely drop social media as a recruitment source. She detailed her skepticism towards online recruitment and expressed that she felt proud of her own research because of the effort she took to get "real" participants:

> "It's hard when you have these people trying to play you. But at the same time, it makes me value my research a little bit more too because now I've gotten more old school on how I recruit. I'm like, my research is unique. Because I know that I have real participants and that I'm taking the time to actually recruit these people. Like there's intention behind my research." –R15

When probed further, she highlighted that emphasizing her recruitment methods was a way of communicating the credibility of her research and showing that her data was real.

> "Basically what I do is just, I describe my recruitment methods. So for example, in my [study name] paper...where I was recruiting [research sample]. I clearly delineated that I reached out to different organizations to recruit these [participants] and through contact lists from individuals that I knew that they would give me. –R15

Researcher R09 conveyed that she and her research team felt it was important for the research community to know about fraudulent incidents and described that they dedicated a full section to the experience in their published work. R09 further emphasized that it was important to be heard and to know what could be done.

> "The paper ... had a section of, hey, we ran into fraudulent participants, this is what happens, this is what we did because we did think it was important for the community to know that, one if you're experiencing this, you're not alone. And if you do start to come across this, here's some things you could do." –R09

More ethical guidelines geared towards handling fraudulent participants. The Institutional Review Board (IRB) came up in conversation as researchers discussed the need for more guidelines when handling fraudulent participants. For instance, R08 expressed that it would be beneficial if the IRB had a mechanism to proactively share fraudulence-mitigating measures with researchers as they submitted their protocols.

> "I guess what would be helpful would be proactive stuff ahead of time, in terms of like, 'Have you considered this in this protocol?', or, 'Here's some standard things that we do, as part of online studying protocols, XYZ to ensure or to cap fraudulent behavior' ... And here's what to do if you encounter it, things like that." –R08

R01 echoed this expectation and expressed needing advice on the ethics of compensation when the participant did not fulfill their part of the research participant agreement.

> "For example, how to verify identity, perhaps in a non-invasive way? For example, what are the expectations for compensation if you find that someone lied to you about something that affects their eligibility for the study?" –R01

R01 further added the critique that IRBs are more geared towards protecting participant interests and pointed out that with online research, the researcher could just as easily be at the receiving end of harm.

> "Because rightfully so, the IRB is very focused on protecting participants. And that's obviously important. And I think there is always a risk of that. And that is our responsibility. But I also think that we encounter some risks by putting our identities out there, and our institutions and all of that. So I don't know exactly what I would want the IRB to do about that. But I hope that there's more discussion and direction..." –R01

In contrast, Researcher R13, who did not have to compensate their fraudulent participant, talked about how she did not think to involve their IRB as there was no harm done other than time being wasted.

> "I didn't think to report it to the IRB, maybe I should now that I think of it. Because it didn't cause any harm. It's not like I caused harm to them, they cause harm to me, but it's not quite harm. I didn't give them the money so there is no fraudulent activity. It's just wasting my time. And it's their attempt to fraud. But the actual fraud activity did not happen, right?" –R13

Overall, this points to a lack of clarity on the IRB's responsibilities towards researchers and how harm is assessed in research. These gaps may need to be addressed to refine ethical guidelines, establish protocols on when to involve the IRB, and provide researcher support when experiencing fraud.

Non-monetary compensation and research study participation as gig work. Incentives were the most commonly cited reason researchers speculated why fraudulence occured. Researchers talked about their experience with non-monetary compensation and reciprocal value exchange (an idea derived from the organizational theory of mutual aid [49]):

> "So in those situations, we did this with the older adults, it's all about relationship development. So what we did with the older adults, before we even interviewed them for the study, is we went to that senior center every week for two months and played games with them. And got them to know that we're just not there to pick their

brains, take data from them, make them feel like a guinea pig and leave. " –R10

In addition to spending quality time, R10 also emphasized how sharing the outcomes of the research (e.g., a published paper) was part of this relationship development.

"It's another value prop. Right? You can see the results of this research because I think that's the other disconnect that people have. Like they give to a research study, and they never know the result. So if you can share that results be like, 'hey, you know what, you informed the science.'" –R10

In contrast to this, some Researchers strongly believed all work should be paid as it is labor, even if fraudulent:

"Taking surveys, being part of interview studies, that's definitely a type of work. This is labor that everybody provides. And I guess that is an underlying ethos that I bring to my interviews, maybe why I also feel that people should be paid if they participate, even under fraudulent purposes, but maybe give truthful information that can be helpful to the study, because it's labor that they provide that we need and that we're grateful for, and so therefore, it should be compensated." –R11

This was also echoed by Researcher R06, who felt that compensation was a form of respect for people's time.

"I strongly believe in compensating people for their time, you know, respecting norms of privacy, and stuff like that. So, like the broader HCI community, at some point, had a whole thing about Mechanical Turk workers, for example, where people were paid roughly less than minimum wage. So I wanted to avoid a situation like that because I don't think that's fair." –R06

Overall, this highlights a challenge with large-scale strategies geared towards incentives. If substituted with only value, it might work for some populations, but might be unethical to others who desire or need resources for their time.

5 DISCUSSION

Through our interviews, we learned that qualitative HCI researchers dealing with fraudulent participants had challenging and frustrating journeys where they had to stay alert, take note of inconsistencies, figure out the next steps, and plan escape routes and mitigation strategies, all the while doing research. Being responsible researchers with commitments to data integrity, ethics, and fairness added another layer of complexity and nuance to their experiences. This all contributed to significant cognitive burdens and emotional turmoil for researchers, who ended up questioning their credibility and going through feelings of self-doubt and imposter syndrome. While it is difficult to stop such issues from happening altogether, through our work, our goal is to bring awareness and provide insights to the community on how to prepare for such experiences, alleviate feelings of isolation, execute best practices, and support each other.

In this discussion, first, we share a synthesis of researcher-shared narratives of fraudulent incidents, with suggestions on how to address the issue and what to be mindful of when addressing the issue.

Second, we reflect on how additional training for trust, respect, and bias checks is critical to ensuring all stakeholders in the research enterprise are treated equitably. Third, we encourage the community to create emotional and informative spaces for researchers, especially those who are junior or early-career.

5.1 Guidelines for handling fraudulence in qualitative studies, with an emphasis on checking for biases

While quantitative methodologies, like surveys, have well-adopted guidelines and validity checks to minimize threats to data integrity, there is a knowledge gap when it comes to fraud in qualitative research studies. Flicker [19] highlights how qualitative researchers rely on participants being honest and trustworthy, and when there are outliers, it leads to confusion and questions for researchers on whether that data can be used. They present the cynic, skeptic, and seeker approaches, which correspond to (1) excluding the data (data is not trustworthy), (2) including select pieces of data (consider the data with a "grain of salt"), and (3) including the data (all data is a story to tell). These approaches may be used to critically evaluate whether to keep the data, however, researchers still have the responsibility of assessing and preventing potential harm to the population being studied. Roehl and Harland [62] comprehensively document their experiences with "imposter" participants during various phases of the research process and recommend precautions that catch potentially unreliable data. Their work also highlights the risk of misjudgment, specifically that it is possible for a participant to yield unsubstantial or poor-quality data without actually being an imposter. This delicate balance of implementing anti-fraudulent checks and strategies whilst also being careful about misjudging participants is an ongoing challenge for qualitative HCI researchers.

It is also to be noted that our research contrasts with some of known research on fraudulence as it does not take an autoethnography approach, but instead collects feelings and frustrations from a diverse group of researchers. This shed light on how some researchers felt more uncomfortable or more unqualified than others (also imposter syndrome) to make decisions related to participant removal. All of these point to a need for concrete guidelines that not only help researchers actively check for fraudulence, but offer a few different ways of addressing the issue, facilitate continuous reflections on each action, and make a conscious effort to check for risks and biases.

We argue that, as a collective, it is crucial for the research community to work towards developing such guidelines, especially with the extensive magnitude of qualitative research that is now conducted online. As a step towards this, we summarize our empirical research and create a set of fraudulent scenarios, examples that illustrate the scenario, recommended guidelines on what researchers can do, and possible tensions and concerns to be mindful of. Our hope is that this set of guidelines, shown in Table 2, can serve as an evolving checklist for qualitative researchers within HCI.

Table 2: How can researchers prepare themselves for handling fraudulence in online qualitative studies?

Fraudulent Scenario	Examples	Researcher Guidelines	Tensions or concerns to keep in mind
Data Mismatch: A participant's responses during a research session are different from what was self-reported or collected during screening	- The participant says their age is 26, however, they entered 32 when they filled out the screener survey. - The participant says they are calling in from their home and it's nighttime, however, according to the screening tool, they are located in the US where it's supposed to be daytime at the time of the interview.	- The researcher could re-ask additional questions from screening and compare the two responses to see if the participant is getting most of them correctly. - In the case of non-fraudulent participants, this would give them a chance to correct themselves. However, if the participant is fraudulent and makes multiple mistakes, it can serve as evidence of the issue. - If the researcher has reached a stage where it is clear that the participant is being deceptive: the researcher can end the session citing ineligibility or back out from the interview and then later get back to the participant via email	- Abrupt ending of interviews can lead to hostile situations, such as the fraudulent participant becoming agitated or assertive about compensation. If there is such a risk, it might be better to end the session politely and follow up via email to document any potential abuse. - The researcher should always keep the target population in mind and be aware of explainable data mismatches (e.g., a participant transitioning their name or gender may result in data mismatches between screening and participation) - The researcher has to be careful and only deem a participant ineligible if there is clear evidence of a data mismatch.
Poor Data Quality: A participant has little to no context on the study, and cannot answer questions with specific details. There may also be significant stalling (trying to keep the session going) and resistance.	- The participant is asked contextual questions on a practice they self-reported as highly skilled at. For example, if the practice is crocheting, they are unable to talk about how they crochet or what type of yarn or hooks they use. - The participant who signed up for a study for chronic illness patients cannot say how often they get care or what kind of medication they take.	- The researcher could keep questions that confirm knowledge about the study context at the beginning of the session. If participants do not produce sufficient information or are unwilling to talk, the session could be ended early with partial compensation as an option.	- There is no clear evidence that the participant is fraudulent. Participants may not be able to express to the researcher's preferred detail or participants may be guarded about their experiences. - The researcher should strive to give participants the benefit of the doubt and be respectful. - The researcher also has to be cognizant of any biases influencing their judgment so as to not unintentionally exclude certain people or populations
Uncooperative Behavior: A participant is unwilling to do the study procedures and tries to get through the session with minimal effort.	- The participant is unwilling to share their own video or screens. - The participant explains that they cannot do the study through a web browser when it's necessary for the user testing required in the study.	- The researcher should include all study expectations and eligibility criteria in the recruitment materials and remind participants that not meeting the inclusion criteria at the time of the session could lead to rescheduling or ending the study.	- In the event the recruitment or ethics materials are not explicit about video sharing, it could be considered a breach of privacy if participants are asked to turn on their video (especially when triggered by the researcher's suspicion). - The researcher should be aware of the technology and resource limitations of the target population (e.g., if a participant is using a public computer at the library, they most likely will not be able to install software).
Suspicious Identity: A participant has a generic email, cannot be found online, or does not have an expected public presence. They may also not remember the name they signed up for the study with.	- The participant signed up for the study as John Doe but introduced themselves by a different name during the study. - The participant signed up for the study and indicated that they are an experienced Project Manager from a large tech company, but they have no public presence (e.g., no LinkedIn profile).	- The researcher can choose to recruit via snowball sampling or through authenticated participant repositories. - If a researcher suspects identity misrepresentation, they should not include the data in their analysis because it could introduce biases and inaccuracies in the data. They should report how many fraudulent participants they did not include in the data analysis.	- Snowball sampling may not reach a wide range of people. - Authenticated participant repositories may be inaccessible to the researcher or require payment for use. Such repositories could also include a pool of professional participants which may impact the study [15]. - The researcher may be faced with a situation where they have to prioritize protecting the population vs. achieving data saturation. (eg., a researcher may be trying to meet an ideal sample size, but if they find that the data is fraudulent, they have to make decisions that don't cause harm to the population, even if that means discarding the data).
High Response Rate: A participant is filling out multiple screeners, not really paying attention to screener questions, and using fake information.	- The participant becomes part of the researcher's list by bombarding their screener with different names, random entries, and qualitative data points pulled from the internet.	- During the screener survey design, the researcher can include attention check features, qualitative open-ended questions, and data triangulation mechanisms (asking the same questions differently to see if they have different answers).	- Multiple fraud-prevention measures used concurrently may make the screener burdensome and result in fewer responses. - Fraud-prevention measures on the survey are extra effort for the researcher. - Fraud-prevention measures at the screener survey level are not foolproof and there is a good chance that fraudulent participants might learn and figure out ways to get past such checks.
Red Flags caught by Researcher Judgment: A participant exhibits a number of odd characteristics that stand out to the researcher.	- The data or context provided by the participant does not match with what is the norm or what is known to the researcher (the expert in this case). - The participant gives disingenuous responses or appears to be lying, but it is challenging to prove.	- The researcher should tread very carefully, stall where possible, and consult with mentors or experts. - The researcher should periodically check their biases [48] and regularly engage in implicit bias workshops that provide actionable activities to address one's biases [51]	- The cognitive burden on the researcher will be high in such situations due to the unknowns and having to deal with the situation on the spot. - There is a strong risk of misjudging a participant.

5.2 Open questions and recommendations for facing the impacts of fraudulence

Our study highlighted several impacts that require further consideration and action by the HCI research community. This is especially critical as these incidents may become more frequent, and researchers and institutions may not have templates, mechanisms, or protocols in place to address possible consequences. We list our open questions and recommendations below:

5.2.1 Researcher wellbeing and creating spaces for its discussion. In HCI, researcher wellbeing has received some acknowledgment recently [18, 72], but not much as participant wellbeing [47]. Participant wellbeing is a key part of the ethical approval process for most studies, whereas researcher wellbeing is considered when the researcher is working on sensitive topics, where there is a risk of the researcher having an emotional response to the data [43], or when one's work is largely individual; thus errors can be "internalized as a personal failing" [68]. In our study findings, we were witness to a spectrum of researcher emotions and feelings - some felt inadequate, others experienced self-doubt, feared for their safety, and also felt anxious about their study progress and ethical responsibilities. While many of them had personal and professional support systems, it brings the question of how we can support researchers and where in the ethical review process researchers fit in.

From the ethical review process, researchers voiced concerns about safety because ethics materials (e.g., informed consent, recruitment materials) typically list the researchers facilitating the studies. Institutions, ethics boards, and principal investigators of the research must be aware of these safety concerns and have a plan in place on how to investigate and respond to such threats to safety. One possibility is to work with the ethics board and publicly list a research group as the contact and only include personal researcher identifying information in internal documentation. Overall, until researcher safety is part of ethics approvals, principal investigators must ensure the entire research team understands how fraudulent participant encounters will be dealt with throughout the study process - validation, communication, study facilitation, compensation, and data analysis - and include support mechanisms for adversely impacted researchers.

In terms of socio-emotional support, Vilaza et al.'s review of ethics in SIGCHI highlighted *"counseling, group discussions, and a healthy work-life balance"* as ways to support researcher wellbeing [50]. At an institutional level, such interventions are still fairly general and mostly offered as a reminder of the risks involved and where to get support [47]. While this is useful and essential for researchers in sensitive contexts, the experience of facing fraudulent participants brings up some new and distinct challenges - from a training, mentoring, and individual perspective.

5.2.2 Mentoring, Training, and Community Responsibilities. Even if institutional support is available, researchers implied that there may be stigma in seeking such support because it would require acknowledging what happened in their study. We advocate for proactively reframing failure in HCI training with a constructivist lens [52] where research is recognized as an "error-prone practice" that we iteratively learn from the challenges we encounter. HCI practitioners and researchers should develop a culture of sharing

~~failures~~ challenges, reflection, and knowledge. Similar to [68], who explored failure in one's creative process, in the case of working with fraudulent participants, we encourage the CHI community to document experiences and best practices through case study publication mechanisms. Training programs should integrate "guardians of practice" [68] to identify how researchers can alleviate challenges they may encounter. For example, in creative practices, artists' guardians may include completing project parts out of order and creating pieces that are anticipated to break. An equivalent in qualitative research would be to acknowledge that there may be fraudulent participants and not count participants until all the data have been cleaned, thus recalibrating expectations based on the final data set. We should aspire to create a community where disseminating challenges and mitigation strategies is celebrated and recognized similarly to research contributions.

Senior researchers have added responsibility in this space of training and mentoring. What may seem like a failure to a junior person may only tacitly be acknowledged by a senior person because of their experiences [68]. Beyond acknowledging these experiences when they happen and helping researchers create guardians, HCI researchers and practitioners should consider publicly having a "failure resume" [64]as also advocated by [32] with a section documenting study challenges. For example, a senior author would include, "Budgeted for 100 participants; received 981 responses in under 4 hours; some data looked suspect; worked with IRB to create validation measures; only 15 participants passed validation measures; 14 participants enrolled." In this example, we see our colleague's challenges (misjudging budget, participant recruitment, and validation) and how they rectified them (working with IRB and creating validation measures). If senior researchers do not recognize and share these challenges, junior researchers may internalize these challenges as personal failures, which could impact their socio-emotional, physical, and professional health.

A prevalent theme in our findings was the doubt researchers had in their abilities as HCI practitioners after they interacted with fraudulent participants - despite their training and past successes as HCI researchers. These "imposter syndrome" [11] feelings may deter women and underrepresented groups in computing more than other demographics [40] and create a backslide in scientific progress. Traditionally, the computing community has addressed imposter syndrome by organizing panels where women share how they powered through these feelings [60]. However, the effectiveness of these panels is questionable when external signals, such as implicit bias, microaggressions, and toxically overconfident work environments, still exist and are key triggers for feelings of inadequacy [30]. In this work, we identify another external signal - interaction with fraudulent participants - that, unlike our work environments and behaviors, is even more challenging to address and out of the research community's immediate control. We implore the CHI community to continue improving our work environments so that when a colleague encounters an external signal that we cannot control, they are not overwhelmed by their regular work environment and can focus on the mitigation training and continue contributing to our community.

One area of training that will need further investigation is how we can train researchers to be aware of fraudulent participants

without being biased. A person can speak with an accent that differs from the country they live in. Individuals may have to travel to another country while participating in a remote study. How can we balance a researcher's judgment and confidence in their abilities while also protecting participants? After a researcher has a distressing experience with a fraudulent participant, how can we build up their trust with future participants? One promising method is reflexive journaling, which is the practice of journaling throughout the research to improve reliability, check for biases, and engage with emotions that surfaced during the research process [69]. Reflexive journaling has in the past been recommended to researchers working in sensitive domains as a way to process their emotions and values when doing research work that may be distressing, power-dynamic led, and unsettling in relation to their own personal feelings on the topic [43]. While much research is needed to consider its application in contexts of fraud, we speculate that it may be a method that is helpful for researchers to self-reflect, document, and protect their emotions.

5.2.3 Suspected fraudulent data and its handling.
Responses on what to do with qualitative data coming from a suspicious individual were varied in both our study and prior research. For instance, Flicker's cynic, skeptic, and seeker approach largely relied on the researcher, their judgment, and discretion [19]. In our study, we had researchers studying marginalized populations who were extremely concerned about bad data doing harm and misconceptualizing real-participant experiences. This brings up questions on ethics and protocol questions on data handling – should the data be discarded, kept, or reported?

Researchers from the participatory health community discussed this challenge and proposed the possibility of an "online imposter participant protocol," that establishes the level of suspicion required to remove potentially suspect or unreliable data [61]. Our research also highlighted situations where there was actual evidence of fraudulence and situations where there was an unconfirmed suspicion. We encourage the CHI community to expand on this recommendation by sharing protocols for identifying fraudulent participant data and data handling corresponding to the identified risk (e.g., [33]). We also advocate for additional training geared towards researchers so that CHI researchers are better equipped to identify, flag, and act upon such decisions.

5.2.4 Implications for recruitment.
Many Researchers discussed how their online study experiences with fraudulent participants motivated them to consider alternative recruitment methods, such as local or community recruitment (eg., R01, R03, R06). They are not alone in assuming online methods increased fraudulence [31, 63]. When deciding where or how to recruit, researchers must carefully consider their inclusion and exclusion criteria in relation to the context of the recruitment method they choose. For example, online recruitment methods can decrease barriers to entry for diverse and geographically-distributed populations while increasing time and cost-effectiveness (e.g., easier advertising and enrollment) [24]. Whereas in-person recruitment methods may provide easier validation, they are impacted by local demographics (e.g., college towns

that have higher education, lower income, and lower diversity than national averages[4]) and infrastructure (e.g., transportation).

Similar to online recruitment methods, researchers should carefully track how in-person participants learned about their study to identify methods that yield more fraudulence. Sefcik et al. [65] shared how when one participant shared their study opportunity (i.e., snowball sampling), they received a lot of fraudulent responses. Likewise, Flicker [19]'s work reported fraudulent participants learned of their study from a poster in a community space. In some instances, participants may meet inclusion criteria, but they may enroll in the same study multiple times at different sites, commonly referred to as "professional subjects" in medical communities, which has been shown to adversely impact study outcomes [45, 66].

Another recruitment approach is to validate participant identities when enrolling them in research. This is not an entirely new idea, existing participant registries or services such as Optimal Workshop [73] do this for UX research recruitment, and MyChart [20, 25] for health and clinical research recruitment. The caveat of such established recruitment pools or services is that they may not be equally accessible to researchers, especially if payment is involved. From a study design perspective, researchers must consider if they would allow participants to be concurrently enrolled in multiple studies because it could be challenging to tease out what study intervention is responsible for which outcome. When researchers use participant registries, they should check in on participants to assess risk and beneficence [34].

Recruitment with non-monetary incentives was suggested by a Researcher in our study as a way to get participants who were genuinely interested in research. Specifically, the Researcher suggested reciprocal value exchange, the idea of research being less transactional and more value-driven, through social change or relationship-building [49]. This is also comparable to Citizen science (CitSci) projects, which encourage members of the public to participate in research *"for selfless reasons, rather than for monetary reward"* [71]. This however comes with its own tensions around fair compensation for participant time and effort. Conversations around research participant compensation have been intensely debated in HCI [9, 54] and other adjacent fields. On the one hand, there is opposition to compensation, calling it a coercive practice and a violation of research being voluntary [36]. On the other hand, there is the counter stance that human subjects are essentially workers, and the work they do should also have similar legal protections and appropriate pay [41]. We anticipate that with these themes of fraudulence, recruitment sources and compensation structures will need to be more systematically evaluated against how conducive or unfavorable they are to fraudulent actors.

5.2.5 Spreading awareness and being transparent in academic publications.
There is currently little research on the expectations of reporting fraudulent influences on qualitative data integrity when publishing. In our study, we came across researchers who believed that the broader research community should know of such incidents as a way to learn from them and not feel isolated. This is in line with the movement towards "open science" practices where *"increasing public access to science, redressing democratic inequalities*

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[4]https://www.americancommunities.org/community-type/college-towns/

in knowledge access, or making scientific collaboration more efficient" [6]. It is also to be noted that the open science movement has been more geared towards quantitative work, as qualitative outcomes are by definition not meant to be replicable [46]. The exception is when methods or best practices come into play, which is what we suggest here. By being open and transparent about fraudulent participants, suspected data integrity, and decisions made in response to these incidents, we could help advance the knowledge of the research community and work towards better credibility. Conferences, journals, and other publication venues that provide a platform for discussion and reflection on qualitative research practices could serve as strategic locations to improve knowledge across the communities. To that end, we invite our peers and members of the research community to start sharing their fraudulent encounters, how they affected or shaped their research outcomes, and what learnings could be useful to the research community. We believe this could be an effective and timely first step towards a better repertoire of tools, strategies, and guidelines for HCI researchers.

6 LIMITATIONS AND FUTURE WORK

Our work has several limitations. First, the majority of the recruited researchers, especially all of the senior researchers, identified as women. This may be because, in computing research, while women are historically underrepresented [70], there has been increasing representation within academia as shown in conference publications [12]. HCI, as a subfield, has also been known to hire more women faculty than other subfields, such as software engineering, systems, and programming languages [35]. As a result, our study may not represent the experiences of researchers with other gender identities. A second limitation is that although we aspired to recruit researchers across academia and industry, the majority of our participation was from academia. It is possible that this is because we required that researchers provide an affiliated email as a validation check in the screener. Indeed, an industry researcher contacted a co-author acknowledging the work was important, but could not participate because they were uncertain whether such participation aligned with company policies and had concerns about asking. Future studies can overcome this limitation through more systematic approaches, such as having a non-disclosure agreement (NDA) in place or purposive sampling. In addition, industry researchers often use validated participant pools, thus they may not encounter fraud as often. A third limitation is that our study was based in the US. This was an intentional decision as we were not equipped to handle anticipated differences in the review processes, ethics committees, and terminology across different countries. Therefore, it is likely that the experiences of other countries and how they handle potentially fraudulent actors differ from our findings. The similarities and differences in how other countries experience fraudulence and conduct research when compared to the US will determine how transferable our findings may be to their experiences.

We are excited about sharing this work with the HCI community and look forward to the reactions and steps that emerge from it. Additionally, we are hopeful that future research will extend and investigate in more detail outstanding questions and underexplored themes. For instance, our work focuses on the researcher's perspective, particularly how researchers identify, assess impact,

and strategize when faced with fraudulent individuals. However, such fraudulent experiences can have an impact on the whole research ecosystem, including researchers, fraudulent participants, and real participants. Many Researchers in our study hypothesized that fraudulent behavior was motivated by financial incentives, so it is possible that individuals may perceive such participation as a way to earn income rather than cause harm. A key tenant of qualitative research is to listen with empathy [22], and acknowledge that oftentimes the lived experience of the participant (fraudulent or not) is different from that of the researcher. Therefore, researchers should investigate how to embed empathetic training into our qualitative processes and fraud detection mechanisms so that all participants, independent of fraudulence, are ethically treated. Additionally, there is a need to examine the impact of fraudulence validation on well-intentioned or real participants. For instance, researchers' prior experience and biases could influence how they consider and determine fraudulence. Future research should investigate systematic bias assessments that supplement fraudulence-mitigating strategies or measures.

Finally, we anticipate that with rising forms of technical deception, such as through AI deepfakes and facial filters [23, 27], it may be possible for fraudulent individuals to make use of AI technology to distort their identity even further. Advancements in ChatGPT and other generative AI tools could also facilitate the creation of authentic-seeming text entries and images. Thus, future research should also consider the variety of technology-supported fraudulence that can occur in qualitative research.

7 CONCLUSION

In this study, we use the term "fraudulent participants" to describe individuals who intentionally misrepresent their identities and experiences to meet the inclusion criteria of qualitative research studies. In an effort to understand this phenomenon and form better guidelines and tools, we interviewed 16 qualitative HCI researchers on their fraudulent encounters. From our analysis, we contribute to an understanding of (1) the patterns and characteristics observed by researchers that indicate fraudulent behavior, (2) the impacts felt by researchers on a personal and professional level, and (3) small-scale and large-scale strategies that may be implemented to circumvent fraudulence. We synthesize these findings and produce a guide for qualitative researchers on how to handle fraudulence at various stages of the research process. We then close by reflecting on how as a response to such incidents happening, we as researchers need to adapt and grow our knowledge on topics such as researcher wellbeing, mentoring, data handling, recruiting, and transparency in academic publications.

REFERENCES

[1] Elena Agapie, Shefali Haldar, and Sharmaine G. Poblete. 2022. Using HCI in Cross-Disciplinary Teams: A Case Study of Academic Collaboration in HCI-Health Teams in the US Using a Team Science Perspective. *Proceedings of the ACM on Human-Computer Interaction* 6, CSCW2 (11 2022), 1–35. https://doi.org/10.1145/3555610

[2] Dilmi Aluwihare-Samaranayake. 2012. Ethics in Qualitative Research: A View of the Participants' and Researchers' World from a Critical Standpoint. *International Journal of Qualitative Methods* 11, 2 (4 2012), 64–81. https://doi.org/10.1177/160940691201100208

[3] Lesley Andrew, Emily Gizzarelli, Mohamed Estai, and Ruth Wallace. 2024. Participant Misrepresentation in Online Focus Groups: Red Flags and Proactive

Measures. *Ethics & Human Research* 46, 1 (2024), 37–42.

[4] Mandy M. Archibald, Rachel C. Ambagtsheer, Mavourneen G. Casey, and Michael Lawless. 2019. Using Zoom Videoconferencing for Qualitative Data Collection: Perceptions and Experiences of Researchers and Participants. *International Journal of Qualitative Methods* 18 (1 2019), 160940691987459. https://doi.org/10.1177/1609406919874596

[5] April M Ballard, Trey Cardwell, and April M Young. 2019. Fraud Detection Protocol for Web-Based Research Among Men Who Have Sex With Men: Development and Descriptive Evaluation. *JMIR Public Health Surveill* 5, 1 (2019), e12344. https://doi.org/10.2196/12344

[6] Nick Ballou, Vivek R. Warriar, and Sebastian Deterding. 2021. Are You Open? A Content Analysis of Transparency and Openness Guidelines in HCI Journals. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems.* ACM, New York, NY, USA, 1–10. https://doi.org/10.1145/3411764.3445584

[7] Joshua Banks, Susan Banks, Robin Krabbe, Suanne Lawrence, Therese Murray, Terese Henning, and Miriam Vandenberg. 2022. A COVID-19-era rapid review: using Zoom and Skype for qualitative group research. *Public Health Research & Practice* 32, 2 (2022). https://doi.org/10.17061/phrp32232112

[8] Robert Bowman, Camille Nadal, Kellie Morrissey, Anja Thieme, and Gavin Doherty. 2023. Using Thematic Analysis in Healthcare HCI at CHI: A Scoping Review. In *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems.* ACM, New York, NY, USA, 1–18. https://doi.org/10.1145/3544548.3581203

[9] Amy Bruckman. 2014. Research ethics and HCI. *Ways of Knowing in HCI* (2014), 449–468.

[10] Tom Buchanan. 2020. Why do people spread false information online? The effects of message and viewer characteristics on self-reported likelihood of sharing social media disinformation. *PLOS ONE* 15, 10 (10 2020), e0239666. https://doi.org/10.1371/journal.pone.0239666

[11] Pauline Rose Clance and Suzanne Imes. 1978. The Imposter Phenomenon in High Achieving Woomen: Dynamics and Therapeutic Intervention. *Psychotherapy Theory, Research, and Practice* 15, 3 (1978).

[12] J. McGrath Cohoon, Sergey Nigai, and Joseph "Jofish" Kaye. 2011. Gender and computing conference papers. *Commun. ACM* 54, 8 (8 2011), 72–80. https://doi.org/10.1145/1978542.1978561

[13] Claiton Marques Correa, Gabriel Viegas Maciel de Freitas, André Luis dos Santos Eberhardt, and Milene Selbach Silveira. 2021. From now on. In *Proceedings of the XX Brazilian Symposium on Human Factors in Computing Systems.* ACM, New York, NY, USA, 1–7. https://doi.org/10.1145/3472301.3484334

[14] Gennaro Costagliola, Mattia De Rosa, Vittorio Fuccella, and Parinaz Tabari. 2023. The Impact of the COVID-19 Pandemic on Human–Computer Interaction Empirical Research. *Interacting with Computers* (4 2023). https://doi.org/10.1093/iwc/iwad031

[15] Eric G. Devine, Kristina R. Peebles, and Valeria Martini. 2016. Strategies to exclude subjects who conceal and fabricate information when enrolling in clinical trials. *Contemporary Clinical Trials Communications* 5 (2016), 67 – 71. https://api.semanticscholar.org/CorpusID:13697968

[16] Jill P. Dimond, Casey Fiesler, Betsy DiSalvo, Jon Pelc, and Amy S. Bruckman. 2012. Qualitative Data Collection Technologies: A Comparison of Instant Messaging, Email, and Phone. In *Proceedings of the 2012 ACM International Conference on Supporting Group Work* (Sanibel Island, Florida, USA) *(GROUP '12).* Association for Computing Machinery, New York, NY, USA, 277–280. https://doi.org/10.1145/2389176.2389218

[17] Serge Egelman, Ed H Chi, and Steven Dow. 2014. Crowdsourcing in HCI Research. In *Ways of Knowing in HCI,* Judith S Olson and Wendy A Kellogg (Eds.). Springer New York, New York, NY, 267–289. https://doi.org/10.1007/978-1-4939-0378-8{_}11

[18] Jessica L. Feuston, Arpita Bhattacharya, Nazanin Andalibi, Elizabeth A. Ankrah, Sheena Erete, Mark Handel, Wendy Moncur, Sarah Vieweg, and Jed R. Brubaker. 2022. Researcher Wellbeing and Best Practices in Emotionally Demanding Research. In *Extended Abstracts of the 2022 CHI Conference on Human Factors in Computing Systems* (New Orleans, LA, USA) *(CHI EA '22).* Association for Computing Machinery, New York, NY, USA, Article 72, 6 pages. https://doi.org/10.1145/3491101.3503742

[19] Sarah Flicker. 2004. "Ask Me No Secrets, I'll Tell You No Lies": What Happens When a Respondent's Story Makes No Sense. *The Qualitative Report* 9 (2004), 528–537. https://api.semanticscholar.org/CorpusID:142452366

[20] John Hopkins Institute for Clinical and Translational Research. 2023. MyChart/Epic Recruitment. Retrieved Dec 12, 2023 from https://ictr.johnshopkins.edu/service/recruitment/mychart-epic/

[21] Dominic Furniss, Ann Blandford, and Paul Curzon. 2011. Confessions from a grounded theory PhD. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.* ACM, New York, NY, USA, 113–122. https://doi.org/10.1145/1978942.1978960

[22] Susan Gair. 2012. Feeling Their Stories. *Qualitative Health Research* 22, 1 (1 2012), 134–143. https://doi.org/10.1177/1049732311420580

[23] Dilrukshi Gamage, Piyush Ghasiya, Vamshi Bonagiri, Mark E. Whiting, and Kazutoshi Sasahara. 2022. Are Deepfakes Concerning? Analyzing Conversations of Deepfakes on Reddit and Exploring Societal Implications. In *CHI Conference on Human Factors in Computing Systems.* ACM, New York, NY, USA, 1–19. https://doi.org/10.1145/3491102.3517446

[24] Jillian V. Glazer, Kirsten MacDonnell, Christina Frederick, Karen Ingersoll, and Lee M. Ritterband. 2021. Liar! Liar! Identifying eligibility fraud by applicants in digital health research. *Internet Interventions* 25 (9 2021), 100401. https://doi.org/10.1016/j.invent.2021.100401

[25] Kelly T. Gleason, Daniel E. Ford, Diana Gumas, Bonnie Woods, Lawrence Appel, Pam Murray, Maureen Meyer, and Cheryl R. Dennison Himmelfarb. 2018. Development and preliminary evaluation of a patient portal messaging for research recruitment service. *Journal of Clinical and Translational Science* 2, 1 (2 2018), 53–56. https://doi.org/10.1017/cts.2018.10

[26] Greg Guest, Arwen Bunce, and Laura Johnson. 2016. How Many Interviews Are Enough?: An Experiment with Data Saturation and Variability. *http://dx.doi.org/10.1177/1525822X05279903* 18, 1 (7 2016), 59–82. https://doi.org/10.1177/1525822X05279903

[27] Jeffrey T. Hancock and Jeremy N. Bailenson. 2021. The Social Impact of Deepfakes. *Cyberpsychology, Behavior, and Social Networking* 24, 3 (3 2021), 149–152. https://doi.org/10.1089/cyber.2021.29208.jth

[28] Eric B. Hekler, Predrag Klasnja, Jon E. Froehlich, and Matthew P. Buman. 2013. Mind the theoretical gap. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.* ACM, New York, NY, USA, 3307–3316. https://doi.org/10.1145/2470654.2466452

[29] Serena Hillman, Azadeh Forghani, Carolyn Pang, Carman Neustaedter, and Tejinder K. Judge. 2015. Chapter 2 - Conducting Interviews with Remote Participants. In *Studying and Designing Technology for Domestic Life,* Tejinder K. Judge and Carman Neustaedter (Eds.). Morgan Kaufmann, Boston, 11–32. https://doi.org/10.1016/B978-0-12-800555-2.00002-2

[30] Cate Huston. 2015. *The Trouble with Imposters.* https://modelviewculture.com/pieces/the-trouble-with-imposters

[31] Abigail Jones, Line Caes, Tessa Rugg, Melanie Noel, Sharon Bateman, and Abbie Jordan. 2021. Challenging issues of integrity and identity of participants in non-synchronous online qualitative methods. *Methods in Psychology* 5 (12 2021), 100072. https://doi.org/10.1016/J.METIP.2021.100072

[32] Joy Kim, Avi Bagla, and Michael S. Bernstein. 2015. Designing Creativity Support Tools for Failure. In *Proceedings of the 2015 ACM SIGCHI Conference on Creativity and Cognition* (Glasgow, United Kingdom) *(C&C '15).* Association for Computing Machinery, New York, NY, USA, 157–160. https://doi.org/10.1145/2757226.2764542

[33] Michaela Krawczyk and Katie A. Siek. 2024. When Research Becomes All About the Bots: A Case Study on Fraud Prevention and Participant Validation in the Context of Abortion Storytelling. In *Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems* (Honolulu, Hawaii, USA) *(CHI EA '24).* New York, NY, USA, 11 pages. https://doi.org/10.1145/3613905.3637109

[34] E A Kupetsky-Rincon and W K Kraft. 2012. Healthy Volunteer Registries and Ethical Research Principles. *Clinical Pharmacology & Therapeutics* 91, 6 (6 2012), 965–968. https://doi.org/10.1038/clpt.2012.32

[35] Nicholas Laberge, K. Hunter Wapman, Allison C. Morgan, Sam Zhang, Daniel B. Larremore, and Aaron Clauset. 2022. Subfield prestige and gender inequality among U.S. computing faculty. *Commun. ACM* 65, 12 (12 2022), 46–55. https://doi.org/10.1145/3535510

[36] Emily A Largent and Holly Fernandez Lynch. 2017. Paying Research Participants: Regulatory Uncertainty, Conceptual Confusion, and a Path Forward. *Yale journal of health policy, law, and ethics* 17, 1 (2017), 61–141.

[37] Carolyn Lauckner, Natalia Truszczynski, Danielle Lambert, Varsha Kottamasu, Saher Meherally, Anne Marie Schipani-McLaughlin, Erica Taylor, and Nathan Hansen. 2019. "Catfishing," cyberbullying, and coercion: An exploration of the risks associated with dating app use among rural sexual minority males. *Journal of Gay & Lesbian Mental Health* 23, 3 (7 2019), 289–306. https://doi.org/10.1080/19359705.2019.1587729

[38] Jennifer Lawlor, Carl Thomas, Andrew T. Guhin, Kendra Kenyon, Matthew D. Lerner, and Amy Drahota. 2021. Suspicious and fraudulent online survey participation: Introducing the REAL framework. *Methodological Innovations* 14, 3 (2021). https://doi.org/10.1177/20597991211050467

[39] Jonathan Lazar, Jinjuan Heidi Feng, and Harry Hochheiser. 2017. Online and ubiquitous HCI research. In *Research Methods in Human Computer Interaction.* Elsevier, 411–453. https://doi.org/10.1016/B978-0-12-805390-4.00014-5

[40] Danielle Lindemann, Dana Britton, and Elaine Zundl. 2016. "I Don't Know Why They Make it So Hard Here" Institutional Factors and Undergraduate Women's STEM Participation. *International Journal of Gender, Science, and Technology* 8 (2016).

[41] Holly Fernandez Lynch. 2014. Human research subjects as human research workers. *Yale journal of health policy, law, and ethics* 14, 1 (2014), 122–93.

[42] Haley MacLeod, Ben Jelen, Annu Prabhakar, Lora Oehlberg, Katie Siek, and Kay Connelly. 2016. Asynchronous Remote Communities (ARC) for Researching Distributed Populations. In *Proceedings of the 10th EAI International Conference on Pervasive Computing Technologies for Healthcare* (Cancun, Mexico) *(PervasiveHealth '16).* ICST (Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering), Brussels, BEL, 1–8.

[43] Claudia Malacrida. 2007. Reflexive Journaling on Emotional Research Topics: Ethical Issues for Team Researchers. *Qualitative Health Research* 17, 10 (12 2007), 1329–1339. https://doi.org/10.1177/1049732307308948

[44] Mochammad Ircham Maulana. 2022. Leveraging Zoom Video-Conferencing Features in Interview Data Generation During the COVID-19 Pandemic. In *Research and Teaching in a Pandemic World*. Springer Nature Singapore, Singapore, 391–407. https://doi.org/10.1007/978-981-19-7757-2{_}26

[45] David J. McCann, Nancy M. Petry, Anders Bresell, Eva Isacsson, Ellis Wilson, and Robert C. Alexander. 2015. Medication Nonadherence, "Professional Subjects," and Apparent Placebo Responders. *Journal of Clinical Psychopharmacology* 35, 5 (10 2015), 566–573. https://doi.org/10.1097/JCP.0000000000000372

[46] Nora McDonald, Sarita Schoenebeck, and Andrea Forte. 2019. Reliability and Inter-rater Reliability in Qualitative Research. *Proceedings of the ACM on Human-Computer Interaction* 3, CSCW (11 2019), 1–23. https://doi.org/10.1145/3359174

[47] Wendy Moncur. 2013. The emotional wellbeing of researchers. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*. ACM, New York, NY, USA, 1883–1890. https://doi.org/10.1145/2470654.2466248

[48] Tonya R. Moon. 2011. *Project Implicit*. https://implicit.harvard.edu/implicit/takeatest.html

[49] Geoffrey Nelson, Joanna Ochocka, Kara Griffin, and John Lord. 1998. "Nothing About Me, Without Me": Participatory Action Research with Self-Help/Mutual Aid Organizations for Psychiatric Consumer/Survivors. *American Journal of Community Psychology* 26, 6 (12 1998), 881–912. https://doi.org/10.1023/A:1022298129812

[50] Giovanna Nunes Vilaza, Kevin Doherty, Darragh McCashin, David Coyle, Jakob Bardram, and Marguerite Barry. 2022. A Scoping Review of Ethics Across SIGCHI. In *Designing Interactive Systems Conference*. ACM, New York, NY, USA, 137–154. https://doi.org/10.1145/3532106.3533511

[51] National Institute of Health. 2021. *Scientific Workforce Diversity Seminar Series (SWDSS) Seminar Proceedings*. https://diversity.nih.gov/sites/coswd/files/images/NIH_COSWD_SWDSS_Implicit_Bias_Proceedings_508.pdf

[52] Seymour Papert and Idit Harel. 1991. Situating Constructionism. In *Constructionism*, Jan Fagerberg, David C. Mowery, and Richard R. Nelson (Eds.). Ablex Publishing Corporation, Chapter 1.

[53] Lisa Parker, Stephanie Boughton, Rosa Lawrence, and Lisa Bero. 2022. Experts identified warning signs of fraudulent research: a qualitative study to inform a screening tool. *Journal of Clinical Epidemiology* 151 (11 2022), 1–17. https://doi.org/10.1016/j.jclinepi.2022.07.006

[54] Jessica Pater, Amanda Coupe, Rachel Pfafman, Chanda Phelan, Tammy Toscos, and Maia Jacobs. 2021. Standardizing Reporting of Participant Compensation in HCI: A Systematic Literature Review and Recommendations for the Field. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. ACM, New York, NY, USA, 1–16. https://doi.org/10.1145/3411764.3445734

[55] Elizabeth Pellicano, Dawn Adams, Laura Crane, Calliope Hollingue, Connie Allen, Katherine Almendinger, Monique Botha, Tori Haar, Steven K Kapp, and Elizabeth Wheeley. 2023. Letter to the Editor: A possible threat to data integrity for online qualitative autism research. *Autism* (5 2023), 136236132311745. https://doi.org/10.1177/13623613231174543

[56] Rachel Pozzar, Marilyn J Hammer, Meghan Underhill-Blazey, Alexi A Wright, James A Tulsky, Fangxin Hong, Daniel A Gundersen, and Donna L Berry. 2020. Threats of Bots and Other Bad Actors to Data Quality Following Research Participant Recruitment Through Social Media: Cross-Sectional Questionnaire. *Journal of Medical Internet Research* 22, 10 (10 2020), e23021. https://doi.org/10.2196/23021

[57] Mandi Pratt-Chapman, Jenna Moses, and Hannah Arem. 2021. Strategies for the identification and prevention of survey fraud: Data analysis of a web-based survey. *JMIR cancer* 7, 3 (2021), e30730.

[58] Mandi Pratt-Chapman, Jenna Moses, and Hannah Arem. 2021. Strategies for the Identification and Prevention of Survey Fraud: Data Analysis of a Web-Based Survey. *JMIR Cancer* 7, 3 (7 2021), e30730. https://doi.org/10.2196/30730

[59] Susan Quach, Jennifer A Pereira, Margaret L Russell, Anne E Wormsbecker, Hilary Ramsay, Lois Crowe, Sherman D Quan, and Jeff Kwong. 2013. The Good, Bad, and Ugly of Online Recruitment of Parents for Health-Related Focus Groups: Lessons Learned. *J Med Internet Res* 15, 11 (2013), e250. https://doi.org/10.2196/jmir.2829

[60] Debra Richardson, Fran Berman, Diane Gonzalez, Yolanda Rankin, and Katie Siek. 2010. *Imposter Plenary Panel*. Grace Hopper Celebration. https://www.youtube.com/watch?v=EAw6xWd_Hec&t=411s

[61] Damien Ridge, Laurna Bullock, Hilary Causer, Tamsin Fisher, Samantha Hider, Tom Kingstone, Lauren Gray, Ruth Riley, Nina Smyth, Victoria Silverwood, Johanna Spiers, and Jane Southam. 2023. 'Imposter participants' in online qualitative research, a new and increasing threat to data integrity? *Health Expectations* 26, 3 (6 2023), 941–944. https://doi.org/10.1111/hex.13724

[62] Jacqueline Roehl and Darci Harland. 2022. Imposter Participants: Overcoming Methodological Challenges Related to Balancing Participant Privacy with Data Quality When Using Online Recruitment and Data Collection. *The Qualitative Report* (11 2022). https://doi.org/10.46743/2160-3715/2022.5475

[63] Margaret R. Salinas. 2023. Are Your Participants Real? Dealing with Fraud in Recruiting Older Adults Online. *Western Journal of Nursing Research* 45, 1 (1 2023), 93–99. https://doi.org/10.1177/01939459221098468

[64] Tina Seelig. 2009. *What I Wish I Knew When I Was 20 A Crash Course on Making Your Place in the World*. HarperOne.

[65] Justine S. Sefcik, Zachary Hathaway, and Rose Ann DiMaria-Ghalili. 2023. When snowball sampling leads to an avalanche of fraudulent participants in qualitative research. *International Journal of Older People Nursing* (8 2023). https://doi.org/10.1111/opn.12572

[66] Thomas M Shiovitz, Marlene E Zarrow, Andrew M Shiovitz, and Alexander M Bystritsky. 2011. Failure rate and" professional subjects" in clinical trials of major depressive disorder. *The Journal of clinical psychiatry* 72, 9 (2011), 7145.

[67] Jennifer E. F. Teitcher, Walter O. Bockting, José A. Bauermeister, Chris J. Hoefer, Michael H. Miner, and Robert L. Klitzman. 2015. Detecting, Preventing, and Responding to "Fraudsters" in Internet Research: Ethics and Tradeoffs. *Journal of Law, Medicine & Ethics* 43, 1 (1 2015), 116–133. https://doi.org/10.1111/jlme.12200

[68] Cesar Torres, Sarah Sterman, Molly Nicholas, Richard Lin, Eric Pai, and Eric Paulos. 2018. Guardians of Practice: A Contextual Inquiry of Failure-Mitigation Strategies within Creative Practices. In *Proceedings of the 2018 Designing Interactive Systems Conference* (Hong Kong, China) (*DIS '18*). Association for Computing Machinery, New York, NY, USA, 1259–1267. https://doi.org/10.1145/3196709.3196795

[69] Daniel Turner. 2020. *Reflexive journals in qualitative research*. https://www.quirkos.com/blog/post/reflexive-journals-in-qualitative-research/

[70] Katherine Weber. 2012. Gender Differences in Interest, Perceived Personal Capacity, and Participation in STEM-Related Activities. *Journal of Technology Education* 24, 1 (9 2012). https://doi.org/10.21061/jte.v24i1.a.2

[71] Sarah Wiseman, Anna L. Cox, Sandy J. J. Gould, and Duncan P. Brumby. 2017. Exploring the effects of non-monetary reimbursement for participants in HCI research. *Human Computation* 4, 1 (4 2017), 1–24. https://doi.org/10.15346/hc.v4i1.1

[72] Maria K. Wolters, Zawadhafsa Mkulo, and Petra M. Boynton. 2017. The Emotional Work of Doing EHealth Research. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (Denver, Colorado, USA) (*CHI EA '17*). Association for Computing Machinery, New York, NY, USA, 816–826. https://doi.org/10.1145/3027063.3052764

[73] Optimal Workshop. 2023. Participant Recruitment - UX Research | Optimal Workshop. Retrieved Dec 12, 2023 from https://www.optimalworkshop.com/recruit/

[74] Jane Wray and David Barrett. 2022. In the room where it happens: in-person or remote data collection in qualitative research? *Evidence Based Nursing* 25, 2 (4 2022), 44–45. https://doi.org/10.1136/ebnurs-2022-103535

[75] Kai-Cheng Yang, Emilio Ferrara, and Filippo Menczer. 2022. Botometer 101: social bot practicum for computational social scientists. *Journal of Computational Social Science* 5, 2 (11 2022), 1511–1528. https://doi.org/10.1007/s42001-022-00177-5

[76] Ziyi Zhang, Shuofei Zhu, Jaron Mink, Aiping Xiong, Linhai Song, and Gang Wang. 2022. Beyond Bot Detection: Combating Fraudulent Online Survey Takers. In *Proceedings of the ACM Web Conference 2022 (WWW '22)*. Association for Computing Machinery, New York, NY, USA, 699–709. https://doi.org/10.1145/3485447.3512230