Original Paper

Detection and Mitigation of Fraudulent Participants in Online Psychology and Health Research: Exploratory Qualitative Study of Researcher Experiences

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Abstract

Background: The rise of online data collection in psychological and health research has been accompanied by an increase in fraudulent participation, threatening data quality and research integrity.

Objective: This study aimed to examine how fraud manifests across different research contexts, evaluate the detection methods used, and develop practical recommendations for a range of remote research settings.

Methods: This exploratory qualitative study was conducted with six UK-based research teams (n=12 individuals) who had encountered fraudulent participants in their remote studies (January 2009-January 2026). Teams were purposively selected to represent diversity across target population (children, adolescents, and adults), study methodology (online surveys, ecological momentary assessment, qualitative interviews, and online diaries), recruitment approach, and research topic (mental health, loneliness, healthy aging, alcohol consumption, and genetic cohort building). Data were collected between June and September 2025 using semistructured interviews and open-ended questionnaires and analyzed using reflexive thematic analysis within a broadly realist framework.

Results: Teams described fraud as context dependent, manifesting differently according to study design, recruitment method, and target population. Key themes pertained to how fraud is recognized, the contextual factors that shape its presentation, vulnerability factors (eg, social media recruitment and financial compensation), the challenges and limitations of detection methods, the burden on researchers' time and resources, and gaps in institutional preparedness. Detection approaches ranged from systematic methods, such as IP address inspection and demographic consistency checks, to more interpretive strategies, such as what teams describe as "interviewer intuition" in qualitative studies. Teams reported adapting their prevention strategies iteratively through experience.

Conclusions: The findings of this study suggest that one-size-fits-all solutions are inadequate and that fraud detection and prevention approaches need to be tailored to study design, recruitment methods, and resource constraints. We recommend that fraud mitigation planning be considered a standard requirement in research funding applications.

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KEYWORDS

fraudulent participants; research integrity; data quality; ecological momentary assessment; qualitative research

Introduction

The proliferation of remote data collection methods has changed health and psychological research [1,2], enabling researchers to access diverse populations [3-5], collect real-time data through ecological momentary assessment (EMA) [6], conduct large-scale surveys [7], and reach geographically dispersed participants [8-10] more efficiently than traditional methods. However, the relative anonymity and accessibility of remote research have also made these studies increasingly vulnerable to fraudulent and ineligible participation. Opportunistic individuals and sophisticated organized operations (bots) are infiltrating remote studies, exploiting these features and motivated by various factors, including financial compensation. This problem is becoming widespread within psychological research, with some studies noting a fraudulent participation rate of 94.5% within just 7 hours of study recruitment commencing [11] and others noting a 96% fraudulent participant rate during a 3-day "attack" [12], highlighting the prevalence of this issue and the importance of implementing strong detection and prevention criteria from the outset of study design.

Fraudulent participants are defined as respondents who intentionally provide false information to take part in research studies [13,14]. Although no universally agreed-upon taxonomy exists, fraudulent participants broadly fall into two categories: human participants who deliberately misrepresent themselves and automated, computer-based actors. Among human fraudulent participants, so-called professional participants are characterized by their frequent participation in multiple studies, often comprising a disproportionate share of a given sample [15]. When studies implement eligibility restrictions, such as geographic or health condition criteria, professional participants may use virtual private networks (VPNs) to mask their locations [14] or misrepresent required health conditions [16]. Repeated participation to maximize financial compensation has also been documented and, in some cases, may represent a primary income source for these individuals [17]. The other category is bots: automated programs capable of completing studies at scale and generating false responses [18]. Unlike human fraudulent participants, bots are principally identified through technical detection methods, such as CAPTCHA tests, which aim to prevent automated access [19].

Monetary compensation appears to be a predominant driver of fraudulent participation, with studies offering financial incentives consistently reporting higher rates of fraud than those that do not [20,21]. This creates a challenging dilemma for researchers. Fair compensation is increasingly recommended by funders and ethics boards, not only to honor participants' time and expertise, but also to support sample representativeness; studies offering little or no payment risk attracting only the most highly motivated individuals, who may constitute a select and unrepresentative segment of the target population. Yet, generous payment may simultaneously increase vulnerability to professional fraud. However, alternative motivations also exist, including deliberate attempts to disrupt the research process, disseminate harmful ideologies, or seek entertainment [22].

Fraudulent participants disrupt all stages of the research process, consequently compromising data quality. During recruitment, researchers invest substantial time and resources reviewing fraudulent responses [15]. This diverts resources that could otherwise be directed toward engaging, genuine participants [23]. Furthermore, the additional time required to conduct preliminary reviews of suspected fraudulent cases can cause significant delays in achieving target sample sizes and extending data collection timelines [24]. Alternative responses to fraud may necessitate recruiting additional staff with IT literacy to strengthen verification processes and require sustained staff time for monitoring, verification, and adaptive data management throughout recruitment [18]. These challenges are compounded when budgets fail to account for fraud-related costs, potentially forcing researchers to choose between compensating all genuine participants fairly or staying within predetermined funding limits [25].

A growing body of literature has documented fraud on crowdsourcing platforms, such as Amazon Mechanical Turk and Prolific [13,26,27], and more recently in studies using independent recruitment through social media and community channels [12,28-30]. However, much of this literature focuses on describing fraud experiences within individual studies rather than examining variation across study designs and recruitment methods. Moreover, relatively few studies have compared how fraud manifests across different target populations, such as studies involving children, older adults, or clinical samples, where challenges related to managing fraudulent participants may differ. This gap is concerning, given that youth mental health research and studies with vulnerable populations often require tailored recruitment strategies that may inadvertently create opportunities for fraud. Furthermore, these studies may face unique ethical challenges when implementing fraud detection measures, including heightened privacy concerns [31], the need to balance rigorous identity verification with participant accessibility and trust [14], and the potential for detection methods to disproportionately burden or exclude legitimate participants from marginalized communities [16]. The absence of guidance specific to these contexts leaves researchers without clear frameworks for addressing fraud, while maintaining ethical research practices and preserving the integrity of participant relationships.

This paper addressed this gap by drawing on the experience of six UK-based research teams who encountered fraudulent participants across diverse study designs and populations. These teams were identified through professional networks, and their experiences are presented here to raise awareness and support shared learning. Specifically, the study aimed to (1) examine how fraud manifests across different remote research contexts, (2) evaluate the effectiveness of detection methods used, and (3) develop practical recommendations that account for a diversity of remote research settings.

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Methods

Recruitment

Six UK-based research teams were recruited through the lead author's professional networks using purposive sampling. Teams were selected based on two criteria: (1) direct, recent experience of encountering fraudulent participants in remote studies and (2) collectively representing diversity across key dimensions of the study design likely to shape how fraud manifests and is detected. These dimensions included target age groups (children through older adults), study methodologies (quantitative, qualitative, and mixed methods studies), recruitment approaches (independent online recruitment, panel-based recruitment, and recruitment embedded within existing cohorts), and research topics (mental health, loneliness, healthy aging, alcohol consumption, and genetic cohort building). This purposive approach was intended to capture a broad range of fraud experiences across varied research contexts, consistent with the study's exploratory aims, rather than to achieve a representative sample. Teams were approached through direct invitation. Twelve individual researchers were included across the six teams.

The contributing research teams and their studies were as follows:

- Study A (n=2 researchers): EMA study investigating the impacts of online and in-person social interactions on loneliness in young people aged 12-15 years, recruiting through a large family health study in Scotland (target N =200)
- Study B (n=2 researchers): EMA study exploring daily life experiences and mental health in young people aged 11-14 years with attention-deficit hyperactivity disorder (ADHD; target N=120)
- Study C (n=2 researchers): online survey study as part of the co-development and validation of a loneliness measure with young people aged 10-24 years (target N=310)
- Study D (n=3 researchers): online recruitment of participants aged ≥12 years living in Scotland for health research involving medical record linkage and postal saliva sample collection for DNA analysis (target N=20,000)
- Study E (n=2 researchers): mixed methods study examining factors associated with physical activity and social connection amongst mid-to-older-aged adults (55-75 years) living in Scotland, including online social network interviews and qualitative Zoom interviews (target N=150)
- Study F (n=1 researcher): analysis of market research data on alcohol consumption and drinking practices in British adults (aged ≥18 years), using 7-day drinking diaries (target N=20,000)

Together, these studies encompassed independent online recruitment (studies C and D), recruitment via existing research cohorts or panels (studies A, B, and E), and use of commercial market research panels (study F), providing coverage of the recruitment contexts in which fraudulent participation has been documented in the literature.

Study Design

The interview guide and open-ended questionnaire were developed by authors ZX and HW, informed by the existing literature on fraudulent participation in remote research and refined through discussion among the authorship team. The instruments covered six domains: (1) introduction and background, (2) encountering fraudulent participants, (3) detection methods and challenges, (4) impact on research quality, (5) preventative strategies and recommendations, and (6) broader implications and future research. The interview guide and open-ended questionnaire are provided in Multimedia Appendix 1.

Data were collected between June and September 2025 using two methods. Semistructured interviews were conducted by ZX via Teams or in person, with each interview lasting approximately 1 hour. Three teams participated in the interviews (studies A, B, and D), which were audio-recorded. If teams were unable to participate in a live interview, they completed the open-ended questionnaire independently. Five teams contributed via this route (studies B, C, D, E, and F). Two teams (studies B and D) contributed through both methods. Teams were asked to provide specific examples and quantitative estimates of fraud prevalence and detection effectiveness, where possible. For studies B and D, interview and questionnaire responses were combined into a single team-level dataset before analysis, with the questionnaire used to supplement or clarify interview content rather than as a separate data source. The study team, not the individual response, was the unit of analysis. A theme was retained only if it was supported by at least two teams, and quotations were selected to represent the range of teams rather than the volume of material each provided.

Ethical Considerations

Contributing teams were collaborative partners and coauthors. Their interview and questionnaire accounts were analyzed as qualitative data but concerned only their professional research practice. The study met the University of Manchester criteria for interviews with participants on subjects within their professional competence, which do not normally require formal ethical review. Data were anonymized, nonsensitive, and limited to professional topics, and no vulnerable groups were involved. All coauthors consented to their contributions being analyzed and quoted. Studies were anonymized using letter codes, and no compensation was provided.

Data Analysis

Interview transcripts and questionnaire responses (Multimedia Appendices 2-7) were analyzed using reflexive thematic analysis [32] within a broadly realist framework, treating the research's accounts as informative about real-world practices and challenges. ZX led the analysis, beginning with repeated reading of the transcripts and questionnaire responses to achieve familiarization with the data, followed by systematic line-by-line coding, generation of initial codes, and development of candidate themes, which were iteratively reviewed against the dataset. NVivo 15 was used to manage coding and data organization.

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Several steps were taken to enhance methodological rigor. First, contributing team members reviewed the analysis pertaining to their own study to verify the accuracy of the interpretations, functioning as a form of respondent validation. Second, the remaining coauthors independently reviewed the themes and broader findings across all studies. Differences in interpretation were resolved through discussion among the authorship team. Third, the study adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist (Multimedia Appendix 8) [33].

Quantitative estimates of fraudulent participation rates and detection effectiveness reported by each team were extracted and compared descriptively across study contexts. These figures were presented as reported by the contributing teams rather than as independently verified values.

Reflexivity

The lead author (ZX) conducted all interviews and led the analysis. ZX was a member of the study A research team, which necessitated transparency about potential influence on the analysis. To mitigate this, ZX's interpretations of all studies, including study A, were subject to respondent validation by the contributing teams and critical scrutiny by the wider coauthorship group. The contributing research teams more broadly occupied a dual role as both data sources and coauthors. Their coauthorship reflected the collaborative and practice-oriented nature of this work, and their insider knowledge of the studies enriched the data and enabled respondent validation on the findings. At the same time, this dual role meant that the accounts presented might foreground challenges and solutions that the teams deemed most significant to share, rather than representing a detached external assessment. This was consistent with the study's exploratory aims and its framing as a documentation of researcher experiences rather than a comprehensive evaluation of fraud-mitigating practices.

Results

Study Characteristics and Fraud Prevalence

All six research teams encountered fraudulent participants in their remote studies, although the nature and scale of fraud varied substantially across contexts. Table 1 summarizes the key characteristics of each study, including populations, methodologies, compensation structures, recruitment approaches, and reported fraud rates.

Several points of context are important for interpreting these figures. Teams used different denominators and detection stages when estimating fraud. For instance, some figures refer to initial screening rates (eg, study C's 89% reflects the first wave before the study was paused), others to postimplementation estimates (eg, study A's reduction from 40% to 12%), and still others to expressions of interest rather than completed responses (eg, study B). Direct comparisons across studies should therefore be interpreted with caution.

Study F occupied a distinctive position within the sample. Unlike the other five studies, which recruited openly online, study F used data collected by Kantar, a market research company operating preverified, managed online panels, over an earlier period (2009-2020). We identified Kantar because this provider-controlled recruitment largely removes the identity-based fraud seen elsewhere. Accordingly, study F's fraud took a different form: a few verified panelists reported implausibly high alcohol consumption. Study F is, therefore, best understood as a contrast case rather than a directly comparable instance of the same phenomenon.

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Table 1. Study characteristics and fraud participants rates.

Study	Population	Collection period	Methodology	Compensation[a]	Recruitment	Fraud rate (%)[b]
A	Young people aged 12-15 years	April 10, 2024, to October 31, 2025	Online survey+EMA[c]	Up to £20 (~US $27)	TikTok, Instagram, Facebook, Twitter/X, schools	40 down to 12
B	Youth with ADHD[d] aged 11-14 years	September 2024-January 2026	Online survey+EMA	Up to £30 (~US $40)	Facebook group, National Health Service (NHS)	40
C	Youth aged 10-24 years	November 5, 2024, to December 19, 2024	Online surveys	Up to £30 (~US $40)	LinkedIn, Twitter/X, schools	89
D	Young people aged ≥12 years	May 2022-October 2025	Online survey+saliva kit	£20 (~US $27)	Facebook, Twitter/X, schools	3-4
E	Mid-older-aged adults aged 55-75 years	August 2022-September 2023	Zoom interview	£10-£20 (~US $13-$27)	Community, Facebook, Twitter/X	53
F	Adults aged ≥18 years	January 1, 2009, to December 31, 2020	Online drinking diary	£1.10 (~US $1.47) per week	Kantar panel	<1

[a]An exchange rate of £1=US $1.34 was used.

[b]The reported fraud rates are based on each team's own assessment and were not independently verified.

[c]EMA: ecological momentary assessment.

[d]ADHD: attention-deficit hyperactivity disorder.

Key Themes

Theme 1 (Sudden Surge: Recognizing Fraud Through Disruption to Expected Patterns)

Across the six studies, the initial recognition of fraud was prompted not by systematic screening but by an unexpected disruption to normal patterns of data collection. Five teams (A-E) first noticed fraud during active recruitment or data collection, typically shortly after launching online recruitment that mentioned compensation. In contrast, study F identified fraud only retrospectively, during analysis after data collection was complete.

For the survey-based studies, this most commonly took the form of an abrupt increase in response volume. Study C experienced the most dramatic surge:

> *We received approximately 400 responses overnight shortly after advertising the study on social media. Another 200-250 responses were received over the next few days.*

Study B also had a similar experience:

> *Where we were experiencing a slow rate of recruitment, all of a sudden we would now receive up to 30 survey completions per day or up to 100 expressions of interest per day.*

Study A noticed:

> *We experienced a slow rate of recruitment and no study promotion during that time, but received 24 responses in two weeks, and we started to check whether those were genuine participants.*

These surges typically occurred within 24-48 hours of social media posts mentioning compensation, leading several teams to suspect automated monitoring rather than organic discovery. Study B hypothesized:

> *They have a search mechanism/algorithm which searches the web and identifies research calls offering reimbursement.*

For studies with different designs, recognition took different forms. In study D, the first indication was not a volume surge but the discovery that several applicants had provided nonresidential addresses. As one team member recalled:

> *The thing that they got at first was people giving an address that was a company office in Aberdeen...there were two Aberdeen Council offices and then three that all used the same office, a chartered surveyor's office.*

The team noted that the fraudulent addresses were conspicuously implausible—council offices and a chartered surveyor's practice—rather than plausible residential addresses that would have been harder to detect. One team member reflected, "I think maybe we caught the weird addresses as opposed to it being flagged in any way," acknowledging that detection has been serendipitous rather than systematic.

Study E's recognition followed another pattern. Fieldworkers conducting Zoom interviews for a place-based study on healthy aging reported that some participants "seemed a bit off" from the outset. Because video cameras were not required, visual age verification was impossible. The sense of something being wrong was initially intuitive. Interviewers consistently reported that "something seemed odd" but could not articulate specific indicators.

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Study F represented a distinct case. The team analyzed preexisting market research data rather than conducting recruitment. Fraud was detected during routine data cleaning "when a small number of participants were found to have reported unrealistically high levels of alcohol consumption."

Theme 2 (Context Shapes Everything: Fraud Manifests Differently Across Study Designs)

A consistent finding was that fraud took fundamentally different forms, depending on study design, recruitment method, and target population. Rather than a single phenomenon, teams described context-specific manifestations requiring equally context-specific responses.

In the survey-based studies recruiting young people (studies A-C), fraud primarily involved fabricated identities gaining access to the online questionnaire at high volume after social media advertisements. Study B observed patterns suggesting coordinated activity:

> *…typically Gmail addresses including 3 or 4 digits alongside the name; if surveys were completed very early in the morning or very late at night, suggesting that the participant might be in a different time zone.*

Studies A and B also reported fraudulent participants completing complex multiweek EMA protocols, demonstrating sustained effort rather than opportunistic attempts.

Team D's cohort study encountered a different form of fraud. Fabricated identities were submitted using nonresidential addresses, but the study's physical verification requirement functioned as a natural barrier. The team reflected that the distinction between fraudulent and genuine participants was not always clear-cut:

> *There's quite a lot of gray...it's not just black and white.*

One team member noted "different levels of fake." At one end was someone who was "say, 19 years old and just put in an 18-year-old date of birth" but whose data were otherwise valuable. At the other end was someone outside the eligible population providing entirely fabricated information.

Study E's qualitative interview design presented both unique detection opportunities and distinct challenges:

> *Fraudulent participants' responses were often vague, never named their local area which other participants did or when asked about local services would give generic answers like I go to a leisure center, I like to go to restaurants. Sometimes, answers were contradictory. Always asked for vouchers to be sent electronically.*

The most effective detection method was also the least technical: experienced fieldworkers' judgment. However, "three interviews were completed with fraudulent participants" before the pattern was recognized.

Study F's experience differed from all other studies. The fraud encountered was not identity based but involved implausible self-report data within an otherwise legitimate panel. The team member noted:

> *After consultation with clinicians on what constituted unrealistically high consumption, we capped the number of units of alcohol individuals could have reported to 40 UK units per day, or 280 UK units per week.*

These individuals were characterized as "probably just not taking the research seriously" rather than deliberately infiltrating the study. This highlights an important conceptual distinction: the boundary between fraudulent participation and low-quality or careless responding is not always clear, and the appropriate response differs accordingly.

Taken together, these experiences suggest that fraud is a context-dependent phenomenon. The form it takes, the ease with which it can be detected, and the appropriate response all vary according to study design.

Theme 3 (Vulnerability Factors: Social Media Recruitment and Financial Compensation)

Two structural factors consistently emerged as the primary drivers of fraud vulnerability: social media recruitment and financial compensation. These factors frequently operated together, with their combined effect substantially exceeding either in isolation.

Teams consistently identified social media, particularly Facebook and Twitter/X, as the recruitment channel most vulnerable to fraud. Study C experienced the most severe intrusion (89%) after advertising on Twitter/X and LinkedIn. Study E reported:

> *We had 70 responses to our initial social media post—37 of these were suspected to be fraudulent.*

Study B observed:

> *We have only encountered fraudulent participants when advertising online or on social media.*

Several teams identified patterns suggesting organized rather than isolated individual activity among social media respondents. Study E observed:

> *There were many with similar names…emails were often written in a similar style.*

Study A noted:

> *When we checked the IP address, all the fake participants were located in a similar area/region.*

Multiple teams (studies A and B) reported fraudulent participants using VPNs to appear to be UK based, with IP addresses clustering in London, Manchester, or Sheffield despite being ineligible for Scotland-specific studies.

The consequences of social media vulnerability were significant. Study C noted:

> *We also stopped recruitment through social media. We focused more on in-person data collection than we would have if fraudulent participation had not occurred.*

Study E also "limited social media recruitment (closed groups only)." These responses reduced fraud but also restricted the reach, scalability, and potential diversity of recruitment.

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Compensation operated as a closely related vulnerability factor. Study D reported "no suspected fraud before introducing £20 vouchers for under-18s, with all 34 suspected fraudulent applications occurring afterward." When asked about prevention, one team member responded simply:

> *Don't offer the money.*

Study B found:

> *Most fraudulent participants came through the posters that mentioned compensation compared to the posters that did not mention any rewards.*

Study C linked rising fraud to "financial pressures (i.e. cost of living) increases," which made studies that offered compensation economically attractive targets.

However, teams recognized that removing compensation was rarely a viable solution. As one study D team member reflected:

> *If you offer an incentive, you're going to get fake people trying to get the incentive. If you don't offer an incentive, it makes it really hard to recruit people...you can't have it both ways.*

Compensation is often ethically required, particularly when recruiting from disadvantaged populations or asking participants to invest substantial time. Study B's recommended:

> *Not mentioning compensation in the study advertising materials and disclosing it only after expressions of interest.*

This represented a pragmatic compromise, although the team acknowledged this could reduce legitimate recruitment.

Study D offered an alternative perspective, reducing the appeal to fraudulent actors while maintaining recruitment motivation:

> *Nonmonetary incentives such as genetic feedback or personal health data could provide value that is only going to be valuable to a real participant.*

Study F's managed panel model, where Kantar absorbed verifications costs and provided modest compensation (£1.10, or ~US $1.47, per week), represented another structural approach, although one not available to most academic research teams.

Theme 4 (Chasing a Moving Target: Detection Methods and Their Limitations)

Teams described an iterative, reactive process of developing detection methods, in which each new measure was met by adaptation from fraudulent actors. No single method proved sufficient, and teams converged on the view that effective detection required layering multiple approaches.

IP address tracking was the most widely used first-line screen, used by five of the six teams. It proved effective at identifying obviously fraudulent submissions from international locations, particularly for Scotland-specific studies where non-UK IP addresses were immediately disqualifying. However, its usefulness was increasingly limited by VPN use. After observing that fraudulent actors were using VPNs to simulate UK locations, study B noted:

> *We are especially weary of applications from London and a location close to Sheffield.*

Study A reported:

> *Some started using a VPN to change their IP addresses to appear to be located in UK cities.*

However, study D suggested:

> *Even a mismatched IP address was not definitive. They may just be traveling; they may be working away elsewhere.*

Email pattern analysis provided a useful supplementary check. Study B identified "typically Gmail addresses including 3 or 4 digits alongside the name." Study E noted:

> *Emails were often written in the same way.*

This method required manual review and pattern recognition, limiting its scalability.

Standard automated tools (ie, reCAPTCHA) designed to detect careless responding proved largely ineffective against deliberate fraud. Study C reported:

> *Less effective were captcha, speed bump questions, and attention check questions.*

Study B also noted:

> *Qualtrics flagged a few participants as potential bots on their Expression of Interest, but when taking into account other indicators, such as email address and IP, we judged they could be legitimate ones.*

These tools have been designed for a different purpose, detecting inattentive responding rather than deliberate deception, and their limitations highlight the distinction between data quality screening and fraud detection.

Physical verification methods proved the most reliable. Study D's postal saliva kit requirement resulted in only 3%-4% fraud despite offering £20 (~US $27) compensation. Study E's shift from electronic to postal vouchers reduced the appeal of easily obtained digital rewards. Study A reduced fraud from 40% to 12% after requiring receipt of physical materials as proof of Scottish residency:

> *Before we amended our recruitment strategy after we identified fake participants, it was around 40%. After we adjusted the strategy, the fake participant rate dropped to 12%.*

Study D summarized:

> *You can't do it with just one piece of information. You need to kind of collect quite a few things"*

Phone number verification also proved practical for studies recruiting UK-based participants. Study A reported:

> *The majority of the fake participants were not based in the UK. Therefore, they were not able to provide a valid UK number.*

This filtered out international fraudulent actors who bypassed IP-based detection through VPNs but could not easily obtain a UK phone number.

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Video screening calls were perceived as the most effective method when implemented. Study B described them as "the safest method of detection," with no known cases of fraudulent actors passing this barrier. Study E found that requiring cameras during social network interviews substantially improved detection. However, both teams acknowledged that screening calls were resource intensive and difficult to scale, with Study B reserving them as "the last step due to them being quite time-consuming to organize."

For place-based studies, context-specific verification questions offered an effective, low-cost approach. Study E reported that asking about local neighborhood features immediately distinguished genuine from fraudulent participants:

> *Qualitative interview responses were often vague, never named their local area ,which other participants did, or when asked about local services would give generic answers, like I go to a leisure center, I like to go to restaurants…*

This method required experienced interviewers and was not automatable but proved highly effective within its specific context.

Study F's approach differed entirely, relying on clinically informed implausibility thresholds rather than identity verification. After clinical consultation, the team noted:

> *Individuals reporting consuming over 40 units per day (equivalent to 1 liter of whisky) were fake responses.*

The team found that "the research findings did not significantly change," providing reassurance about data integrity without requiring individual-level fraud detection.

Table 2 summarizes the detection methods used across teams. Table 3 summarizes the preventative strategies, implementation context, and effectiveness.

Table 2. Detection methods used by research teams.

Method	Study A	Study B	Study C	Study D	Study E	Study F
IP address tracking	✓	✓	✓	✓	✓	—[a]
Bot detection	✓	✓	✓	—	—	—
reCAPTCHA	—	✓	✓	—	—	—
Email pattern analysis	✓	✓	✓	—	✓	—
Phone verification	✓	—	—	—	✓	—
Address verification	✓	—	—	✓	✓	—
Physical mail requirement	✓	—	—	✓	✓	—
Response timing analysis	✓	✓	—	—	✓	—
Demographic consistency	✓	—	✓	—	—	—
Manual data review	✓	—	✓	—	—	—
Video screening calls	✓	✓	—	—	✓	—
Local knowledge questions	—	—	—	—	✓	—
Implausibility thresholds	—	—	—	—	—	✓

[a]Not applicable.

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Table 3. Preventative strategies, implementation context, and effectiveness.

Stage and strategies	Teams using the strategy	Best context	Effectiveness	Constraints
Pre-recruitment stage (before advertising the study)				
Omit/delay compensation mention	B, C	High-compensation studies	High	May reduce legitimate recruitment
Avoid social media entirely	C	When alternative recruitment is viable	Very high	Limits sample diversity and size
Closed social media groups only	E	Community-based research	Moderate to high	Smaller reach than open posts
Recruitment and screening stage (during enrollment)				
Two-stage recruitment (expression of interest first)	B	All online recruitment	High	Adds screening workload
Platform-specific survey links	C	Multichannel recruitment	High	Requires a tracking system
Full address and phone required	A, D, E	Place-based or geographic cohorts	High	Privacy concerns for some populations
Local knowledge questions	E	Place-based qualitative studies	High	Requires training, not automatable
Physical verification requirement	A, D, E	Cohort studies, place-based research	Very high	Not applicable to all designs
Tighten eligibility verification	A	Cohort studies	Very high	May delay enrollment
Verification (before data collection begins)				
Mandatory video screening	B, E	High-value/high-risk studies	Very high	Resource intensive
Physical verification requirement	A, D, E	Cohort studies, place-based research	Very high	Not applicable to all designs

Theme 5 (Burden on Researchers: Time, Resources, and Emotional Labor)

Fraud detection and management imposed substantial costs that extended beyond data quality. Teams described disruption to study timelines, diversion of staff time from core research activities, and unanticipated financial and administrative burdens.

The most severe timeline disruption was experienced by study C:

> *Our ethics board asked us to pause data collection while we reviewed the situation and created an SOP which ethics had to approve before we could resume.*

Multiple teams (studies A, B, and E) submitted several ethics amendments to modify recruitment strategies and add screening layers, each requiring weeks of processing time. Study B mentioned:

> *We had to modify our recruitment process many times through several ethics amendments to adapt our recruitment strategy and add more layers of control and screening.*

Even teams with low fraud rates reported significant resource costs. Study D noted they "spent a lot of time checking submission," despite 3%-4% suspected fraud. One team member described the detection process as slow and uncertain:

> *Nothing's instant...it's a long process; we need to verify CHI linkage, addresses, and saliva kit tracking.*

The administrative burden took multiple forms. Study B reported:

> *We created a new separate inbox and email that we would share for online recruitment, so our usual inbox would not be inundated with emails.*

Study C developed a comprehensive standard operating procedure (SOP; see Multimedia Appendix 9) that required ethical approval before recruitment could resume. Teams also invested time in IT consultations, systematic data cleaning, and documentation for ethics boards. None of these had been anticipated or budgeted for.

Financial losses, although generally contained, were a source of frustration. Study B described "misuse of financial resources when compensation reaches fraudulent participants rather than legitimate ones." Both studies A and B compensated participants later identified as fraudulent, reasoning that these individuals had "invested their time" by completing study procedures before detection. These were relatively small sums (£20-£30, or ~US $27-$40, per person) but represented funding diverted from its intended purpose.

Teams also described the practical difficulty of managing ongoing interactions with suspected fraudulent participants. Study D discussed the challenges of "dealing with quite difficult messages" from individuals persistently requesting vouchers after being identified as suspicious and recommended that future

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studies develop scripted responses in advance as "having developed the text that you're then going to use to knock people back." Beyond that, study B also noted:

> *Staff hours are being diverted from core research tasks to the detection of fraudulent participants.*

Shifting away from social media recruitment, although effective at reducing fraud, imposed costs of its own. Study C "stopped recruitment through social media and focused more on in-person data collection than we would have if fraudulent participation had not occurred." Study E "limited social media recruitment to closed groups only." Both teams acknowledged that this reduced their reach and potentially limited sample diversity, sacrificing the efficiency that had motivated remote recruitment in the first place.

Theme 6 (Navigating Without a Map: Institutional Preparedness and Ethical Gray Zones)

No team had anticipated fraudulent participants before encountering them. Detection and prevention strategies were developed reactively, and ethical dilemmas were navigated without established guidance.

Study C's ethics board required them to pause data collection, develop an SOP, and obtain approval before resuming. This process would have been avoidable if the fraud had been anticipated. The team recommended that researchers "create an SOP before data collection begins" and called for "sector-wide acknowledgement of the issue and strategies for tackling it. More awareness of the issue from ethics boards—having recommendations in place for us to follow." Study D reflected similarly:

> *Teams should anticipate in advance that some people may be fakes and prepare protocols rather than wait until it actually happens and then think, oh, wait a minute, we need to do something about this.*

Study C also recommended proactive engagement with ethics committees:

> *To avoid ethical issues, be upfront and clear about this in your ethics application so that how you will deal with it is approved in advance.*

Study A highlighted the need for institutional awareness, noting that "a higher level of authority, such as a university, funders and organizations, would need to be aware of this issue." Study A was also the only team to involve their target population:

> *We consulted a Young Person Advisory Group about detection and prevention strategies.*

Alongside this lack of institutional infrastructure, teams faced ethical decisions for which no guidance existed. The most common dilemma concerned compensation. As mentioned before, studies A and B both compensated participants later identified as fraudulent, which created a difficult judgment: risk denying compensation to a legitimate participant or knowingly compensating a fraudulent one? Study D avoided this through procedural design, withholding compensation until after the saliva kit return.

Interview termination raised distinct concerns for qualitative studies. Study E "discussed ethical issues, such as whether it was appropriate for fieldworkers to terminate an interview if they felt that the participant was not actually from the UK." The team recommended:

> *I do think researchers should have strategies in place for being able to stop interviews if they suspect fraudulent activity and this should be built into protocols.*

Without this, fieldworkers were left uncertain about their rights and obligations during data collection.

Data inclusion for borderline cases proved equally challenging. Study C acknowledged difficulty "where only one of our criteria for detecting a fraudulent response was met." Study D described similar uncertainty:

> *A participant might fail one check but not others, and there could be some crossover between ineligible and fraudulent participants.*

Study E decided to exclude suspected fraudulent data "on the basis that we were able to recruit enough legitimate participants." However, this would be harder for teams with smaller samples. Study F capped implausible values rather than excluding participants but noted that peer reviewers raised "concerns over this and our capping process." These findings illustrate that fraud management decisions are open to methodological challenges regardless of strategy.

Researcher Perspectives on Future Challenges

Teams converged on the view that fraud is worsening, attributing this to several reinforcing factors. Study C identified "an increase in remote data collection since COVID-19, financial pressures (i.e. cost of living) increases, an increase in demand for participants and lived experience experts." Study F agreed:

> *I would assume that fake participant issues would only get worse the more researchers rely on self-reported data collected online from self-selecting samples.*

Study B warned that current detection methods may not remain effective:

> *With the advancement of technology and the widespread nature of remote participation in studies, the issue is getting worse. With the advancement of AI technology, there might also come a time when fraudulent participants might be able to pass screening calls as well.*

Study D offered a counterpoint. Although agreeing that fraud would likely increase, one team member noted that growing public awareness of online scams could cut both ways: legitimate participants might also become harder to recruit, as "people will see your offer and think it's a fake." The team recalled receiving Facebook comments from members of the public who "basically thought this was a scam…is the Scottish Government gathering information." The challenge, in this view, is not only fraudulent participants entering studies but also genuine participants being deterred from them.

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Discussion

Principal Findings

Summary

This study presented an exploratory overview of fraudulent participation across diverse remote research contexts, offered as a starting point for awareness raising and more systematic future inquiry rather than as a definitive or comprehensive account. Findings from six UK-based research teams, gathered through semistructured interviews and open-ended questionnaires, identified six themes capturing how fraud is recognized, experienced, and managed across varied research contexts. Fraud is not a uniform problem: it manifests differently depending on study design, recruitment strategy, population characteristics, and compensation structure. The reported fraud rates varied substantially across studies, reflecting differences in study design, detection methods, and denominators rather than directly comparable prevalence figures. This complexity underscores the need for context-sensitive rather than universal approaches to fraud detection and prevention.

The Need for Tailored Approaches

Our findings illustrated the limitations of universal fraud solutions [34]. The six studies showed substantial variation in fraud rates and detection effectiveness, suggesting that methods effective in one context may be insufficient or inapplicable in another. Address verification, for instance, worked well within a geographically bounded cohort study (studies A and D) where requiring valid Scottish residential addresses created structural barriers that reduced fraud to 3%-4% and 12%, respectively. However, this approach would be incompatible with studies that necessitate participant anonymity [17] or recruiting from multiple locations [35]. Similarly, place-based verification through local knowledge questions was effective in study E, where fraudulent participants were unable to name specific neighborhood features. This approach has limited applicability in research contexts without geographic focus.

Each detection method carries its own trade-offs. Study F's use of preverified, managed panels achieved less than 1% fraud compared with 40%-89% fraud in studies using open social media recruitment [36,37]. However, managed panels are less suitable for research requiring specialized populations, clinical samples, or hard-to-reach demographic groups. Video screening protocols were perceived as the most reliable method by study B, with no known cases of fraudulent participants passing this barrier. Nevertheless, this method is resource intensive and may introduce selection bias by excluding individuals unable or unwilling to participate in video calls. Study B also noted that this effectiveness may be temporary, as advancing AI capabilities could soon enable fraudsters to bypass even video-based verification procedures.

The Social Media Recruitment Dilemma

Teams in our study consistently identified social media as the most vulnerable recruitment channel, with fraud rates of 53%-89% among studies using open social media recruitment (studies C and E). Pozzar et al [11] reported 94.5% fraud in a health study using social media recruitment with a US $15 incentive. Salinas [38] found 84.1% fraud from the Facebook group compared with much lower rates from a mailing list. Lei [39] identified 83% fraud from Facebook groups but only 4.6% from Facebook Ads, suggesting that platform approach matters substantially. Social media platforms have been consistently associated with the highest fraud risk [11,39-42], yet complete avoidance imposes high costs on research feasibility and sample representativeness [43].

Our findings suggest that restricting social media recruitment can reduce fraud but at a cost. Studies C and E both limited or abandoned social media recruitment after encountering fraud but acknowledged that this reduced their reach and potentially limited sample diversity. This is particularly concerning, given evidence that social media recruitment is an effective strategy for engaging underrepresented groups [44-48]. The recruitment strategies that facilitate access to traditionally underrepresented and hard-to-reach populations appear to be most vulnerable to fraud. Rather than abandoning social media recruitment entirely, our findings point toward more targeted approaches [49]. These include deploying platform-specific recruitment links to identify compromised sources (study C), omitting compensation details from initial recruitment advertisements (studies B and D) [21], and implementing two-stage recruitment with enhanced verification before full enrollment [34].

These approaches require additional research resources and methodological complexity [21,50]. It is also important that fraud prevention measures not disproportionately burden or exclude genuine participants from marginalized populations, whose communication patterns and privacy-protective behaviors may differ from the majority, particularly in research on sensitive or stigmatized topics [21].

Calls for Institutional and Sector-Wide Responses

The resource burden of fraud management was substantial across all the study teams, from study C's 2-month pause to study D spending "lots of time checking" despite low fraud rates. Fraud detection and management represent a hidden cost of remote research that is rarely accounted for in study budgets and timelines. This burden falls heavily on individual research teams, especially those with limited institutional resources. It is unrealistic to expect individual teams to develop sophisticated fraud detection systems, in addition to their research activities. Researchers across our study made clear that these needs required coordinated action at institutional and sector levels to address this collective problem.

Our findings suggest that several forms of institutional support could help address these challenges. Preapproved fraud detection protocols could streamline ethics processes and reduce redundant approvals. Shared resources, including template SOPs, detection tools, and reporting frameworks, could prevent teams from duplicating efforts. Researchers also emphasized the need for funding bodies to recognize fraud management as a legitimate research cost, with realistic budgets and timelines that account for this work. Finally, cross-team and cross-institutional sharing of information about emerging fraud tactics could also help teams respond more quickly to new threats, rather than each team learning in isolation.

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Study A called for "a higher level of authority, such as a university, funders and organizations" to address the issues, reflecting a broader view among teams that this challenge exceeds the capacity of individual researchers. Our findings suggest value in developing sector-wide responses, including coordination among funding bodies, research institutions, ethics boards, and research networks. Without such coordination, the burden is likely to continue falling on individual teams, with potentially consequences for research quality and integrity. As online recruitment becomes increasingly standard in health and psychological research, our findings suggest that the field would benefit from moving beyond treating fraud as an individual team problem toward developing collective, sustainable responses that distribute responsibility and resources across the research ecosystem.

The Coming AI Challenges

Technological changes may also affect the future landscape of research fraud. Study B warned:

> *With the advancement of AI technology, there might also come a time when fraudulent participants might be able to pass screening calls as well.*

Video calls, currently described as the most reliable detection method, may not remain so, as AI-generated video, voice synthesis, and natural language processing continue to advance. Study E's observation that fraudulent participants provided plausible but generic qualitative responses may already reflect early AI assistance, although this cannot be confirmed from our data. These observations suggest that prospective rather than reactive responses will be needed, including exploration of verification methods that are resistant to AI-generated deception and systems capable of identifying AI-generated responses. However, this is an emerging area, and our data can only flag the concern rather than offer solutions.

Conclusion

This exploratory study examined the experiences of six UK-based research teams who encountered fraudulent participation in their remote studies. Our findings suggested that fraud is not a uniform problem but a context-dependent challenge. The form it takes, the ease with which it can be detected, and the appropriate response all vary according to study design, recruitment method, and target population.

Several provisional observations emerged from our data. Social media recruitment, particularly on open platforms and when compensation is mentioned, appears to create the greatest vulnerability. Studies with geographic requirements or physical verification steps experienced lower fraud rates, suggesting that structural barriers may be more effective than post hoc detection alone. No single detection method showed sufficient across contexts; teams converged on the view that layered approaches combining automated screening, human judgment, and direct verification are needed, adapted to the specific study context. The resource burden of fraud management was substantial across all teams, including timeline delays, staff diversion, and costs that are rarely accounted for in grant budgets. Our findings suggest that institutions, funders, and ethics boards could play a greater role in supporting researchers through preapproved protocols, shared resources, and realistic expectations about the time and cost of fraud management. Teams also raised concerns that advancing AI technology may undermine currently effective detection methods, suggesting that prospective planning will be increasingly important.

It is worth noting that reducing or eliminating compensation is not a viable solution. Compensation is often an ethical requirement, particularly when recruiting from disadvantaged populations, and is increasingly necessary in a competitive recruitment landscape. The priority should be developing compensation structures and verification procedures that balance fairness to participants with fraud mitigation. As online methods become increasingly central to health and psychological research, our findings suggest that fraud mitigation planning should be considered a standard component of research design and funding applications, rather than an afterthought addressed only after fraud has occurred.

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Data Availability

All data generated or analyzed during this study are included in this published paper and its supplementary materials.

Generative AI Use

The authors declare that generative AI was not used in the preparation of this manuscript.

Authors' Contributions

Conceptualization, manuscript drafting, and methodology: ZX

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Methodology and results: LV, LR, DH, IH, HM, LK, EM, and VJP
Manuscript review and editing: ZX, LV, LR, DH, IH, HM, LK, EM, VJP, AM, LT, SR, RF, and HCW

Conflicts of Interest

None declared.

Multimedia Appendix 1

Interview questions.
[DOCX File , 22 KB-Multimedia Appendix 1]

Multimedia Appendix 2

Open-ended questionnaire for study A.
[DOCX File , 23 KB-Multimedia Appendix 2]

Multimedia Appendix 3

Open-ended questionnaire for study B.
[DOCX File , 30 KB-Multimedia Appendix 3]

Multimedia Appendix 4

Open-ended questionnaire for study C.
[DOCX File , 20 KB-Multimedia Appendix 4]

Multimedia Appendix 5

Open-ended questionnaire for study D.
[DOCX File , 19 KB-Multimedia Appendix 5]

Multimedia Appendix 6

Open-ended questionnaire for study E.
[DOCX File , 21 KB-Multimedia Appendix 6]

Multimedia Appendix 7

Open-ended questionnaire for study F.
[DOCX File , 22 KB-Multimedia Appendix 7]

Multimedia Appendix 8

Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist.
[PDF File (Adobe PDF File), 358 KB-Multimedia Appendix 8]

Multimedia Appendix 9

Standard operating procedures (SOPs).
[DOCX File , 24 KB-Multimedia Appendix 9]

References

1. Archibald MM, Ambagtsheer RC, Casey MG, Lawless M. Using Zoom videoconferencing for qualitative data collection: perceptions and experiences of researchers and participants. Int J Qual Methods. Sep 11, 2019;18:160940691987459. [FREE Full text] [doi: 10.1177/1609406919874596]
2. Whitaker C, Stevelink S, Fear N. The use of Facebook in recruiting participants for health research purposes: a systematic review. J Med Internet Res. Aug 28, 2017;19(8):e290. [FREE Full text] [doi: 10.2196/jmir.7071] [Medline: 28851679]
3. Myers KJ, Jaffe T, Kanda DA, Pankratz VS, Tawfik B, Wu E, et al. Reaching the “hard-to-reach” sexual and gender diverse communities for population-based research in cancer prevention and control: methods for online survey data collection and management. Front Oncol. Jun 8, 2022;12:841951. [FREE Full text] [doi: 10.3389/fonc.2022.841951] [Medline: 35756657]

XSL•FO
RenderX

4. Richard B, Sivo SA, Orlowski M, Ford RC, Murphy J, Boote DN, et al. Qualitative research via focus groups: will going online affect the diversity of your findings? Cornell Hosp Q. Nov 03, 2020;62(1):32-45. [FREE Full text] [doi: 10.1177/1938965520967769]
5. Upadhyay UD, Lipkovich H. Using online technologies to improve diversity and inclusion in cognitive interviews with young people. BMC Med Res Methodol. Jun 16, 2020;20(1):159. [FREE Full text] [doi: 10.1186/s12874-020-01024-9] [Medline: 32539726]
6. Burke LE, Shiffman S, Music E, Styn MA, Kriska A, Smailagic A, et al. Ecological momentary assessment in behavioral research: addressing technological and human participant challenges. J Med Internet Res. Mar 15, 2017;19(3):e77. [FREE Full text] [doi: 10.2196/jmir.7138] [Medline: 28298264]
7. Chen R, Sun C, Chen J, Jen H, Kang XL, Kao C, et al. A large-scale survey on trauma, burnout, and posttraumatic growth among nurses during the COVID-19 pandemic. Int J Ment Health Nurs. Feb 2021;30(1):102-116. [FREE Full text] [doi: 10.1111/inm.12796] [Medline: 33107677]
8. Falcão R, Cruz E, Costa Filho M, Elo M. Researching hard-to-reach populations: lessons learned from dispersed migrant communities. IJSSP. Sep 12, 2023;44(1/2):76-95. [FREE Full text] [doi: 10.1108/IJSSP-06-2023-0134]
9. Lobe B, Morgan D, Hoffman KA. Qualitative data collection in an era of social distancing. Int J Qual Methods. Jul 07, 2020;19:160940692093787. [FREE Full text] [doi: 10.1177/1609406920937875]
10. Pham P, Johnston L, Keegan K, Wei C, Vinck P. Innovative strategies for remotely sampling hard-to-reach populations: assessing phone versus internet respondent-driven sampling approaches among Venezuelan refugees and migrants in Colombia. Am J Epidemiol. Oct 10, 2023;192(10):1613-1623. [FREE Full text] [doi: 10.1093/aje/kwad116] [Medline: 37194729]
11. Pozzar R, Hammer MJ, Underhill-Blazey M, Wright AA, Tulsky JA, Hong F, et al. Threats of bots and other bad actors to data quality following research participant recruitment through social media: cross-sectional questionnaire. J Med Internet Res. Oct 07, 2020;22(10):e23021. [FREE Full text] [doi: 10.2196/23021] [Medline: 33026360]
12. Davies MR, Monssen D, Sharpe H, Allen KL, Simms B, Goldsmith KA, et al. Management of fraudulent participants in online research: practical recommendations from a randomized controlled feasibility trial. Int J Eat Disord. Jun 2024;57(6):1311-1321. [FREE Full text] [doi: 10.1002/eat.24085] [Medline: 37921564]
13. Chandler J, Sisso I, Shapiro D. Participant carelessness and fraud: consequences for clinical research and potential solutions. J Abnorm Psychol. Jan 2020;129(1):49-55. [FREE Full text] [doi: 10.1037/abn0000479] [Medline: 31868387]
14. Mistry K, Merrick S, Cabecinha M, Daniels S, Ragan J, Epstein M, et al. Fraudulent participation in online qualitative studies: practical recommendations on an emerging phenomenon. Qual Health Res. Jun 16, 2026;36(7):647-657. [FREE Full text] [doi: 10.1177/10497323241288181] [Medline: 39548877]
15. McLachlan K, Truffyn EE, Dunleavy B, Linkiewich D, Powell D, Taddio A, et al. Fraudulent participation in psychological research using virtual synchronous interviews: ethical challenges and potential solutions. Ethics Behav. May 13, 2024;35(3):167-189. [FREE Full text] [doi: 10.1080/10508422.2024.2347658]
16. Campbell CK, Ndukwe S, Dubé K, Sauceda JA, Saberi P. Overcoming challenges of online research: measures to ensure enrollment of eligible participants. J Acquir Immune Defic Syndr. Oct 01, 2022;91(2):232-236. [FREE Full text] [doi: 10.1097/QAI.0000000000003035] [Medline: 36094490]
17. Teitcher JEF, Bockting WO, Bauermeister JA, Hoefer CJ, Miner MH, Klitzman RL. Detecting, preventing, and responding to "fraudsters" in internet research: ethics and tradeoffs. J Law Med Ethics. Apr 2015;43(1):116-133. [FREE Full text] [doi: 10.1111/jlme.12200] [Medline: 25846043]
18. Loebenberg G, Oldham M, Brown J, Dinu L, Michie S, Field M, et al. Bot or not? Detecting and managing participant deception when conducting digital research remotely: case study of a randomized controlled trial. J Med Internet Res. Sep 14, 2023;25:e46523. [FREE Full text] [doi: 10.2196/46523] [Medline: 37707943]
19. Storozuk A, Ashley M, Delage V, Maloney EA. Got bots? Practical recommendations to protect online survey data from bot attacks. Quant Methods Psychol. May 01, 2020;16(5):472-481. [FREE Full text] [doi: 10.20982/tqmp.16.5.p472]
20. Chandler JJ, Paolacc G. Lie for a dime: when most prescreening responses are honest but most study participants are impostors. Soc Psychol Personal Sci. Apr 27, 2017;8(5):500-508. [FREE Full text] [doi: 10.1177/1948550617698203]
21. Sobolewski J, Rothschild A, Freeman A. The impact of incentives on data collection for online surveys: social media recruitment study. JMIR Form Res. Jul 04, 2024;8:e50240. [FREE Full text] [doi: 10.2196/50240] [Medline: 38963924]
22. Garcia-Iglesias J, Heaphy B, Yodovich N, Atherton S, Merchant A. Imposter participants? Towards a reflexive epistemology of ‘suspected participants'. Int J Qual Methods. 2025;24:1-9. [FREE Full text] [doi: 10.1177/16094069251335497]
23. Ménard A, McMurphy S, Sterling M, Armstrong N, Cheek O, Balint S. Bots, scammers, and fraudulent responders: a year of disrupted data collection. Ethics Behav. Jun 18, 2025;36(3):235-249. [FREE Full text] [doi: 10.1080/10508422.2025.2518270]
24. Kumarasamy V, Goodfellow N, Ferron EM, Wright AL. Evaluating the problem of fraudulent participants in health care research: multimethod pilot study. JMIR Form Res. Jun 04, 2024;8:e51530. [FREE Full text] [doi: 10.2196/51530] [Medline: 38833292]

XSL•FO
RenderX

25. Lovett M, Bajaba S, Lovett M, Simmering MJ. Data quality from crowdsourced surveys: a mixed method inquiry into perceptions of Amazon's Mechanical Turk Masters. Appl Psychol. Dec 05, 2017;67(2):339-366. [FREE Full text] [doi: 10.1111/apps.12124]
26. Chmielewski M, Kucker SC. MTurk crisis? Shifts in data quality and the impact on study results. Soc Psychol Personal Sci. Oct 10, 2019;11(4):464-473. [FREE Full text] [doi: 10.1177/1948550619875149]
27. Dennis SA, Goodson BM, Pearson CA. Online worker fraud and evolving threats to the integrity of MTurk data: a discussion of virtual private servers and the limitations of IP-based screening procedures. Behav Res Account. Mar 1, 2020;32(1):119-134. [FREE Full text] [doi: 10.2308/bria-18-044]
28. Ennis M, Renner R, Morando-Stokoe C, James S, Janssen PA, Leckie S, et al. Exploring methods to mitigate fraud in web-based surveys: multicase study analysis. J Med Internet Res. Dec 01, 2025;27(1):e78671. [FREE Full text] [doi: 10.2196/78671] [Medline: 41324984]
29. Hill JR, Hoel S, Caldwell C, Zuraw M, Elliott C, Pickett AC, et al. Flagged for fraud: lessons from 3 case studies on detecting inauthentic participants in online research. J Med Internet Res. Oct 10, 2025;27(1):e78554. [FREE Full text] [doi: 10.2196/78554] [Medline: 41071586]
30. Webber-Ritchey K, Ally F, Galura S, Buck J, Brockway C, Chipps E, et al. Identifying fraudulent responses and imposters in research recruitment of subjects through social media. J Nurs Adm. 2025;55(7):388-394. [FREE Full text] [doi: 10.1097/NNA.0000000000001596] [Medline: 40669031]
31. Perez Vallejos E, Koene A, Carter CJ, Hunt D, Woodard C, Urquhart L, et al. Accessing online data for youth mental health research: meeting the ethical challenges. Philos Technol. Oct 12, 2017;32(1):87-110. [FREE Full text] [doi: 10.1007/s13347-017-0286-y]
32. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. Jan 1, 2006;3(2):77-101. [FREE Full text] [doi: 10.1191/1478088706qp063oa]
33. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. Dec 2007;19(6):349-357. [FREE Full text] [doi: 10.1093/intqhc/mzm042] [Medline: 17872937]
34. Lawlor J, Thomas C, Guhin AT, Kenyon K, Lerner MD, Drahota A. Suspicious and fraudulent online survey participation: introducing the REAL framework. Methodol Innov. Oct 2021;14(3):205979912110504. [FREE Full text] [doi: 10.1177/20597991211050467]
35. Ballard AM, Cooper HL, Young AM. Web-based eligibility quizzes to verify opioid use and county residence among rural young adults: eligibility screening results from a feasibility study. JMIR Res Protoc. Jun 18, 2019;8(6):e12984. [FREE Full text] [doi: 10.2196/12984] [Medline: 31215520]
36. Irvine AB, Gelatt VA, Seeley JR, Macfarlane P, Gau JM. Web-based intervention to promote physical activity by sedentary older adults: randomized controlled trial. J Med Internet Res. Feb 05, 2013;15(2):e19. [FREE Full text] [doi: 10.2196/jmir.2158] [Medline: 23470322]
37. Palamar JJ, Acosta P. On the efficacy of online drug surveys during the time of COVID-19. Subst Abus. Jul 01, 2020;41(3):283-285. [FREE Full text] [doi: 10.1080/08897077.2020.1784362] [Medline: 32697173]
38. Salinas MR. Are your participants real? Dealing with fraud in recruiting older adults online. West J Nurs Res. Jan 19, 2023;45(1):93-99. [FREE Full text] [doi: 10.1177/01939459221098468] [Medline: 35587721]
39. Lei F. Online recruitment for an online survey study: our experience of dealing with fraudsters. Appl Nurs Res. Dec 2024;80:151854. [FREE Full text] [doi: 10.1016/j.apnr.2024.151854] [Medline: 39617618]
40. Mizerek E, Wolf L, Moon MD. Identifying and mitigating fraud when using social media for research recruitment. J Emerg Nurs. Jul 2023;49(4):530-533. [FREE Full text] [doi: 10.1016/j.jen.2023.04.002] [Medline: 37393079]
41. Peach B, Sole M, Diaz S, Nunez M. Screening out false participants in research recruitment from social media groups. AJN Am J Nurs. Aug 01, 2023;123(8):52-55. [FREE Full text] [doi: 10.1097/01.NAJ.0000947476.62816.13] [Medline: 37498040]
42. Wright A, Willett Y, Ferron E, Kumarasamy V, Lem S, Ahmed O. Using social media to recruit participants in health care research: case study. J Med Internet Res. Oct 11, 2024;26:e51751. [FREE Full text] [doi: 10.2196/51751] [Medline: 39393066]
43. Darko EM, Kleib M, Olson J. Social media use for research participant recruitment: integrative literature review. J Med Internet Res. Aug 04, 2022;24(8):e38015. [FREE Full text] [doi: 10.2196/38015] [Medline: 35925655]
44. Bucknell Bossen C, Kottasz R. Uses and gratifications sought by pre-adolescent and adolescent TikTok consumers. Young Consum Insight Ideas Responsible Mark. Nov 2020;21(4):463-478. [FREE Full text] [doi: 10.1108/yc-07-2020-1186]
45. Kobayashi Y, Boudreault P, Hill K, Sinsheimer JS, Palmer CGS. Using a social marketing framework to evaluate recruitment of a prospective study of genetic counseling and testing for the deaf community. BMC Med Res Methodol. Nov 25, 2013;13:145. [FREE Full text] [doi: 10.1186/1471-2288-13-145] [Medline: 24274380]
46. Morgan AJ, Jorm AF, Mackinnon AJ. Internet-based recruitment to a depression prevention intervention: lessons from the Mood Memos Study. J Med Internet Res. Feb 12, 2013;15(2):e31. [FREE Full text] [doi: 10.2196/jmir.2262] [Medline: 23403043]

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RenderX

47. Pekarsky C, Skiffington J, Leijser LM, Slater D, Metcalfe A. Social media recruitment strategies to recruit pregnant women into a longitudinal observational cohort study: usability study. J Med Internet Res. Dec 12, 2022;24(12):e40298. [FREE Full text] [doi: 10.2196/40298] [Medline: 36508244]
48. Smith MVA, Grohmann D, Trivedi D. Use of social media in recruiting young people to mental health research: a scoping review. BMJ Open. Nov 28, 2023;13(11):e075290. [FREE Full text] [doi: 10.1136/bmjopen-2023-075290] [Medline: 38016791]
49. Cho E, Lewis LF, Broden Arciprete EG. Striking a balance: mitigating fraud while ensuring equity in online qualitative research recruitment. J Med Internet Res. Aug 27, 2025;27:e68393. [FREE Full text] [doi: 10.2196/68393] [Medline: 40865087]
50. Wardropper CB, Dayer AA, Goebel MS, Martin VY. Conducting conservation social science surveys online. Conserv Biol. Oct 22, 2021;35(5):1650-1658. [FREE Full text] [doi: 10.1111/cobi.13747] [Medline: 33887800]
51. MRC/CSO Social and Public Health Sciences Unit. PACES: physical activity, social connectedness, and healthy ageing study. University of Glasgow. URL: https://www.gla.ac.uk/schools/healthwellbeing/research/mrccsosocialandpublichealthsciencesunit/programmes/relationships/pcsn/paces/ [accessed 2026-10-20]

Abbreviations

ADHD: attention-deficit hyperactivity disorder
EMA: ecological momentary assessment
SOP: standard operating procedure
VPN: virtual private network

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