Online Recruitment of Qualitative Study Participants: Lessons Learned

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Abstract

The COVID-19 pandemic contributed to an increase in online recruitment of research participants as in-person interactions were limited. For quantitative and self-administered surveys, fraud and bot detection methods have been initiated to verify intended participants. However, there is limited information on participant authentication during the recruitment process for qualitative studies. In this study, we aimed to describe the recruitment and verification process for focus groups and interview participants for two qualitative studies. We recruited participants through social media, emails, and snowball sampling online. We screened all participants for both studies based on the eligibility criteria. In the first project, 134 respondents met the eligibility criteria. Among those eligible, we suspected that 46% were fraudulent (i.e., fake identity or posed as meeting inclusion criteria when they do not) and up to 39% did not show up for their scheduled focus groups. We identified suspected participants during screening and identification stages prior to the focus groups. In the second project, 102 respondents met the eligibility criteria for one of the samples; however, we suspected 54% of respondents were fraudulent. In the second sample, 211 respondents met the eligibility criteria and 88% were suspected to be fraudulent. We initiated additional protocols such as ReCAPTCHA, ID checks, and monitoring recruitment during social media posts to assist authenticating participants. We highlight the challenges of virtual and online recruitment strategies. Findings emphasize the need for researchers to put in place effective and innovative strategies to recruit and authenticate study participants.

Keywords: recruitment; qualitative research; online; virtual; focus groups

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Introduction

Diverse representation in clinical and biomedical research ensures that health interventions are tailored to meet the health needs of specific populations. Studies show lower participation rates in clinical trials among women and individuals from minority populations (Turner et al., 2022), which contributes to furthering poor health outcomes and health disparities. The National Institutes of Health (NIH) recommends including individuals from diverse gender, racial, ethnic, and socioeconomic backgrounds in research to account for the variability among populations

and ensure accurate findings (National Institute on Minority Health and Health Disparities, 2023). The COVID-19 pandemic impacted recruitment of research participants as in-person interactions were reduced, increasing the need for innovative and effective recruitment strategies to reach participants (Pertl et al., 2023; Inverso et al., 2021). Online recruitment strategies have been initiated to meet participants where they are. There has been success in utilizing virtual platforms, especially social media, to recruit and engage diverse populations in research (Skeens et al., 2022; Ali et al., 2020; Green et al., 2021).

Whereas studies show success in recruitment from online settings and platforms, software designed to perform repetitive tasks that might emulate human responses (bots) and fraudulent responses are a threat to recruitment and research efforts. Currently, most studies related to this topic and prevention of fraud focus on survey research and bot detection. A study using an online survey employed combination of bot detection methods such as verification documents, geolocation, and reCAPTCHA, found that over half of survey respondents were fraudulent, bot, or otherwise ineligible for participation (Campbell et al., 2022). Others have identified specific recruitment practices, incentives, and using online survey features to avoid bots (Griffin et al., 2021; Xu et al., 2022). Strategies to detect bots in survey research include assessing the speed and time of survey completion and reviewing data for duplicate names and responses (Campbell et al., 2022; Storozuk et al., 2020; Xu et al., 2022).

Although there has been substantial work identifying strategies for use in quantitative surveys using online recruitment, there is a dearth in literature about fraud detection in recruiting qualitative research participants. The extent of studies reporting on fraud with qualitative studies focus on free-response options; previous literature states that using multiple open-ended questions can aid in detecting bots (Griffin et al., 2021; Yarrish et al., 2019). Thus, there may be the perception that if there are qualitative data, real-time data collection with voice or video technology online, then fraud is not a concern. Yet, there is a need to examine empirically if fraud can still occur with real-time data collection in a virtual setting, including for potential participants who may bypass fraud and bot detection methods employed for quantitative survey research (Yarrish et al., 2019).

With the rise of virtual and online recruitment strategies for research, there is a need to implement protocols to authenticate participants for the validity of projects. Whereas this necessity has been primarily a focus of quantitative, self-administered surveys, it is essential to explore if this is an issue for virtual qualitative studies and how to authenticate participants. The purpose of this study was to describe the processes of two studies recruiting participants for focus groups and interviews in online samples. We also describe the strategies implemented to authenticate participants, as well as lessons learned.

Methods

For this paper, we recruited three sample groups from two projects. The first project had the goal of eliciting feedback from Texas young adults (ages 18-25) on an adapted sexual health and alcohol intervention. The study involved an online, self-administered eligibility survey and subsequent participation in a virtual focus group. The second project had the goal of eliciting feedback on an electronic patient decision aid tool for human papillomavirus (HPV) vaccination. It involved interviews with two groups: (1) adults ages 27-45 who were unvaccinated for HPV, and (2) healthcare

providers who serve this population. Table 1 describes an overview of the three sampled groups, including eligibility criteria, the recruitment period, and modes of recruitment.

For this paper, we reviewed our recruitment data from the screening instruments to document the number of people who completed the screening survey, number of entries suspected to be fraudulent during the screening process and interviews/focus groups, number of people eligible to participate, and the actual number of people who participated. We are unable to directly link the recruitment strategy where the participants or responses located the survey and study information but were able to infer potential recruitment sources that contributed to fraudulent responses based on the volume of responses to eligibility surveys and the quality of response (e.g., name, email address, IP address, consistency of response) after each change in recruitment method.

Results

In the first study, there were 1223 responses with 134 respondents meeting eligibility (Table 2). Out of those eligible, the research team identified 62 (46%) responses suspected to be fraudulent. We identified most of the fraudulent responses were during screening and we identified the remaining fraudulent actors during the identification checks before the interview/focus group (i.e., showed fake forms of identification, impersonated name on identification). Another barrier faced in this study was no shows; 52 respondents (39%) did not show up to their scheduled interview or focus group. Lastly, four individuals did not provide contact and/or scheduling information.

In the second study, there were 102 healthcare providers screened for eligibility, with 55 (54%) of the respondents suspected

of being fraudulent. We detected most of the fraudulent responses during the screening process, although one participant made it to the interview before being determined to be fraudulent. With the adult participant group, the research team received 211 responses, with 185 (88%) suspected of being fraudulent. We identified these during the screening process.

Throughout the studies, we implemented new procedures in response to potential fraud encountered during study recruitment (Table 3). We applied these procedures for each study in an iterative fashion once one challenge was encountered and needed to be remedied for further recruitment. Inclusion of ReCAPTCHA was an easily implemented tool within Qualtrics that enabled prohibition of some bot traffic; we implemented it in all studies. We also added flexibility in the protocol to allow us to review responses from eligibility surveys to determine their credibility. Some examples of items reviewed for fraud include IP addresses from outside the United States, a pattern of responses with email addresses using the same naming convention (e.g., first name and last name with same domain), inconsistencies in responses to multiple questions (e.g., hospital named for employment but listed a federally qualified health center elsewhere), and rapid responses in a cluster at odd hours. As such, this monitoring required review of individual cases as well as patterns of responses to the eligibility survey. Similarly, we monitored response patterns to determine if a sudden influx of responses to a survey after posting on social media was reasonable or not based on the timing and types of responses.

During interviews, identification checks revealed that some fraudulent responders would present fraudulent IDs, such as IDs that had sharp edges rather than rounded edges, were printed on paper, or were impersonating someone listed on the ID that

Table 1

Methodology of Qualitative Studies Reviewed

	Study #1 Young Adults	Study #2 Healthcare Providers	Study #2 Adults
Target Sample Size	40	18	20
Eligibility Criteria	Age 18-25 Lives in Texas Consumes alcohol Engaged in condomless sex or non-use of contraception Not in a long-term monogamous relationship Speaks English	Age 18 or older Provides medical care in the United States Provides care to persons aged 27-45 Speaks English	Age 27 to 45 Unvaccinated for HPV Lives in the United States Speaks English
Screening Process	Self-administered online eligibility survey	Self-administered online eligibility survey	Emailed confirmation of eligibility criteria
Recruitment Strategies	Social media posts (Facebook, Instagram, Twitter, LinkedIn) Social media ads (Craigslist, Twitter, Google) Flyers Community events and organizations	Social media posts (LinkedIn) Email recruitment* Snowball sampling	Social media posts (Facebook, Instagram, Twitter, LinkedIn) Email recruitment* Snowball sampling
Participant Incentives	$50 gift card	$100 gift card	$50 gift card
Projected Timeline	6 months	3 months	6 months
Actual Timeline	February 2022 – June 2023 (17 months)	February 2023 – June 2023 (4 months)	October 2022 – June 2023 (9 months)

Note.

*Email recruitment consisted of emailing known contacts from the research team's network who could disseminate information about the study to their partners/peers

Table 2

Screening, Eligibility, and Participation of Qualitative Studies

	Study #1 Young Adults	Study #2 Healthcare Providers	Study #2 Adults
Screened (*n*)	1223	102	211
Met Eligibility Criteria	134	35	23
Suspected Fraudulent (*n*)	62	55	185
During Screening	44	54	185
During Interview	18	1	0
No Shows	52	0	0
Never Scheduled/Did not provide contact info (*n*)	4	0	0
Participants (*n*)	16	18	20

did not match the person on the video. Others would refuse to show their face on the screen or would offer to scan an ID photo to us rather than show the ID on the screen. Essentially, any potential participant who refused to show their ID on camera along with their face, as well as having a valid ID were excluded from participating.

We consistently met with our Institutional Review Board to discuss the challenges and options for balancing protection of human subjects and efficient methods for detecting and preventing fraud. These methods did not prevent all fraud attempts. For example, even with identification checks, we had several people attempt to participate in focus groups and interviews with fraudulent IDs or refusing to fully show a form of ID.

Discussion

The main purpose of this paper is to shed light on the recruitment processes utilized by two studies that employed focus groups and interviews with online samples. We outline the strategies adopted to authenticate participants and to draw insights from the encountered challenges. The key findings of this investigation underscore both the persisting obstacles associated with fraudulent recruitment through social media, and the realization that even documented best practices for participant recruitment may not be immune to recruitment difficulties.

Social media is a powerful tool in recruitment for scientific studies. The use of social media as a recruitment tool allows researchers to reach a broad population for relatively low cost. However, utilizing social media effectively has important downsides due to the high rate of fraudulent responses

Table 3

Procedures to Adjust Recruitment in Qualitative Studies

Strategy	Rationale	Procedures
ReCAPTCHA	To block bots from participating in the surveys	We enabled ReCAPTCHA prior to entry to survey tool.
Research team flexibility in protocol	Based on survey and email responses (e.g., patterns in emails and names), the person appeared fraudulent but met eligibility criteria warranting a scheduled interview	Added flexibility to the IRB protocol that the research team has the discretion to assess if the person is fraudulent based on response patterns and IP addresses, and then decide not to include in interviews or focus groups.
ID checks	People pose as meeting inclusion criteria when they do not (e.g., age, state of residence)	Prior to interviews or focus groups, we notified potential participants they would need to show their photo ID on video to confirm the name matched the consent form and photo matched the individual.
Monitoring recruitment during social media posts/ads	When posts or ads were placed on social media, we noticed spikes in responses that appeared to follow a pattern	When posts or ads were put online, we closely reviewed any patterns related to names, emails, and other identifiers to see if one group of people were providing fraudulent responses. We also only posted advertisements when staff were available to actively monitor in case we had to withdraw posts/ads.

during the screening process. During our recruitment process for multiple studies utilizing social media for outreach, up to 62% of responses were identified as fraudulent through various means. We used the best practices available such as reCAPTCHA, ID checks, and monitoring social media posts to minimize bot responses, and yet, we continued to face difficulties in recruiting potentially eligible participants. Therefore, further research is necessary to elucidate more efficient and effective protocols for online, social media-based recruitment for qualitative studies.

As our study shows, even well-documented best practices for recruiting study participants can result in recruitment challenges. For example, appropriate participant incentives ($50 gift cards), flexible scheduling (online only with nights and weekends available), and social media advertising narrowed to the population of interest, may not sufficiently yield the desired number of research participants. This could be, in part, due to the timing of our study, when participants may have felt "Zoom fatigue" due to the COVID-19 pandemic and the ubiquity of teleconferencing software for most interactions (Elbogen et al., 2022), or

general research study disinterest due to ongoing distrust in science leading to COVID-19 skepticism (Priniski & Holyoak, 2022).

Furthermore, our study underscores ongoing but relatively new and underdiscussed challenges in recruiting for studies online, including those with a real-time qualitative interview or focus group via video: the threat of automated responses produced from bots or fraudulent responses interfering with study goals. As online recruitment becomes increasingly common for research, our study highlights how fraud complicates recruiting online. Existing research has described the need to anticipate bots in online recruitment and prevent bot infiltration into studies through measures such as using CAPTCHA, recording IP addresses, tying written responses that indicate a human-like level of cognitive sophistication, and other security measures (Storozuk et al., 2020). As artificial intelligence advances, however, these measures may become outdated, posing new challenges for researchers. Accordingly, our findings may serve as a cautionary tale for researchers attempting to recruit participants online without encountering fraud disruption in recruitment. Our paper illustrates the substantial shift in efforts needed to overcome fraudulent responses for online qualitative data; however, researchers also need to consider the project staff time these shifts require, contact and edits with institutional review boards, and adjustments to project recruitment and data collection timelines overall.

To mitigate potential fraud disruption and study contamination, researchers planning similar studies may want to consider the appropriateness of other sampling techniques. For example, qualitative researchers have long relied on referral-based sampling and in-person recruitment options to advance study aims. Although these sampling methods are non-probabilistic and may pose different challenges regarding potential generalizability depending on study goals, they may nevertheless avert problems created through bot interference with research and still produce meaningful findings with transferrable potential – even if not generalizable. Within these studies, using snowball sampling was one of the more favorable options to connect with valid participants.

Our paper should be considered in context of the limitations. These two studies aimed to recruit convenience samples through multiple modalities and may not be generalizable to other modes of data collection. Moreover, the social media recruitment was primarily organic through team social media accounts rather than paid advertising, which may yield different results. Moreover, we did not systematically evaluate the recruitment methods at the onset of the studies.

Our paper reports on the complex issues faced in recruiting three sample groups of interview and focus group participants across two studies. These findings contribute to the literature focused on critically exploring security measures and best practices to improve the process of identifying and recruiting participants for qualitative research studies. This is particularly important given the shift to conducting qualitative research virtually in an attempt to reduce barriers to research participation. By documenting these experiences and the disruptions faced, future work may provide innovative, concrete solutions to find balance in recruiting from diverse groups using multiple methods while verifying the authenticity of participants.

Implications for Health Behavior Research

This study contributes to the conversation about how health behavior research can adapt to an increasingly digital world while maintaining rigor, ethics, and inclusivity in participant recruitment and qualitative data collection.

Acknowledgements

Ethics Approval

We received approval for this study from the North Texas Regional Institutional Review Board.

Conflict of Interest

The authors report no conflicts of interest.

Discussion Questions

What innovative methods could be developed to improve the reliability of participant recruitment and verification in online qualitative studies without compromising the richness and authenticity of the data collected?

Given the necessity of ID checks and other fraud prevention strategies, what are the ethical considerations researchers must keep in mind to protect participant privacy and trust, particularly when recruiting from vulnerable populations?

As technology advances, so do the tactics of those committing fraud. What are the prospects and challenges of employing artificial intelligence and machine learning techniques to identify and prevent fraudulent activity in online research participant recruitment?

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