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EXPLORING ETHICAL AND CULTURAL FACTORS INFLUENCING PARTICIPATION IN SNOWBALL SAMPLING STUDIES

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ABSTRACT

This scoping review explores the ethical and cultural factors affecting participation in online snowball sampling studies among hard-to-reach populations. The guiding questions are: (1) What ethical factors influence participation in these studies? (2) What cultural factors affect potential participants' decisions? Snowball sampling relies on current participants recruiting future ones, a method increasingly utilized by qualitative researchers in social and health sciences. While previous reviews address ethical challenges and recommendations, such as concerns about data turnover and reputational risk, the ethical and cultural influences on participation in such online research are less understood. This study employs a scoping review methodology to identify, chart, and summarize the relevant literature. It adheres to scoping review methods while ensuring rigor and flexibility. A systematic search of online bibliographic databases yielded a dataset of articles, which were screened based on inclusion and exclusion criteria, followed by full-text screening. Data extracted from the selected articles, including publication details and topics—are thematically organized. This research only considers academic articles published in English and excludes conference abstracts, reports, books, government documents, dissertations, presentations, or grant applications.

KEYWORDS

Snowball Sampling, Ethical Factors, Cultural Factors, Online Snowball Sampling

CITATION

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Introduction.

In-depth qualitative interviews are a well-known method for advancing theoretical understanding, as well as for translating theory into practice. They can provide rich descriptions of behaviours and beliefs and improve comprehension of complex phenomena, which may stimulate more nuanced hypotheses and future investigations. Complex phenomena, such as health behaviours or chronic illness, may involve multiple, often unexplained social and bodily processes. Qualitative research is increasingly being used to address ‘how’ and ‘why’ questions about health behaviours in target populations. However, understanding participation behaviour is often viewed purely as a sampling bias whereas empirical and theoretical scrutiny is seldom afforded. Snowball sampling is stipulating that existing study subjects recruit future subjects from among their acquaintances. Snowball sampling is a common recruitment strategy but some populations may be more included or excluded than others. It interacts with hard-to-reach characters in the broader meaning of their

access eligibility in terms of power imbalance. The purpose of this article is to study the ethical and cultural factors influencing participation in a specific snowball sampling study that involved a unique recruitment agent. (Parker et al., 2019) Refugees are often defined as hard-to-reach or hidden populations. As such, they face multifactorial barriers to population-based recruitment, such as lack of knowledge of rights and obligations, language or culture barriers, fear or experience of ostracism, trust issues, and the perceived value of participation. Ethically, anything hindered or coerced by circumstance could be construed as participation injustice. The birth countries of the recruitment agent and participants were paid closest attentions to enhance credibility in health project and data gathering. Religious background of the study team was also beneficial in gaining insight to the study of illness. Age differences between the recruitment agent and participants played a modest but important role. The recruitment agent's age also added a flavour of personal and self-carding. However, pre-survey highlights of ethnic, gender or health characteristics were rendered difficult to clarify within a recruitment agent. This yielded an ethical dilemma between sampling design and data reliability. The growth of social networking has considerable implications for snowball-sampling research. These developments are discussed in relation to limits of generalizing and veracity. Nonetheless, the article calls for further investigations both in studying snowball sampling and in assessing the realism of incoming research results since few methodological papers have been published on other sampling designs over the last decades in health research.

2. Understanding Snowball Sampling

While recruiting participants in research, there may be the necessity to enquire sensitive, personal, and private information. Moreover, a population of interest may consist of hard-to-access groups due to social stigma, illegal status, and public risk (Parker et al., 2019). Snowball sampling refers to a strategy whereby existing study subjects recruit future subjects from among their acquaintances. It is a commonly used sampling technique as participants of interest cannot be accessed via conventional means. Often employed in qualitative research, snowball sampling is seen as a cost-effective data collection strategy. Additionally, literature summarises the advantages of snowball sampling within online platforms. They allow researchers to access hard-to-reach groups, establish trust and rapport, recruit participants quickly, maintain anonymity, and ensure data security. Furthermore, as some online platforms encourage networking, they may facilitate information outreach.

Instead of being a standalone method, snowball sampling is best applied along with other known, purposive sampling methods. As snowball sampling operations are usually non-uniform within the social network, most sampling procedures assume homogeneity and consistency of the snowball effects. Also, recruitments via snowball sampling often begin with a small selection (known as seeds) and subsequently snowball using referrals from the selected participants. While researchers may only know a few, or even none, of the potential participants, those who have been focal groups, gatekeepers, and members of the minority groups or hard-to-reach populations are primarily selected as seeds. Notably, the process of selecting seeds is also crucial, as possibly none or only one participant matching the research criteria might be on board.

Snowball sampling may become unsurprising, creating homogenised samples. While using social media snowball sampling, participants unable to acquire internet access or publicity remain the invisible population. As online platforms might result in homogenous culture, ethnicity, and age, any unexpectedly emerged validity threat is crucial to be reported. Yet, the premise for many snowball methods is questioned, as seeds are assumed to have an initial awareness of their snowball networks, while oftentimes, they select new recruits based on their judgement of being willing and cooperative contributors.

3. Theoretical Framework

Developing a theoretical basis for snowball sampling studies requires examining ethical and cultural factors affecting participation, focusing on research ethics and cultural studies. These areas intersect through discussions of informed consent and interpretive frameworks. Culture should be viewed broadly, encompassing shared meanings, practices, and belief systems that influence ethical participation in studies. Understanding how ethical issues vary culturally is essential, and context plays a significant role in participation.

The interplay between ethics and culture is operationalized by assessing different ethics models along a continuum from rule-based to virtue-based perspectives. Culture is viewed as a set of characteristics that distinguish groups, incorporating risks, privacy, security, and trustworthiness. Engagement with survey data on these influences is crucial for testing and validating the framework.

The ethical dimension is explored through three models, referencing two scholars from different disciplines. The first model, a systemic approach from philosophy and law, incorporates principles of respect,

justice, and beneficence, emphasizing procedural safeguards like informed consent. The second, a virtue-based view from social psychology, focuses on the researcher's character. This approach highlights qualities like empathy, trustworthiness, and self-reflection, addressing the complexity of ethical issues. Ultimately, this interactive model aims to provide self-reflective tools for researchers to promote ethically responsible and humanized research practices. (Parker et al., 2019)

3.1. Ethical Considerations

All research with human participants requires ethical review. In the UK, protocols are reviewed by ethics committees or institutional review boards. Participants must be informed of study aims, data collection, their right to withdraw, and assured of confidentiality. Anonymity and confidentiality involve secure data storage. Sensitive data must be protected from unauthorized access, and researchers consider this while developing protocols. In snowball sampling studies, initial contacts are informed of the study aims, expected interviews, and analysis methods. Additional protective steps are needed for hard-to-reach groups and their facilitators. When researching specific communities or migrants, consultation with gatekeepers is often required, and they may seek advance notice and recording permissions. Participants recruited through gatekeepers may feel pressured to comply, even if experiencing emotional distress. (Tezcan-Güntekin et al., 2021; MR Sulaiman-Hill & C Thompson, 2011)

The advocacy research focused on hard-to-reach groups, particularly families caring for older adults with dementia who were migrant workers. Building trust among diverse individuals from various countries, languages, and dialects presents a complex research area. Ethical concerns arise regarding participants' sense of obligation to the researcher due to shared community ties and cultural understanding, contrasted with the researcher's otherness as a member of the majority society.

3.2. Cultural Contexts

In all interviews, the researchers made note of the need to balance curiosity with caution, seeking to avoid being over-inquisitive. It seemed to be important to each researcher to give a reasonable impression of interest, as people readily warmed to them, but this was counterbalanced by the need to avoid overwhelming, particularly sensitive and complex stories. Each researcher sought to establish a balance by being cautious in the questions they posed and the way they phrased them, and to focus on listening rather than talking. This balance between curiosity and caution was highlighted by (MR Sulaiman-Hill & C Thompson, 2011) in a study about refugee experiences in Australia illustrating the complexity and richness of narratives, and how interviews could easily become hurried, overwhelming and uncoordinated. However, within that study the use of personal connections and local practices were seen as critical to obtaining sufficient richness of data to conceptualize these narratives better. In many cases, it seemed to take participation in multiple information sessions for potential participants to feel safe enough to attend a first interview. On the other side of this need for caution, there was a fine boundary to negotiate between being approachable and friendly yet remaining professional. The experiences and narratives shared to establish that personal connection were often profound and very different to the interview questions, involving family searching for missing people, coordinating unexpected arrivals in unexpected places, managing multiple family members with conflicting risks and navigating overwhelming emotions. Others commented that personalizing connections was needed to validate their interest in taking part in the study. Others highlighted the difficulties of maintaining a professional distance in the face of ongoing stories about family separation and loss. Snowball sampling provided the initial introduction, but it was the interpersonal connection as researchers that appeared to make the most significant difference.

4. Ethical Factors in Snowball Sampling

Ethics in snowball sampling is as multi-faceted a subject as the processes underpinning participation. In search of ethical dilemmas endemic to snowball sampling, insights into the ethics of snowball sampling were provided. Gender influences in social science, especially the ethics of research, were addressed by scholars from disciplines as varied as sociology and educational management.

An ethics checklist covering gatekeepers, procedures, intermediaries, and areas of concern was highlighted. Indirectly, snowball sampling was mentioned by emphasizing reliance on intermediaries, despite this practical approach being weighed against ethical conduct. Of a large corpus of materials focusing on ethics in social research and qualitative requests, there were no instructions specific to snowball sampling processes. There are references to ethics in snowball sampling within studies not exclusive to sampling methods. In reference to this form of participant recruitment, and more broadly in relation to ethics in qualitative research,

research outputs and courses were recommended. In spite of an over-reliance on gatekeepers being highlighted, these authors acknowledged the practical necessity of receiving assistance from intermediaries.

Snowball sampling extends both the benefit of access to the research setting and potential pitfalls of gaining entry or occupying a particular cultural space. Mass media coverage surrounding a tragedy is referenced to highlight the effective snowballing of responses of concern, but the resultant handling of direction and momentum raise ethics-based dilemmas. In the discourse on this ethnographic investigation into the lifesaver peers and lifeguarding culture, there is no indication of how participants would be recruited to take part in the study. A suggestion that relational ethics would make it untenable to assume that participants automatically hold primary responsibility for this participant-researcher relationship is made. For in-depth analysis through cultural studies of the constraints impinging on peer projects, it is essential that authoritative and legitimate research grants to conduct such an ethnography outside of the swimming venue be obtained first.

4.1. Informed Consent

Research ethics and their application to snowball sampling were addressed. Suggestions for special considerations for those using snowball sampling to recruit cohorts of key populations were provided, and original data regarding ethics of snowball sampling in Eastern Africa were presented. Although not exhaustive, several issues were raised that have been of concern to others conducting research through snowball sampling and that warrant discussion within the wider research community. When planning research, consideration of ethical factors and local cultural norms for participation, support, and compensation can contribute to the successful conduct of studies.

Snowball sampling has been used to recruit cohorts of key populations, often as part of the response to the HIV epidemic. Snowball sampling is nonprobabilistic—each respondent who participates is asked to solicit individuals from their personal social networks to join. By tracking the authorized participant type, the approached individuals are embedded in the sampling process necessary for local health authorities.

Because snowball sampling relies on an individual's social network, it is often chosen when there is no preexisting registration or population-based sampling frame. Networks can be contacted individually or clusters—a group that the individual is a part of—can be recruited. The former option is illustrated by interpreting eligibility according to membership in a recurrent venue. The latter option requires meeting as a group, wherein an individual or a peer leader may be approached first; they will then be asked to request attendance of clusters. With this option, demand for participation may exceed researcher recruitment ability, thus indirect recruitment strategies may increase involvement. For example, posters can be placed inviting clusters to request a recruitment meeting. Other indirect targeting strategies include door-to-door and cold-calling in a recurrent venue.

Translating key sampling techniques and materials to the local context is also important. This may involve changes in participant recruitment or adjustment of questionnaires to include coffee/food/snacks. Of consideration too is the addition of more culturally appropriate recruitment materials to engage the target audience, and recruitment through clusters of respondents to maximize reach, especially among hard-to-reach groups.

4.2. Confidentiality Issues

The challenge is to securely manage the information collected during the snowball sampling process while respecting participants' integrity, in line with GDPR. Participants were informed about their data collection and choices, with signed consent forms verifying ethical management. No data on non-participants were collected, and no fictive names were assigned to invited participants. Invitations were sent through personal emails and Facebook to reduce the risk of exposure to others involved in the process. After invitations, contacts between participants were minimized to prevent leaks. If a participant unintentionally contacted someone for participation, they were instructed to remove any previously authorized contacts to limit connections. It was essential to maintain transparency about how integrity data is collected, processed, and stored, addressing any questions to reassure participants regarding the safety of their data.

However it is valuable in snowball sampling studies to collect information about the population from which the sample is drawn, alternatively the characteristics of a sample may be examined. In this case, non-participating individuals with fictive names representative of recruited participants would be forwarded to analyzing unexpected data. Having fictive names would allow automatic distribution of email invitations addressed to everyone in the recruited participants' network. To minimize the risk that others would view non-participating emails, e-invitations would only go through unmonitored channels, e.g. after screening a random pool of individuals. It may be questionable whether it is ethical to collect this information to better understand the participants' social context.

4.3. Power Dynamics

Our analysis indicates that power dynamics, particularly gender dynamics, significantly impact LGBTQ participation in snowball sampling studies in Uganda. Respondents recognized power dynamics as a cultural norm shaping relationships in Ugandan society, often leading to unequal power distributions between privileged and marginalized individuals. For instance, a gay man expressed caution in interactions with heterosexuals due to social, economic, and physical threats, although some found acceptance outside government and faith-based organizations. Others resorted to drastic measures, such as one transgender woman who underwent chemical castration to protect her identity as an HIV positive individual. Trans women faced heightened vulnerability, often in situations where their bodily agency was compromised, increasing their HIV risks. Vulnerable environments, like nightclubs and social media, were also sites where violence occurred unchecked. Conversely, respondents highlighted how power could be redirected to affirm LGBTQ identities and resilience, challenging norms that devalue them. An advocate described how her work in education maintained a focus on queer experiences, keeping the narrative of suffering central to her advocacy. These insights provide nuanced considerations of power's role in the ethical cultural factors influencing participation in snowball sampling studies.

5. Cultural Factors in Snowball Sampling

Cultural factors heavily influence initial contact and research site selection. Networks vary by culture; for instance, personal connections to street artists are prominent in urban China and the Philippines, facilitating engagement in tourist districts with designated booths. In China, limited venue capacity often restricts group sizes, while in Batanes and Palawan, outreach depends on local ethnographers. Japan relies on established social contacts in suburbs for entry into various institutions. Personal connections also shape evidence sharing. Globalization acts as a double-edged sword, fueling public interest through media yet increasing surveillance. Observational data reflect similarities in artistic expressions but require caution to avoid imitation, traditionally conveyed through verbal methods. Language and cultural barriers complicate artist connections. Diverse networks may reduce selectivity but broaden adherence to rules. In Japan, codes of disclosure can halt or limit information flow due to language differences. For self-directed public disclosures, these codes might weaken, allowing for broader evidence sharing that risks quality as seen in rapidly generated online data. (Parker et al., 2019)

5.1. Cultural Sensitivity

Cultural sensitivity refers to the ability to be aware of and accept cultural differences, as well as to understand the cultural contexts of communities, particularly in research (ML Kwan et al., 2011). In many cases, it can be difficult to prepare for cultural sensitivity in research because of the barriers between researchers and participants. For example, researchers and participants may speak different dialects, hold different worldviews, and experience different gender dynamics. One solution is adapting sampling methods so that community members can work with researchers, which can help bridge cultural gaps (MR Sulaiman-Hill & C Thompson, 2011). Still, challenges can persist in bridging cultural gaps without warmth and rapport. Even with a diverse research group, participants with particular traits may be reluctant to participate or engage, and without prior relationships, participants may not understand researchers' motivations for conducting research. Therefore, researchers must be aware of participants' norms, beliefs, and communication styles to develop cultural sensitivity. Given this need, participants' perspectives and attitudes are examined via phone interviews and group interviews.

Sensitive issues such as skin color and educational expectations can be major obstacles inhibiting active participation in migrant research. Immigrants are often wary of casting themselves in a poor light, and many may fear being singled out as representatives for their communities in research or as residents in follow-up contact. Attitudinal reluctance often hinges on narrowly defined definitions of researcher types, as well as on rules of politeness, which emphasize respect and reserve when meeting new peoples—especially those in authority positions. On the other hand, emerging trust, liking, and common group identification facilitated receptivity and candidness. Nonetheless, participants' definitions of researchers' roles are often unclear and can be complicated by the inconvenience and anxiety of time-limited interviews when they mistakenly recognized researchers as social service assessors and interviewers. To enhance receptivity and candidness, researchers apply warm, friendly gestures in their greetings while framing identity cues to ease potential polarization.

5.2. Community Trust

Several studies detail how a lack of trust in study sponsors leads to community mistrust and/or individual hesitancy about participation (Thabethe et al., 2018). Community members mistrust sponsors when they perceive inequities in the global distribution of the anticipated benefits of to-be-approved products, such as vaccines. The state and its political actors, including the Department of Health, are widely mistrusted, which fuels community mistrust in vaccine trials funded or conducted in conjunction with these organizations. Individuals mistrust foreign sponsors in high-prevalence areas free of the diseases and billions in potential revenue. Others mistrust sponsors because of fears of exploitation for profit.

Trust is related to community members' concerns about the types of treatments proposed, i.e., fears that products are unsafe and/or will cause death or illness. Community members reported being wary of experimental vaccines. Concerns about vaccine safety were linked to mistrust of study sponsors and historical abuses, i.e., fears of a repeat of the Tuskegee syphilis study.

In HIV vaccine trials, some participants believed researchers intentionally prevented safe/approved products from reaching the market. Conversely, community members expressed robust and nuanced trust in sponsors who were high-profile, provided community information/engagement access, and included long-standing partners with established records of careful work, investment, and engagement. Relatedly, studies found that the trustworthiness of information importantly influenced which info sources were used on HIV/health topics and on vaccine trials. Most candidates studied would trust the information of sponsors, local sites, and affiliated health activists; some would trust the information of trial participants.

5.3. Social Norms and Values

Participating in qualitative research is shaped by individuals' beliefs and values about the social roles that they and the researchers play in those settings. Accordingly, social roles provide a framework for the expectations and behavior of participants, researchers, and their relationships (Simone Minott, 2016). This study investigates the social norms and values influencing participation in snowball sampling studies of hard-to-reach populations. Social norms are understood as "rules or expectations that are socially enforced" (Nagel Bernstein, 1978). Using a broader framework of social norms includes values: "broad, basis assessments about what is good or bad," beliefs: "descriptive rules with which individuals can engage in an act", and attitudes: "well-formed beliefs".

Three eight-cornered matrices were developed to classify snowballing behavior based on literature-derived criteria: evaluation of norms, social group opinion, generality level, and criterion accessibility. Eight distinct quadrants representing different facets of snowballing behavior were identified, showcasing structured clusters of ideas. Publicly attributing norms and a personal negative stance toward snowballing positively influenced decisions regarding social norms and indirect effects on participation. Overall, factors such as social roles, power imbalances, cultural values, and negative evaluations drive decisions to decline participation or withdraw from qualitative research. Each issue is further explored below.

The specific social roles and corresponding expectations of different types of participants shapes (1) the quality of data and engagement in research, both at the level of general social roles and in the behavior of individual participant types, and (2) the type of data collected in research studies, in terms of heteronormative, heterogendered, and heteroracial understandings of sexual and racial identity. Responses to sexual identity at the level of general group membership shape the range of data about that identity in research. For example, groups providing qualitative data to researchers were normalized as "a sandbox where knowledge is shared among the older community members excused from public scrutiny".

6. Impact of Ethical Factors on Participation

Several ethical factors were discussed as influencing the decision to participate in research. SES and Indigenous cultural considerations were described as affecting potential participants' level of engagement in research generally, and also snowball recruitment. Motivation beyond the altruism was viewed as more common among Indigenous peoples, who were perceived to have a higher "need" than non-Indigenous peoples for the benefits of participation, and lower levels of access to resources and opportunities to participate (Guillemin et al., 2016). Concerns about potential secondary analysis were reported to lead to heightened caution about broader participation among some Indigenous people. Concerns about information being potentially misused, and about disruptions to community cohesion arising from participation, were raised in respect of prospective participation in general, and snowball recruitment specifically, by Participants in studies examining health issues of salience to Indigenous communities.

The participant-population relationship is crucial for assessing knowledge and consent methods. Some argue that Indigenous peoples' ability to give informed consent is weaker than that of non-Indigenous peoples, suggesting they require more education about research. This has led to varying perspectives on agency; many Indigenous communities prioritize group decisions over individual consent, conflicting with Western notions of individuality. Such perspectives can foster negative traits like greed, creating obstacles to informed consent and participation in snowball sampling studies. Concerns about researcher control further criticize snowball sampling, raising issues related to participation policing. Discussions on mobility data raised fears for research's future and its impact on community cohesion. Misrepresentation worries could deter potential participants and hinder future engagement. The prior neglect of participation contributed to negative perceptions of health research among key informants, particularly affecting Indigenous peoples, especially in smoking studies, and raising integrity concerns regarding their involvement.

6.1. Participant Willingness

Snowball sampling aids recruitment through existing networks, but may also hinder it. Self-selection bias can arise if the recruited group differs from the intended population. Connections to inner circles may prepare participants for the study's norms and behaviors, increasing their likelihood of engagement. However, those in outer circles may be reluctant to participate due to lack of exposure. Potential participants unfamiliar with the subject may fear engagement or be hesitant. Participants' prior knowledge and acceptance of the study's topic significantly affect their willingness to engage. Understanding the inquiry's rationale is crucial for meaningful participation. Familiarity may lower resistance, while a lack of exposure can lead to reluctance. (Williams et al., 2007)

More than familiarity may be needed for openness; acceptance of philosophers' premises and confirmation biases can create readiness. Conversely, mere exposure may lead to refusal. Previous contrarian research, ingrained philosophical biases, and involvement with conflicting traditions can intensify unwillingness. The relevance of philosophers and their inquiry style can influence motivation; those with sceptical views may deter engagement. Discomfort with different methodologies and philosophical disagreements can also hinder participation. Some philosophers might lack the requisite confidence to propose metatheoretical ideas or may avoid deep philosophical questions as exploratory or vague. Inaccessibility and perceived irrelevance can further limit willingness, alongside differing methodological biases. (Matandika et al., 2021)

6.2. Trust in Researchers

Previous research suggests that trust in researchers contributes to willingness to participate in medical, health-related and social science research (R. Thornton et al., 2016). Nevertheless, the way this factor affects willingness to participate in studies that use snowball sampling is under-explored. Respondents were presented several questions regarding trust in researchers and invited to provide their own comments on this factor. Generally, respondents viewed this factor as paramount to willingness to participate in snowball sampling studies. They expressed distinct notions of trust in researchers. Some understood trust as a uni-dimensional concept that entails low suspicion or worry about researchers' conduct. Others defined trust in a more complex fashion, including considerations about researcher involvement and skills. This distinction appeared to prompt different modes of responses to questions about trust in researchers. Both notions are discussed in turn.

Respondents who conceptualized trust in researchers as low suspicion towards their conduct overwhelmingly expressed their willingness to participate in studies they did not suspect would bring them harm, humiliation, and monetary loss (Abadie et al., 2018). All other general responses concerned trust in researchers. Some were solicited by specific questions about researcher conduct. Others were offered when respondents were asked to elaborate their willingness to participate in studies they perceived as vicious or dangerous. More generally, it appears that when thinking about willingness to participate in snowball sampling studies, all respondents first considered and preliminarily evaluated suspicion. Only when they felt that at least some of their suspicion was addressed did they consider research purpose, appropriateness of sampling method, respondent network and so forth.

7. Impact of Cultural Factors on Participation

The snowball sampling methodology is significantly influenced by cultural factors affecting participation. It's crucial to understand that snowball sampling varies across cultures. Researchers recruited 101 refugees via an Australian snowball sampler, who was a Burmese refugee resettled in Australia. Discussions with other researchers highlighted cultural matters impacting snowball sampling. Each study has

used snowball methods successfully, reflecting cultural differences among refugee groups, efforts to understand these factors, and the researchers' intercultural sensitivity. Additional considerations for conducting research with hard-to-reach populations are also discussed. (MR Sulaiman-Hill & C Thompson, 2011)

Snowball sampling, while beneficial, is significantly influenced by cultural factors impacting participation. It's important to assess this methodology within its cultural context, reiterating its strengths and limitations. This sampling technique is valuable for reaching hard-to-access populations, allowing vulnerable groups to be "authentically represented" in qualitative research. It highlights marginalized voices and explores the unique challenges of settlement. The method aims to reduce concerns regarding subjectivity and representation, yet it must adapt to the social order and context, maintaining flexibility to ensure anonymity throughout the sampling and data collection process.

7.1. Cultural Barriers

Barriers stemming from socioeconomic status and culture may significantly hinder participation in projects. Refugees from culturally unique backgrounds, placed in homogenous countries, often see themselves as victims rather than part of a diverse society. Their participation may be limited, influenced by practical reasons and stricter cultural barriers, such as reluctance to engage with locals or discussing their home country. These participants will face culturally sensitive barriers, suggesting that lessons learned may require careful consideration of cultural context. In sensitive data gathering, snowball sampling may reveal that a Syrian participant is less inclined to discuss their issues with a Dutch citizen compared to a Pakistani citizen with similar migration experiences. Investigating the impact of cultural backgrounds on participation through observational studies can provide insights into who engages and answers truthfully. Including these cultural factors can enhance the effectiveness of sampling, allowing for improved algorithms that better select participants, thus leading to more generalizable and comparable results. (MR Sulaiman-Hill & C Thompson, 2011).

7.2. Role of Community Leaders

Research within a cultural community can highlight strengths, weaknesses, and needs, providing benefits to both participants and researchers. Previous findings can elevate researchers' esteem, while research on sensitive issues carries risks if cultural respect and confidentiality aren't upheld. Preparing the community is essential for identifying culturally sensitive access strategies, like timing, cultural relevance, snowball sampling, and engaging community leaders. Access strategies may require patience, and initial leaders must be selected carefully to avoid negative perceptions rooted in distrust. Initial contacts should be respected community figures. Snowball sampling allows early participants to connect researchers with future contacts, emphasizing the importance of trust. Identifying public advocates is crucial to properly introduce research purposes and adhere to community norms. A culturally sensitive approach for recruiting leaders fosters mutual trust, ensuring they understand research intentions and affirm the findings will honor their culture. (L. Clark & Missal, 2019).

8. Case Studies

Refinements to processes are explored in regards to recruitment of daughter-generations of Vietnamese 'boat-people' who sought asylum in Australia in the 1970s; Arab and Macedonian Muslim women who fled Bosnia in the 1990s; Burundian Hutu women who were orphaned in refugee camps in Tanzania; and Karen and Burmese women from asylum-seeker backgrounds. In each case, ethical and cultural factors influenced decision-making for snowball recruitment. This article examines those factors, careful to balance openness with the need for confidentiality and respect for privacy.

The sampling process for the Refugee Women's Narratives project involved discussions with community leaders, phone calls, and focus groups. Recommendations addressed ethical, cultural, linguistic, and logistical factors. Ethically, participant nominations had to protect agencies and ensure women's welfare. It was stressed that participants should not be endangered by their involvement. Culturally, analysts advised that nominating organizations be responsible and culturally aware. This guidance shaped early developmental stages and influenced agency partnerships. Linguistically, it was crucial for all, especially interviewees, to understand processes and policies, ensuring appropriateness across communities. Logistics required that discussions prioritized safety, with careful management of privacy, confidentiality, and individual participation choices. (MR Sulaiman-Hill & C Thompson, 2011)

The Cultural Interviews with Nurturing Organisation project's sampling processes were earlier comprised of letters, emails and phone calls to prominent agencies, organisations and individuals in multicultural Victoria, community forums, focus groups, and then focus interviews. The number of agencies from which nominations were sought quickly mushroomed to over a hundred, reflecting the complacency and optimism of an earlier, more confident time. Many were unsuited for recruitment.

8.1. Case Study 1: Urban Community

This case study examines trust and ethical issues encountered during a snowball sampling study of newly arrived refugees and other migrants in an urban area. Initial observations highlighted that the study site housed a significant population of recently arrived refugees clustered together, supported by strong local social networks. It was believed that these support groups would be ideal for reaching the target population. Access was sought to regularly meeting groups, where broad introductions were made prior to detailing the study, allowing potential participants to understand the approach before recruiting key individuals. Several close contacts were established, but differences in perspectives within groups emerged, particularly regarding those new to Australia. (MR Sulaiman-Hill & C Thompson, 2011)

It was also apparent that many members of the target population were concerned about issues of ethics and privacy. Despite the research being designed to take confidentiality very seriously using a number of strategies to create a buffer between participants and the broader research team, one participant expressed very vehement concern that she did not want her name remaining in the final report. It seems necessary to assume that she was concerned that interviews would be leaked and she would be embarrassed or exposed publicly in some way. Initially, negative experiences talking with people in the ethnic communities shared by a couple of other ethnic women arguably boiled down to similar concerns. That is, a couple of participants later mentioned that they would not participate because they had distrust for wider audit and government accountability concerns.

8.2. Case Study 2: Rural Setting

This study was conducted in a rural, low community with an interviewer (S1) known locally. Data were collected on researcher characteristics, types of contact, referrals, ability to participate, and participation outcomes. Both interviews recorded researcher characteristics and prior contact, with participant contact made via telephone or face-to-face. The researcher documented if referrals accepted or rejected participation and their reasons. After ethics clearance, six key informant interviewers were recruited. Interviewer 1 (S1), a middle-aged Arabic woman speaking without an accent, was familiar to the community. Additional interviewers with Arabic or Middle Eastern backgrounds and research experience were also recruited, including Interviewer 2 (S2), a young fluent English speaker with a Middle Eastern background. A total of six interviews informed the research protocol and recruitment strategy.

The notes taken by the researcher follow both the pre-given and a narrative approach to the text. Characteristics were explored in relation to data collection processes and research questions. Case records were taken and information was noted about the interviewers, their responses to participation, and the recruitment outcomes. The notes were written descriptively rather than analytically. To better integrate different aspects of the research process, the notes were then elaborated on as ethical reflections on ways in which S1's position as a referee and researcher interacted and entangled in a rural setting, and as a narrative-track focusing on a central incident where referral circumstances shifted in a wary direction (MR Sulaiman-Hill & C Thompson, 2011).

8.3. Case Study 3: Marginalized Groups

This describes the practicalities of working with marginalized groups, focusing on access. A New Zealand resettlement case study involved social services workers providing contacts in the refugee community. Thirty-five in-depth interviews with staff from various sectors in Christchurch highlighted access issues that echoed those in a local refugee resettlement study. Despite cultural familiarity, challenges arose. The decision to conduct interviews in respondents' languages aimed to ensure confidentiality and rapport, though transcription and translation difficulties warrant reconsideration, as might the face-to-face format. Engaging community gatekeepers involved expressing genuine interest from both researchers and participant groups. This approach, along with training for gatekeepers, fostered real engagement and illuminated previously overlooked topics, like access. The reflexivity of researcher-co-consultants regarding ethnicity and immigration status proved critical. Systematic involvement of co-researchers in study proposals for feedback could enhance the research process, although cultural fit remains a concern. While ethical considerations may have complicated some studies, they enriched findings with detailed descriptions often lacking elsewhere. (MR Sulaiman-Hill & C Thompson, 2011)

9. Methodological Challenges

The study identified various methodological challenges and barriers to participation. These are described below and are grouped into three distinct themes: (a) language barriers, (b) being put-off by the nature of the study, and (c) time and cognition. Each theme is followed by illustrative participant quotes, coded for gender

(F=Female; M=Male). Victim/survivor quotes are cited in full, while researcher quotes are italicised, with 'researcher' denoting a male researcher and 'researcher V' denoting a female researcher. To enhance confidentiality, all identifying information has been removed. It was noted that only Arabic-speaking participant quotes are included below, as this is representative of the larger group. Quotes from other language speakers are only cited where it was necessary to alter the words due to their sensitive nature, and the Arabic was retained in the reference.

Language Barriers "For me. Enough. I'm nervous." "Me no speak English." (M, 19) "How many years in Australia?" "Then no participation. Brave." (M, 20)

Language barriers were reported by both victims/survivors and researchers. Many victims/survivors could not speak English well enough to participate, which they indicated through typically Arabic responses that they were "nervous" about their English skills. For those with limited English exposure, questions were often skipped, explaining why levels of education were only provided by some victims/survivors. "How many years in Australia?" was one such question that often lacked a response among those who arrived in Australia less than three years ago. However, even with some conversational English, the complexity and nature of the study could still be intimidating. Referring to the nature of the study concerning memories of abuse, one victim/survivor offered, "Then no participation. Brave." Researchers also reported feeling uncomfortable with both the content and language used in coding. Questions were at times reworded into more straightforward language or asked in a different order to achieve a clearer understanding, meaning researchers were unable to code exactly what was asked.

Participation Anxiety "This not easy question." "How partake study?" (M, 19) "I feel bad more." "Please no more questions." (F, 30)

Victims/survivors reluctant to participate often inquired about the researcher's role in recruitment and how the study was brought to their attention. While many reported they were currently content, they found the intimate nature of the questions distressing. Most Arabic respondents cited one word meaning "bad" as their reason for withdrawing, indicating sensitivity about the topic. Researchers expressed concern over the emotional impact on participants, with a consensus that questions about health and social support at the interview's end could be re-traumatizing. Additionally, over half of the Arabic interviews were discontinued midway due to the discomfort with the language, yet these interviews still provided valuable insights before the questioning became too challenging.

9.1. Recruitment Difficulties

Obtaining samples from hard-to-reach groups poses challenges for researchers with limited networks. Research involving marginalized subpopulations often faces recruitment difficulties. For known small populations, convenience sampling through focus groups or key informants may suffice for easier access. However, less known or stigmatized groups present greater challenges. Financial incentives, like referral fees or lottery-style draws, can encourage participation but raise ethical concerns. Thus, various techniques and ethical considerations become crucial in study design as snowball sampling evolves. (MR Sulaiman-Hill & C Thompson, 2011)

Participation in qualitative research must prioritize anonymity and confidentiality. Ethical consent methods are crucial to avoid unintentional recruitment of interested individuals. Market research firms keep lists of potential participants. Once consent is obtained, discussions can reveal access issues to health services for the target group. Challenges include engaging diverse cultural sub-groups, addressing sensitive topics, and overcoming language barriers. Ongoing engagement benefits from chat rooms and insights from key informants. Focus groups can mitigate individual trauma and foster consensus, although researchers' absence may heighten cultural distrust. Ethical issues around participant behavior and cross-group interactions were noted. Effective recruitment was achieved through snowball sampling and utilizing key informants' networks. Trust-building through community ethnography proved essential, enhancing peer interactions and fostering independence.

9.2. Data Reliability Issues

Potential biases in data leading to difficulties in data interpretation have been identified as problems across many qualitative studies as a possible limitation factor in assessing the value of the data. Establishing to what degree networks were followed down the chain to the limit of data collection is critical to understanding participant representation (MR Sulaiman-Hill & C Thompson, 2011). Additional problems arise when some participants provide links to other participants then later provide contact details that are impossible to follow even in cases where a network is found to be broken one or more links from the originally suggested individual.

Insufficient information limits assessment of participant value in data production. A guaranteed 'back-translation' strategy is needed to assure interpreters about data validity. As recruitment was institutional, checking back with participants wasn't necessary, as they were university representatives acting on official business. Although back-translation was needed, using official varsity interpreters provided some data validity assurance. All input was recorded for scrutiny of validity, including English transcription, readability assessment, and suggested corrections affecting data meaning. Despite discussions between the inputter and researcher, the English translation remained vague and obscured.

10. Best Practices for Ethical Snowball Sampling

Researchers adopting a snowball sampling methodology should keep in mind key best practices when planning and conducting their research. This section outlines five salient best practices, each accompanied by relevant descriptive recommendations derived from the relevant literature on snowball sampling as well as general qualitative methodology. These best practices include: (1) conduct rigorous and early planning, (2) actively recruit and follow up with primary seed participants, (3) consider diverse and/or overlapping social ties among secondary participants, (4) cultivate relationships of mutuality and trust with participants, and (5) reflect on the participant recruitment process throughout the research (Parker et al., 2019).

To ensure snowball sampling is appropriate, researchers must take several important steps. Planning goes beyond simply reviewing literature; it requires obtaining trusted personnel's assistance for participant recruitment. If this isn't viable, building trust through careful research practices is essential. Steps should guarantee participants equal opportunities to connect with snowballed respondents, and interviews should occur prior to recruitment encouragement. Researchers must consider active recruitment alongside snowball sampling and decide on participant numbers, whether to recruit many at once or one at a time. Ethical considerations are crucial in deciding on remuneration and communication with participants in qualitative research. Balancing participant expectations with research progression and creating confidentiality frameworks can alleviate concerns about safety and anonymity, particularly with vulnerable groups. Snowball sampling commonly applies to sensitive topics, so starting interviews by ensuring the researcher's anonymity is crucial before discussing sensitive issues. Reassuring participants that their identities remain confidential is vital for fostering open dialogue.

10.1. Building Rapport with Participants

William R. Miller highlighted the need to establish rapport with participants using verbal and non-verbal cues. The interviewer's warm approach fostered a comfortable environment for discussing sensitive topics. Humor helped to lighten the mood, often through discussions on serious issues and daily life. African facial expressions were subtler than those in America. Culturally relevant prompts enhanced narratives, like inquiries about initial experiences. Verbal prompts such as “Could you tell me more?” encouraged deeper sharing. In East African cultures, paralinguistic techniques were vital for retelling traumatic events through emotionally resonant repetition, while non-verbal techniques played a key role in sharing sensitive emotions. (Bekteshi et al., 2024).

Talk timing prompt pauses were more than preparation to respond, with silence carrying scientific functions. African cultural ascription to silence varied from that in the U.S., with silence signifying the interviewer’s acknowledgment of the difficulty of narratives. Comments such as “I understand this may be hard to talk about” were used as patience prompts to further elicit re-telling of traumatic events. Culturally incongruent verbal or non-verbal interventions that were perceived to be disrespectful risked losing an opportunity to gain rapport. Rapport and trust issues could hinder communication accuracy. Use of evasive techniques, especially laughing, offered the participant time to homogenize and prepare an answer to questions posed (MR Sulaiman-Hill & C Thompson, 2011).

Feelings outside the case that you want brought to participate were inferred through gestures and postures. Participant diagnostic tool data that were more actively discussed from the recruitment process could also prompt retelling of culturally sensitive issues by word choice. A culturally congruent assumption that willingness to talk might be a concern was used, with broad open-ended questions on general topics, progressively narrowing to sensitive topics. The use of conversational continuity and sequential minimal gap of pauses generated the same level of participation eagerness and trust with “naturally inquisitive” questions.

10.2. Ensuring Ethical Compliance

Ethics are crucial rules of behavior that embody moral principles, and sampling strategies come with distinct ethical implications. Researchers need to appreciate that reaching out to software developers incurs costs, even if they choose not to participate. Ethical principles are vital for studies using email invitations, as such invitations might be mistaken for spam, threatening sample integrity. While email enables access to hard-to-reach participants, it raises ethical issues for both sides. Contacts initiated by investigators can expose power imbalances and risks of exploitation. The origin and community context of contacted individuals influence their engagement and responses, directly affecting data quality in participatory sampling methods. Ethical considerations become essential in snowball sampling and studying hard-to-reach populations to minimize bias. Additionally, utilizing multiple initiation points can significantly reduce selection bias in participant identification. (Baltes & Diehl, 2017)(MR Sulaiman-Hill & C Thompson, 2011)

11. Future Directions in Research

Future research on unethical research practices and cultures of silence should consider this study's findings and limitations. Most participants discussed ethical versus unethical behavior, primarily in hypothetical terms, while specific unethical incidents were detailed. There were mentions of efforts to address these issues and implement sanctions, but the impact of these actions remains uncertain. Gathering data on measures taken against unethical practices and their deterrent effects could be beneficial. Assessing reactivity from individuals discussing unethical practices would help evaluate the effectiveness of sanctions combined with ethics training. It's also crucial to gather information on the consequences of unethical behavior, particularly regarding the integration of new members into research teams. Inviting attendees from diverse research conferences and countries could yield valuable insights and clarify behavioral and belief differences.

It would also be valuable to contrast experiences across different academic units and institutional types, leveraging a range of research practices to assess the nature of ethical and unethical behavior. Research teams with fewer structural supports could be examined to see if these barriers foster trust-building or if they instead yield guards against learning opportunities. Creating opportunities for field-based studies to contrast informal ethics procedure between teams suddenly affected by a clear breach in discipline would be illuminating for understanding how ethics practices manifest in real-time instead of retrospectively. (Parker et al., 2019).

11.1. Innovative Sampling Techniques

The increased visibility and use of qualitative research and publications from 2000 to 2010 is both appreciable and surprising. Appreciation comes from a regard for skillful qualitative research because it manages the difficult, unpredictable task of capturing and interpreting the meaningful complexity of human behavior. Surprising because in the contemporary research environment publicity about a greater demand for systematic methods, expertise in quantitative methods, and/or distrust of the validity or worthiness of qualitative methods grows. Multiplicity in qualitative research and publication presage difficulties in maintaining quality, a strong sense of identity, and permeability. Outpourings of work on public spheres and ethics signal research accessibility and responsibility but may raise the bar to entry (Parker et al., 2019).

Despite perceptions of qualitative research as less relevant than quantitative methods for cultural practices and human behaviors, its power is significant. Qualitative inquiry gives voice to those often ignored or misrepresented. Its strengths include capturing the complexity of human experiences, understanding orally transmitted cultural practices, illuminating the lives of marginalized communities, analyzing power through seemingly benign behaviors, interpreting agency from historical records, and constructing human symbology. However, qualitative research faces real and perceived difficulties, particularly regarding its 'scientific authority,' which is tied to methods. The tendency to prioritize research pragmatism has shifted focus from ethical considerations to the evaluation of specific methods in qualitative inquiry.

11.2. Integrating Technology in Sampling

The quality of research design is affected by sampling methods, particularly when adapted for social networking sites. Recruitment targeted late adolescents nearing school completion, creating a snowball sample through social media. Ethical issues can be managed online; however, disembodied identities pose challenges. Merging social networking with ethnic identity aids in informant location for quantitative studies, indicating geography's role in qualitative designs. Evaluating samples from social media against literature on late adolescents' residential experiences highlights important considerations. This approach offers potential for successful snowball sampling within social networks, complementing traditional sociological methods. Similarities and differences across geographic and cultural domains must be noted. Sampling dancers for social network analysis suggests that performance venue information might be sourced from public profiles, though its integration into sample creation is uncertain. Posts may indicate a dancer's last performance, raising

concerns about the adequacy of samples starting with one known dancer. While cultural similarities exist, challenges in social science sampling remain. The recruitment could yield valuable data on dancers' styles, geographies, and performances, enhancing the study focus. Two snowball sampling approaches were used: a non-text method for venue geography and text-based techniques for offline recruitment, with existing maps aiding in venue identification, followed by text-driven snowballing for informant descriptions. Both aimed to expand sampling.

12. Conclusions

This article examined some of the ethical and cultural factors influencing the uptake of a snowball sampling method in planning a study on the well-being of young refugee and migrant adolescents and their families in New Zealand. A single group discussion with researchers from several social science disciplines explored the ethical trees, i.e., the ethical dimensions of the snowball sampling method, involved in linking young refugees and migrants with their families and professional networks through schools and community groups. Several issues emerged as ethical concerns in the context of this research: confidentiality, hierarchy, right of access, liability, and ownership. Their salience was considered in relation to six cultural factors: levels of individual agency, responsibility, and autonomy; communicative norms; literacy; mechanisms of trust; levels of formality; and cultural constructions of research (MR Sulaiman-Hill & C Thompson, 2011).

Research with the new waves of refugees carries many ethical and cultural challenges. Whereas much of the literature focuses on diaspora or transnational connections in the context of major resettlement countries, this study underscores how conducting local research builds connections to longer-simmering yet unaddressed issues in relatively new refugee nations. Several reasons for linking snowball sampling with consideration of ethical and cultural factors were proposed. Snowball sampling could access marginalized populations who are otherwise hard to reach through formal conditions. This access comes with the perceived risk of exploitation, coercion, and breach of confidentiality (Parker et al., 2019). While ethical and cultural considerations are incorporated into planning these studies, they are usually hidden from view with little detailed description of how researchers and participants negotiate the collection and use of data.

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