

Elliott, David ORCID: https://orcid.org/0000-0003-4790-2354 and Christie, Mark ORCID: https://orcid.org/0000-0002-4246-0895 (2025) Doing community research: quantitative and qualitative methods. In: Cumberland Health Determinants Research Collaboration (HDRC) Network Lunchtime Seminar, 30 April 2025, Online. (Unpublished)

Downloaded from: https://insight.cumbria.ac.uk/id/eprint/8831/

Usage of any items from the University of Cumbria's institutional repository 'Insight' must conform to the following fair usage guidelines.

Any item and its associated metadata held in the University of Cumbria's institutional repository Insight (unless stated otherwise on the metadata record) may be copied, displayed or performed, and stored in line with the JISC fair dealing guidelines (available <u>here</u>) for educational and not-for-profit activities

provided that

- the authors, title and full bibliographic details of the item are cited clearly when any part of the work is referred to verbally or in the written form
 - a hyperlink/URL to the original Insight record of that item is included in any citations of the work
- the content is not changed in any way
- all files required for usage of the item are kept together with the main item file.

You may not

- sell any part of an item
- refer to any part of an item without citation
- amend any item or contextualise it in a way that will impugn the creator's reputation
- remove or alter the copyright statement on an item.

The full policy can be found <u>here</u>.

Alternatively contact the University of Cumbria Repository Editor by emailing insight@cumbria.ac.uk.

HDRC Lunchtime Seminar

Doing community research:

quantitative and qualitative methods

With Dr David Elliott and Dr Mark Christie University of Cumbria



Agenda

- Doing research: topic, recruiting participants, ethical considerations
- Quantitative approach with examples
- Qualitative approach with examples



Doing Community Research: have a plan!



- 1. Define the Issue: Clearly state the problem and its significance. Identify who is affected and how. Frame key research questions (*e.g., What are the root causes? What impact does it have?*).
- 2. Background Research: Identify any prior attempts to address the issue. Review existing research reports, studies, and media coverage: e.g., government policies, statistics, and historical trends. What did they do? Is there a research gap?
- **3. Stakeholder Analysis**: List key stakeholders (residents, businesses, government, nonprofits, etc.). Determine their interests, concerns, and level of influence. Plan how to engage with them *(e.g., surveys, interviews, meetings)*.
- **4. Data Collection**: Method? Qualitative (e.g., *interviews, focus groups, case studies*) vs. Quantitative (e.g., experimental, quasi-experimental, surveys, attitudinal scales, descriptive).
- 5. Ensure **ethical considerations** (confidentiality, consent).

- 6. **Analyse Findings**: Before conducting research is is good to have an idea of how you will analyse the data.
- 7. Develop Potential Solutions: Research successful initiatives in other communities. Identify short-term or long-term strategies. Consider feasibility, costs, community support.
- 8. Share and Advocate: Get noticed!
 Prepare a report, presentation, or community forum and engage with policymakers, organisations, media.
 Outline actionable recommendations and next steps.

Research Ethics



Research ethics govern the standards of conduct for scientific researchers. It is important to adhere to ethical principles in order to protect the dignity, rights and welfare of research participants.

The WHO defines research with human subjects as 'any social science, biomedical, behavioural, epidemiological activity that entails systematic collection or analysis of data with the intent to generate new knowledge, in which human beings:

are exposed to manipulation, intervention, observation, or other interaction with investigators either directly or through alteration of their environment

Or can

become individually identifiable through investigator's collection, preparation, or use of biological material or medical or other records.

Ethical Considerations:

- Informed Consent Clearly explain the purpose, process, and how data will be used before participation.
- Confidentiality & Anonymity Protect personal information and ensure participants can remain anonymous *if they wish*.
- Avoid Harm & Bias Be sensitive to vulnerable populations and avoid leading questions or coercion.
- Transparency Let participants know how findings
 will be shared and used to benefit the community
 (share updates too!)

Quantitative Research

- Research that involves measurable quantities (i.e. numbers)
- Researcher knows in advance what they are looking for
- All aspects of the study are carefully designed before data is collected we do not work on the fly, nor do we change once started
- **Can be** hypothesis driven (experimental)
- The data is usually gathered using structured/validated research instruments, be it surveys, questionnaires or lab equipment
- Will utilise statistical analysis Often to determine cause and effect (inferential)
- Aims to generalise to larger populations
- The analysis of the results is more objective than for qualitative

Quantitative: study examples

Perceived Benefits and Barriers to Open Water Swimming (Cross-sectional

design)

This study set out to determine the **perceived benefits of, and barriers to, open-water swimming (OWS).** Adopting a mixedmethods approach, **six hundred and sixty-five** open-water swimmers responded to an online survey consisting of the **Exercise Benefits and Barriers Scale (EBBS)** and a series of **open-ended questions**.

Data from the **EBBS** revealed the strongest perceived benefits to be 'Psychological Outlook' and 'Life Enhancement'. In terms of barriers, those presented in the EBBS received low ratings with only 'Physical Exertion' considered as being somewhat problematic.

Content Analysis performed on the open-ended responses showed social aspects, mental well-being and connection to nature as being particularly beneficial. Barriers to full participation included pollution, accessibility, and poor weather conditions.

Outcomes are discussed in relation to the uniqueness of the open-water swimming experience. Comparisons to other exercise modes are also presented.

Benefits				
	Total Mean/Sd	Male Mean/Sd	Female Mean/Sd	
Preventative Health	2.64 (sd = .62)	2.73 (sd = .65)	2.62 (sd = .60)	
Physical Performance	3.10 (sd = .53)	3.21 (sd = .50)	3.08 (sd = .54)	
Psychological Outlook	3.72 (sd = .33)	3.61 (sd = .34)	3.75 (sd = .33)	
Life Enhancement	3.12 (sd = .49)	3.11 (sd = .47)	3.13 (sd = .50)	
Social	3.10 (sd = .53)	2.95 (sd = .52)	3.13 (sd = .52)	

Barriers

	Total Mean/Sd	Male Mean/Sd	Female Mean/Sd
Physical Exertion	2.07 (sd = .64)	2.33 (sd = .62)	2.01 (sd = .63)
Exercise Milieu	1.73 (sd = .50)	1.73 (sd = .48)	1.74 (sd = .51)
Time Expenditure	1.62 (sd = .53)	1.64 (sd = .46)	1.62 (sd = .54)
Family Discouragement	1.59 (sd = .65)	1.66 (sd = .72)	1.58 (sd = .63)

A Hypothetical example

The effects of a Park walk Intervention (this will be quasi-experimental)

How long should the intervention be?

Where will the intervention take place? How can this be controlled?

What will you actually measure ? (Mental benefits, social, benefits, physical benefits?). Too many variables can be an issue.

When will the measurements take place?

How will you actually measure any of these? Validated instruments or designed specifically for the study?

How many participants? Demographic factors?

Dropout and non-adherence issues (this can relate to the length of the intervention, number of participants, demographic factors, location)

Sampling Methods for Quantitative

Population: total membership of a defined class of people.

Sample: a group of participants representative of a *population*.

Sample Examples:

Random sample: individuals selected totally at random, provides representative cross-section of the whole – unfortunately, this is very rarely an option.

Stratified sample: random, but based on a predetermined criteria

Convenience sample: this method is often used as it suits the convenience of the researcher. It is a 'first at hand' approach through which we test who is readily available.

Purposive sample: we search for participants that fit our particular criteria.

Snowballing: we ask people to pass on study invites to others, who then pass on

Self-selected: the sample selects itself - e.g., online surveys



Qualitative Research

Sampling Methods

Getting a Participant Sample:

- **Define Your Target Group -** <u>who best</u> represents the community issue (e.g., residents, business owners, officials?).
- **Use Diverse Recruitment Methods -** e.g., engage through community groups, social media, surveys, public events, roadshows.
- **Ensure Representation Aim for diversity in** e.g., age, gender, socioeconomic status, **to get a balanced perspective.**
- **Incentivise Participation Offer small incentives** (gift cards, refreshments) **if appropriate.**



Target Population



Example from Mark's research: Conservation Volunteers Study

An **interpretative phenomenological analysis** methodology was adopted, employing personal interviews and small focus groups, giving prominence to **participants' own understandings of self, others and activities** within the practical business they were engaged with on a longstanding basis (Reid et al, 2005; Silverman, 2010; Mason, 2003).

This approach is particularly useful when investigating a **specific phenomenon or intervention** (green exercise), **context** (urban park) and a **shared experience** (participation in a community conservation project).

The use of individual semi-structured interviews - and, despite some contention, **small sized focus groups** - are **commonly associated with IPA research designs**, via which the researcher deliberately set out to gain an **insight into the participants' experiences and the personal impacts** that might accrue from their volunteer engagement (Larkin *et al*, 2006).

The researcher adopted a **flexible**, **curious and open-ended form of enquiry**, quickly gaining the trust of the volunteers by working occasionally alongside the group monthly throughout each of the first four years (ethnography), recording field notes and photographs to document the volunteer work. This also enabled the researcher to have an **insider perspective**, as opposed to an outsider view.

Why are focus groups useful methods?

- Focus groups have particular utility as an exploratory tool when investigating issues hitherto lacking in evidence (Denzin & Lincoln, 2013;
 Silverman, 2010) – a handy precursor to individual interviewing, perhaps?
- Enable a range of issues to be raised/discussed, and for unforeseen "novelties" to arise both as a consequence of individual action and collective interaction (Denzin & Lincoln, 2013).
- Best of both worlds? Arguably interviews give more depth (more personal, less inhibited by others present?), whilst focus groups more breadth (interactions generate wide ranging discussion points on a shared agenda)?







When to use focus groups

They are used in specific types of QUALITATIVE research e.g., used in arguably the most straightforward of these - a simple Thematic Analysis, but are also used in IPA, Grounded Theory and Ethnography studies

4-8 participants per focus group is seen as best practice: Higher than that compromises the chance for everyone to have sufficient time to speak.

Fewer - gives less chance of diverse opinions.

Interviewer: needs to ensure no one voice dominates and keep conversation to relevant topics: *not always easy to do!*



Example from Mark's research: NHS Horticultural Therapy Study

In this context, the focus group approach mirrored the structure of the participants' own regular **"speak up"** collective therapy sessions in which they discussed their issues of concern with each other and with staff.

Thus, by **embedding the focus group discussions** within these sessions, participants were provided with a **familiar environment in** which they could voice their opinions.

This, to some extent, negated a common methodological complaint that **focus groups can sometimes be a restrictive and/or intimidating** format for individuals, rather than an *enabling* one (Silverman, 2010).

Three focus groups were conducted, involving 6-7 service users on each occasion, facilitated by the lead university (outsider) and on-site NHS (insider) researchers.



One, two, three or more focus groups?

Perhaps surprisingly, **few empirical studies** exist in determining the optimal number of focus groups necessary for a study.

Guest, Namey and McKenna (2016) conducted a thematic analysis study of 40 focus groups upon the health-seeking behaviours of African-American men in North Carolina. Noted that 80% of all themes were discoverable within two to three focus groups, and 90% were discoverable within three to six focus groups. Three focus groups were also enough to identify **all of the most prevalent themes** within the data set. Argued that these empirically based findings suggest focus group sample sizes that *differ* from many of the "rule of thumb" recommendations in existing literature (i.e., need more!)

Your study? If only one or two, suggest you accept as a 'limitation'?

15

Considerations in running a focus group

PREPARATION

Consent forms all signed? Suitable location - bright, convenient to group, sufficient space, accessible facilities, even familiar (in

situ?)

Recording equipment (at least two) - don't forget to check it works!

Name cards, seating arrangement (semi-circle?)

Note pad and pen

STARTING OFF

Relaxed, concise introduction!

1. Welcome (who you are etc.)

2. Overview of topic (should be familiar as had PIS/Consent)

3. Ground rules (e.g., hand up to speak, do not talk over people...)

4. First question - to help get 'voice print'
for help with transcribing (unless done via
Teams/Zoom), ask this question to each
person, highlighting their name when you
do so. It also eases each person in and
ensures they have all had an initial input.

DURING/AFTER

Use pauses and probes (e.g., up to 5 second pause)

Probes: "Can you explain further?" "Would you give an example?" "Just to clarify that then..."

Written notes as you go through (e.g., I'll come back to that point!)

Control your own reactions to participants: engaged, but not influencing e.g., by saying 'ah that's excellent, I like that' - may make someone avoid a challenge

Use subtle group control - be mindful you'll have your 'experts', 'dominant talkers', 'shy participants', 'off they go ramblers'!

Three Step Conclusion:

1. Summarize with confirmation

2. Review purpose and ask if anything has been missed

3. Thanks and dismissal (verification to come?)

Introductions cont'd...

Reassure the group first with:

- There are no right or wrong answers, just different views!
- We're tape recording, please ensure only one person speaks at a time
- We're on a first name basis!
- Listen respectfully
- Please turn off your phones (if you must respond to a call, please rejoin us as quickly as you can).
- My role as moderator will be to guide the discussion
- Talk to each other!

Types of questions

Good to start with one to each person (voice print) Eases people into the session – e.g. 'I just thought I'd go around each of you to start to find out how much experience you have of delivering inclusive sport in school, and where, how often?'

A good tactic is to use "think back" questions, e.g., 'take yourself back to...how did that...?'

Use open-ended questions - for example:

What did you think of...? How did you feel about...? Where do you...? What do you like/dislike...?

'Why' is less used - they should normally support their responses with justifications and examples. But you might use it e.g. 'Why did you start getting into coaching?' (but 'what got you started in coaching?' is the same thing)



Who's been a sports team captain before?



Let's do it!

CAPTAINCY

Types of questions

- 1. Round robin: 'So can you tell me what teams you have captained previously, or continue to captain?' (prompt: how long for? How were you chosen?')
- 2. How did you feel about becoming a captain? (prompts: emotions? Expected or surprised?')
- 3. What did you consider to be your key responsibilities (prompt: how would you define your role?' Same in each captaincy experience?)
- 4. Did you view yourself as a figurehead, or much more than that?
- **5.** How did being a captain affect your playing performance, if at all?
- 6. How do you think your captaincy influenced the team? (prompt: in what ways?)
- 7. How did you deal with setbacks or dissent?
- 8. What was your relationship with the coach/manager (prompt: did it change as a result of being the captain?)?

Use open-ended questions - for example:

What did you think of...? How did you feel about...? Where do you...? What do you like/dislike...? Did you find...?

'Why' is less used - they should normally support their responses with justifications and examples. But you might use it e.g. 'Why did you start getting into coaching?' (but 'what got you started in coaching?' is the same thing)



Useful sources

Guest, G., Namey, E., & McKenna, K. (2017) 'How Many Focus Groups Are Enough? Building an Evidence Base for Nonprobability Sample Sizes', *Field Methods*, 29(1), 3-22.

https://doi.org/10.1177/1525822X16639015

Krueger, R.A. (2002) Designing and Conducting Focus Group Interviews. Available from: <u>https://www.eiu.edu/ihec/Krueger-</u> <u>FocusGroupInterviews.pdf</u> (Accessed: 15th January 2024)