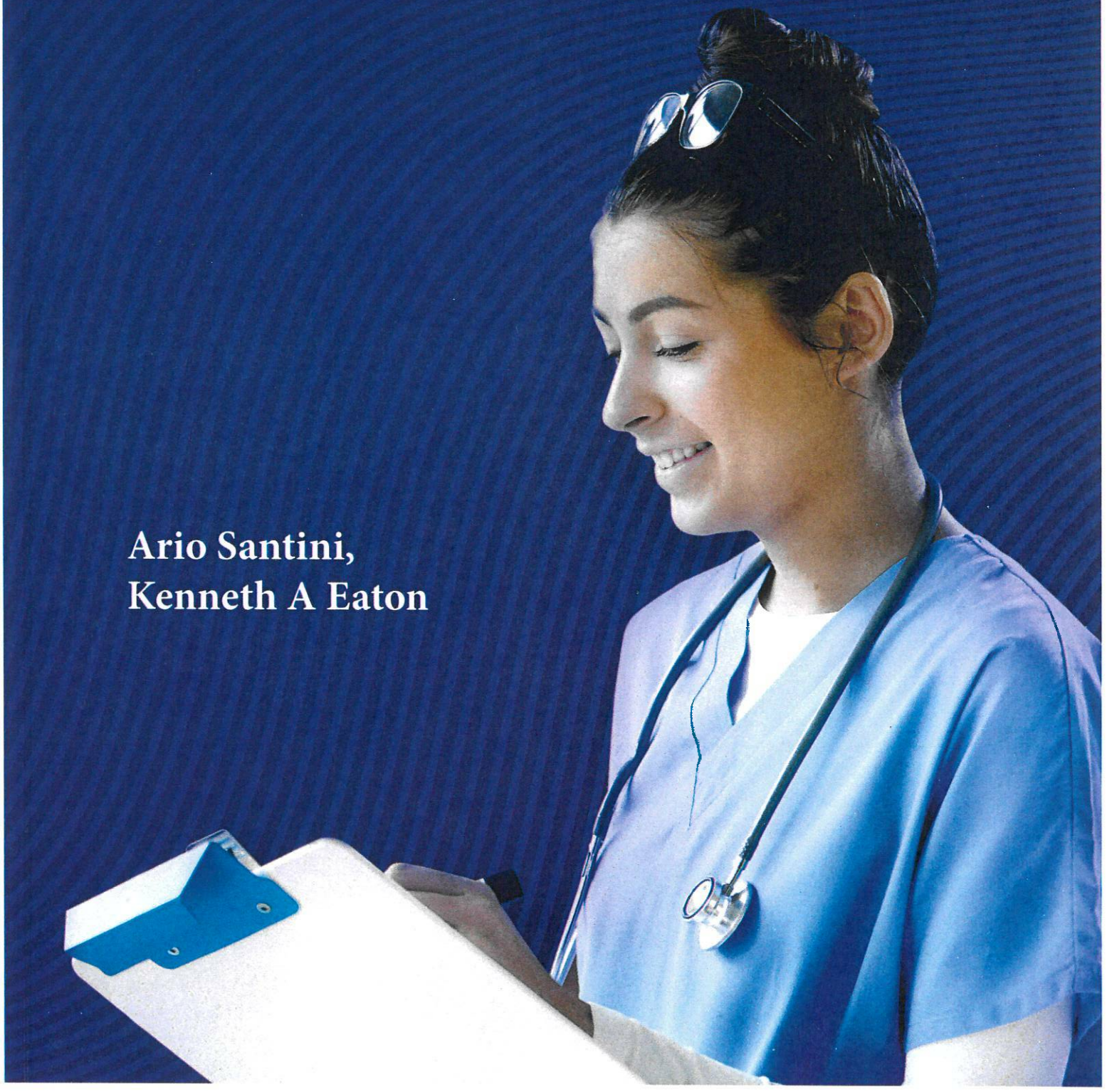
An Introduction to Clinical Research for Health and Social Care Professionals



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Published by AuthorHouse 05/20/2022

ISBN: 978-1-6655-9751-7 (sc)
ISBN: 978-1-6655-9750-0 (e)

Print information available on the last page.

This book is printed on acid-free paper.

Chapter 6. Designing Studies Part 3— Qualitative Study Design

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6.1. Overview

This chapter addresses the following aspects of qualitative research:

- Introduction to qualitative research;
- Qualitative philosophical approaches;
- Qualitative methodologic approaches;
- Data collecting methods in qualitative research;
- Analysing qualitative data; and
- Addressing criticism of qualitative research

This chapter is intended to introduce qualitative research and, as such, provides signposts to essential further research and reading.

6.2. Introduction to qualitative research[1, 2]

Qualitative research is the study of "things," often but not always in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them. Qualitative research is intended to penetrate the more profound significance that the research subject ascribes to the topic being researched. It involves constructivist or interpretive, naturalistic approaches to a subject matter and prioritises the data contributing to important research questions or existing information. The purpose of interpretivist enquiry is to understand and interpret behaviour rather than to predict causes and effects from which to generalise. For an interpretivist researcher, the priority is to understand reasons, meanings, drivers and other subjective experiences located in a specific context.

The features that constitute sound qualitative research are different to those that constitute sound quantitative research, and therefore qualitative research requires adopting a particular mind set. Moreover, this different mind-set requires a different set of credibility indictors and techniques when constructing a qualitative research proposal; Table 1 provides a helpful comparative table.

Credibility Indicators	Quantitative	Qualitative
1. **Have subjectivities been acknowledged and managed?**	**Objectivity**—conclusions based on observable phenomena; not influenced by emotions, personal prejudices, or subjectivities	**Neutrality**—subjectivities recognised and negotiated in a manner that attempts to avoid biasing results/conclusions. **Subjectivities** declared and transparent—acceptance and disclosure of researchers subjective positioning and how it might affect the research process, including conclusions drawn
2. **Has the true essence been captured?**	**Validity**—concerned with truth value, i.e. whether conclusions are correct, in addition to whether methods, approaches, and techniques related to what is being explored.	**Authenticity**—concerned with truth and value while recognising that multiple truths may exist. Also concerned with describing the deep structure of experience/ phenomenon in a manner that is "true" to the experience.
3. **Are the methods approached with consistency?**	**Reliability**—concerned with internal consistency, i.e. whether data/results collected, measured, or generated are the same under repeated trials.	**Dependability**—accepts that reliability in social studies may not be possible, but attests that methods are systematic, well documented, and designed to account for research subjectivities.
4. **Are arguments relevant and appropriate?**	**Generalisability**—whether findings and conclusions from a sample, setting, or group are directly applicable to a larger population, a different setting, or another group.	**Transferability**—whether finding and conclusions from a selection (rather than a numerically calculated sample), setting, or group that lead to lessons learned that might be germane to a larger population, a different setting, or another group.
5. **Can the research be verified?**	**Reproducibility**—concerned with whether results/conclusions would be supported if the same methodology was used in a different study with an identical/ similar context.	**Auditability**—accepts the import of the research context and therefore seeks full explication of methods to allow others to see how and why the researcher arrived at their conclusions.

Table 1. Credibility indicators for judging quantitative & qualitative research[3]

Qualitative research is used to understand people's underlying reasons, opinions, and motivations by collecting and analysing non-numerical data to appreciate ideas, notions, perceptions, opinions, or experiences. It is a means of highlighting trends in thought and opinions and investigating a problem in greater depth. Some typical methods include interviews, focus groups, participation observations, and a review of pre-existing material. The sample or selection of data sources

is typically small and thus not intended to be analysed for statistical significance or produce generalizable conclusions.

A qualitative study, like a quantitative study, must have a detailed protocol prepared before the study. A question that specifically addresses a problem should be included in the protocol. This question details the study's aim at the onset of the study and should be well-matched for use with qualitative methods.[4, 5]

6.3. Qualitative philosophical approaches[4, 5]

A qualitative approach is a wide-ranging philosophy of how to conduct a particular style of research. Qualitative researchers do not usually start with the objective of testing a previously formulated theory. Alternatively, conceptual understanding is built up from the ongoing collected data. In qualitative studies, conceptual understanding is inductively derived from the data, and understanding is built and updated as new data are collected and compared with existing data. The consequence is understanding that elucidates the investigated phenomenon.

As new observations lead to new associations, revisions can be made to the core concept and more data collected. At the culmination of the study, there should be a comprehensive, if not an exhaustive, explanation for the phenomenon in question.

Undertaking qualitative research requires the investigator to adopt a relativist philosophical stance, that is, an acceptance that human action is rooted in subjective meaning systems, which emerge from society rather than the laws of nature. The investigator seeks to create understanding through one of two main inter-related stances. In real-world research, final understanding is usually created through adopting either an interpretistic stance, when the final outcomes largely focus on the researcher(s) views (this is termed an *etic* approach when the investigator emphasises what they consider important). Alternatively, by adopting a constructivist stance, where final outcomes are derived between the investigator(s) and interaction, corroboration and confirmation from the research participants or data source (this is also referred to as an *emic* approach—investigating how local [to the subject being studied] people think).

Conclusions are derived through inductive reasoning. Inductive is a term used to describe something that leads to something else. When applied to reasoning, information is collected, and conclusions are drawn from what is observed.

Inductive reasoning works by moving from specific observations to broader generalities and theories. Inductive reasoning begins with specific observations from which patterns and regularities are detected and formulated into tentative explanations, conclusions or possible theories. Inductive reasoning, by its very nature, is more open-ended and exploratory, especially at the beginning.

Robust qualitative research relies on a coherent link between the philosophical underpinning, the type of reasoning, and the methodological framework. This is depicted in Figure 1:

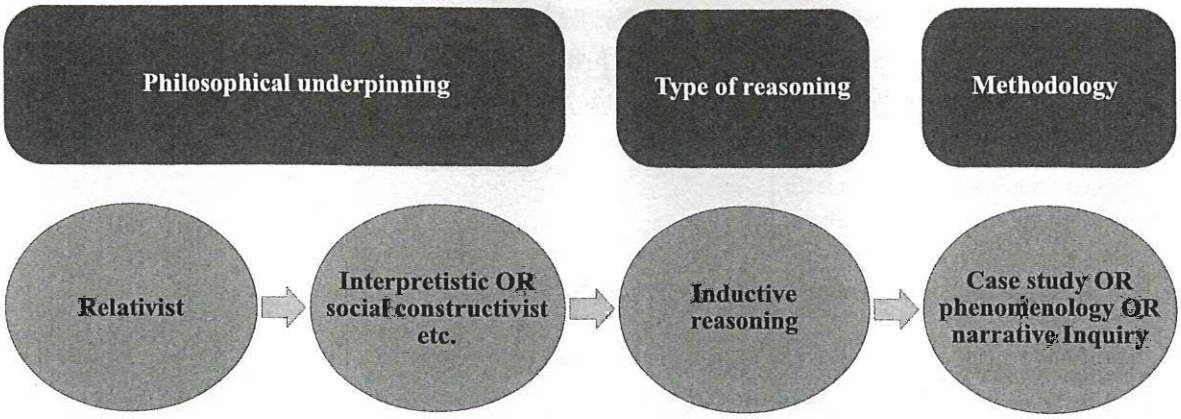

Figure 1: The characteristics of the qualitative philosophy and methodology[6]

6.4. Qualitative methodologic approaches

The methodological framework provides the structure of the study. Embedded in the methodology is the acceptance that data collection and analysis

- are iterative and evolving;
- require researchers to use their skills to question, listen, and look for clues and evidence, and then weigh the evidence to make judgements;
- are considered intuitive and common sense in nature; and
- are context dependant.

All of these points need to be considered and embedded within the research proposal. Therefore, it is no surprise that there are various methodological frameworks, each containing subtle but significant differences, each intended to facilitate a specific purpose. A selection of the common qualitative methodological approaches that might be particularly useful in practitioner research is outlined below.

6.4.1. Case study

In practitioner research, case study methodology is frequently used. It is important to note that case study, in the context of research methodology, is a term used to refer to a close-up, in-depth look at a particular group within a particular bounded area or context. Occasionally the terms case reports or case series might be used. Using case study in a methodological sense requires an in-depth and detailed account, which commences with a clear statement that defines what constitutes "the case" under investigation.

A case study is beneficial for underexplored areas; the methodology offers a straightforward structure that can be applied to a particular area or group. Case studies have a high sensitivity for detecting novelty, they permit the discovery of new diseases and unexpected effects, adverse or beneficial, and the study of mechanisms and thus play an essential role in dental education. Theorists credited with guiding what constitutes a sound case study framework are Yin,[7] Thomas,[8] and Starman.[9]

6.4.2. Grounded theory

Grounded theory aims to discover or construct theory from data systematically obtained and analysed using comparative analysis. Grounded theory involves the collection and analysis of data. The theory is "grounded" in actual data, which means the analysis and development of theories happen after collecting data. It was introduced to legitimise qualitative research. Grounded theory is a structured yet flexible methodology. This methodology is appropriate when little is known about a phenomenon. The aim is to produce or construct an explanatory theory that uncovers a process inherent to the inquiry's substantive area. A significant characteristic of grounded theory is that its goal is to produce a theory that is grounded in the data. Contemporary theorists credited with guiding what constitutes a sound grounded theory study framework are Glaser and Strauss[10] and Charmaz.[11]

6.4.3. Phenomenology

The phenomenological philosophical movement originated in the twentieth century; its main objective is to investigate and describe phenomena as consciously experienced by the participants. The general purpose of a phenomenological study is to understand and describe a specific phenomenon that answers the question, "What is the 'meaning' of one's lived experience?" The researcher seeks subjects willing to describe their thoughts, feelings, and interpretations that combine to provide the "meaning" that the participant gives in terms of his or her experience of a particular phenomenon under investigation. Contemporary theorists credited with guiding what constitutes a sound phenomenological study framework are Moustakas,[12] Smith, Flowers, and Larkin,[13] and Paley.[14]

6.4.4. Ethnography

Ethnography is a research approach in which people are observed in their cultural setting. The goal is to produce a narrative account of that specific culture, ethos or background. It investigates how people interact with one another and with their social and cultural environment. The aim is to learn from, rather than study, community members, to describe and interpret a cultural or social group or system. A variation of this is autoethnography, the study of one's own culture. Contemporary theorists credited with guiding what constitutes a sound ethnographic study framework are Hammersley,[15] Fetterman,[16] and Gobo.[17]

6.4.5. Ethnomethodology

This is a qualitative research methodology which gathers observations of everyday interactions. These observations can also include interviews and documentary data to produce detailed and comprehensive accounts of different social phenomena. It ignores the what and concentrates on the how, the implicit rule that people understand and generates order. Contemporary theorists credited with guiding what constitutes a sound ethnomethodology study framework are Have[18] and Liberman.[19]

6.5. Narrative research

Narrative research is a term that covers a range of similar but subtlety different range of methodologies that have a common aim of capturing the accounts of participants, either the written or spoken words or visual representation of individuals, characteristically focusing on the lives of individuals as told through their own stories. Contemporary theorists credited with guiding what constitutes a sound ethnographic study framework are Riessman,[20,21] Squire et al.,[22] and Goodson et al.[23]

A summary of typical practice-based approaches to qualitative research is given in Table 2:

Type of Approach	Methodology
Case Study	A clearly defined particular bounded area to understand that bounded area, including how participants understand and comprehend their experiences related to that area.
Grounded theory	Data are collected on a topic of interest and theories created inductively
Phenomenology	A phenomenon or event is explored by describing and interpreting participants' meaning of a particular lived experience.
Ethnography	Researchers aim to learn from rather than study groups or organisations to describe, interpret, and understand their cultures, philosophies, and values.
Ethnomethodology	Investigators understand from observations of everyday interactions and produce detailed and comprehensive accounts of how the implicit rule that people understand generates order.
Narrative research	Participants' accounts are studied to understand their recall of perceptions of their life experiences.

Table 2. Summary of methodological approaches to qualitative research

6.6. Other things to consider as part of the qualitative methodological framework[24, 25]

6.6.1. Reflexivity

Reflexivity is important in qualitative research because the researcher can introduce bias in various ways that can modify a study, including the choice of data gathering methods, data collection and analyses, and the reporting of the outcome measures. Reflexivity is the process in which the researcher reflects on how to provide more effective and impartial analysis. It involves examining and consciously acknowledging the researcher's assumptions and preconceptions which may therefore shape the outcome. All qualitative research is contextual, between two or more people within a detailed time and place. The integrity of the findings increases when researchers define the circumstantial associations between themselves and the participants (reflexivity) and their relationship, insider/outsider positionality, and status. The researcher is responsible for concisely and unambiguously attending to these issues so that the reader can evaluate the research.

6.6.2. Bracketing

Bracketing is a qualitative research method to reduce a researcher's preconceptions' potential adverse effects. It involves the identification and temporary setting aside of the researcher's assumptions.

6.6.3. Relatability rather than generalisation, transferability, or applicability

Generalisability refers to the extent to which the findings from a sample can be generalised to an entire population (provided that the sample is representative for the population) regardless of context. This is often at variance with the intended purpose of qualitative research. The terms "transferability," "relatability," or "applicability" are often used. Transferability refers to the extent to which the findings found in a specific context can be transferred to another, very similar context. The concept of relatability or applicability refers to the degree of relatedness on whether knowledge gained from one context is relevant to, applicable to other contexts, or the same context in another time frame. It assumes a role similar to transferability. The act of relatability, making the relationship link, is the reader's responsibility who seeks to apply theory elsewhere and the original researcher. Although the researcher might make suggestions to whom the research might be of interest or relevance.

6.6.4. Congruence

To demonstrate the proper application of research methodology, it is expected that there is congruence between the research question, aim, the philosophical stance and principles, the methodological framework, the methods of data collection, and the analytic process. Therefore,

the researcher must detail the rationale and justification for every decision and every step taken concerning how the research is conducted.

6.7. Data collecting methods in qualitative research[4, 5, 6, 24]

There are various data collection methods in qualitative research. The method of data collection selected for a particular study should be cognisant of the methodology. The most common qualitative data collection methods include recording what has been seen, heard, or come across using comprehensive field notes, one-to-one talks between the researcher and the participant in which the researcher asks the participant questions, questioning and encouraging discussion among a group of participants, distributing questionnaires among participants, accumulating previously recorded data in the form of texts, images, audio or video recordings, not necessarily made by the current researcher.

These are summarised in Table 3:

In-depth interviews (audio-recorded and transcribed) • **Structured interviews** aim to focus on specific areas in order to find answers to predetermined questions. However, the interviewer is in control, so this technique is less naturalistic. • **Semi-structured interviews** follow a topic guide but allow for open-ended answers and follow-up of points raised. • **Unstructured interviews** aim to discuss a limited number of topics in great depth, with no structure or preconceived plan. The interviewee is in control.
Focus groups • The researcher interviews groups of people with something in common. The people are free to talk to each other in the group. The data arises from the interaction between group members rather than between the researcher and the group. Focus groups can provide data on the group's cultural norms and help exploratory research into issues of concern to the group. However, focus groups are not naturalistic, some participants can dominate the discussions, and there are issues around confidentiality. Delphi committees are a type of focus group.
Participant observation • The researcher not only observes a group but adopts a role within the group from which to participate in some manner, usually over an extended period. This method allows for data to be collected on naturally occurring behaviours in their usual contexts. However, there can be a conflict between a researcher's dual role as a researcher and a participant. An added danger is that the researcher might end up over-identifying with the group, impairing analytical objectivity.
Review of pre-existing data • Pre-existing data can be documents, recordings (video or audio), image depictions (photographs, paintings, cartoons or other images), objects of art, or data from previous research available for further analysis.

Review of artefacts

• Cultural artefacts offer an insight into: technological processes, economic development and social structure, among other attributes.
• Social artefacts do not have a physical form, neither do social artefacts need to be of historical value (i.e. items created a moment ago can be classified as social artefacts).
• Artefacts can be referred to under three main groupings:
  • Primary artefacts: Used in production, e.g. electric toothbrushes
  • Secondary artefacts: Related to the primary artefact, e.g. User's manual
  • Tertiary artefacts: Representation of secondary artefact, e.g. a photograph of the user's manual.

Table 3. Common sources of qualitative data

6.8. Sampling or selecting[6]

It is common for the term sample to be used in qualitative research when technically the data gathered are not a sample but a selection. In quantitative research, the sample is a term that indicates a percentage of a larger population and aims to represent that population, and this usually involves a power calculation (see chapter 8). However, in qualitative research, it is usual and acceptable to select particular data sources. Selection is the deliberate or purposeful choice of a specific group. Not intended to be representative of a wider population. Purposeful sampling or selection is commonly used in qualitative research to identify and select information-rich cases related to the phenomenon of interest. The researcher consciously selects subjects who have knowledge or experience of the area being investigated.

Purposive selection may not represent a larger population; however, this does not mean that subjects are drawn arbitrarily or without any specific purpose in mind. Purposive selection/sampling is used in qualitative studies where the researcher's objective is in-depth, idiographic understanding rather than more general understanding.

Types of purposive selection/ sampling are described in Table 4:

Sample/Selection type	Description
Maximal variation selection/sampling	Those seeking to understand how a phenomenon is seen and understood among different people, in different settings and at different times. The researcher selects a small number of units or cases that maximise the diversity relevant to the research question. Links to heterogeneous selection/sampling.
Extreme (or deviant) case selection/sampling	The selection of unusual cases of the phenomenon of interest or cases that are considered outliers, exceptions to the rule emerging from the analysis.
Typical selection/sampling	Selecting cases that are not in any way atypical, extreme, deviant, or unusual

Theory or concept selection/sampling	The process selects occurrences, events, periods, or people based on their positionality, relationship, or exemplification of theoretical constructs. Thus, theoretical selection/sampling is a linked component in grounded theories.
Homogeneous selection/sampling	One particular subgroup—similar characteristics to allow a deeper exploration.
Critical selection/sampling	Selecting a small number of important cases is likely to provide the maximum information and have the maximum effect on the development of knowledge.
Opportunistic selection/sampling	Opportunistic or emergent selection/sampling occurs when the researcher makes selection/sampling decisions during data collection. This commonly occurs in field research. The observer gains more knowledge of a setting and makes decisions that take advantage of events as these occur.
Snowball selection/sampling	Data are collected from a member(s) of the target population, who then provides information to enable the location or contact other members of that population they know.
Confirming or disconfirming selection/sampling	Selection of confirming and disconfirming cases, usually when part of the data collection and analysis has been completed. Serve to provide further depth to patterns emerging from data analysis or disconfirm (with the selection of disconfirming cases). In addition, it can aid in establishing limitations of research findings.

Table 4. Types of commonly used types of purposive selection /sampling in qualitative studies

Other ethical considerations related to qualitative research are covered in the chapter on ethics.

6.9. Analysing qualitative data[26, 27, 28, 29]

Qualitative data analysis is employed at the end of the data collection phase. It entails looking for similarities or differences and then identifying patterns, commonly referred to as themes.

6.9.1. Common types of qualitative data analysis

To demonstrate the proper application of data analysis, it is necessary to select a type of data analysis that congruent (align) the research question and the purpose or aim of the research project.

6.9.2. Thematic analysis (TA)

Thematic analysis is one of the most common analytic techniques. Building on the definition of theme provided earlier, thematic analysis requires the investigator to look for the relationships

between the different themes in order to gain a deeper understanding with regards to the relevance the data have to the research question being asked. A thematic analysis follows the basic principles of coding data and then, depending on the model of TA being followed, grouping data into categories and then into themes. Collected data are abstracted and compared to all the other collected data to compose a provisional understanding. Initial ideas and concepts are tested, and new data sources are found. The outcomes of the process are indicative of trends the investor(s) identify within the data. The investigator(s) are expected to substantiate a particular theme by using extracted quotes from the transcribed contributions that participants have made.

However, it is incumbent on the qualitative researcher to select the analytic process most consistent with the research question and aim. The focus of the study will determine the selection of the appropriate process. Examples of the various types of qualitative analysis are listed but not explained in detail in Table 5. It is beyond the scope of this manual to describe the types of qualitative analysis, other than thematic analysis, but merely to draw readers' attention to their existence. For details of all types of qualitative analysis, readers are referred to *The SAGE Handbook of Qualitative Analysis.*[2]

Types of Analytic Processes	Purpose
Thematic analysis	Coding and categorising to indicate trends
Narrative analysis	Iterative and related to story building
Content analysis	Linguistic (words or text) quantification
Discourse analysis	Explores language—how the language used portrays social or historical contexts
Conversational analysis	Explores the structures of speech
Semiotics	Interpretation of signs and symbols
Hermeneutics	Interpretation of text and literature looking at alternative viewpoints. In some professional fields the term has been expanded to mean interpretation in general, rather than related to documents … hermeneutics spiral/circle … double hermeneutics.
Grounded theory	Inductive—generates theory from data

Table 5. Examples of various types of qualitative analysis

Having selected the type of data analysis to be conducted, it is necessary to follow a model to process the data.

6.9.3. Model of Data Analysis[24, 26, 27, 28, 29]

To demonstrate sound data analysis, the researcher must identify a model, i.e. a set of stages congruent with the methodology and methods underpinning the project and then demonstrate

fidelity to that model. Typically, models for data analysis of qualitative research include the following stages:

1. Immersion: Data must first be prepared and organised, which involves transcribing interviews or compiling field notes. The data should then be studied, reviewed, and examined for patterns or repeated ideas.
2. Coding: Coding is an iterative process that requires a constant comparison and re-examination of the transcripts. The codes are regularly occurring strands detectable within the transcriptions or data sources. Data sources are usually coded line by line. As a new code became apparent, the previous coded data sources are re-examined to check for and then absorb a new code that might have been newly noticed. The codes are numerically listed, given titles, and short definitions to clarify what would be considered under each code and what would be more appropriately allocated an alternative code. The codes (strands) identify the relationship involved in the elite knowledge acquisition process, from initial primary socialisation to secondary, tertiary, and then professional socialisation. Once established, the codes are then grouped into categories.
3. Categories: The next stage in the analytical process is grouping the codes into categories. Categories are codes that have a shared relationship. Categories are formed by examining the codes and identifying how the codes could be most appropriately grouped. Not all codes are mutually exclusive, and on occasion, codes cross the boundaries of more than one category. As with the coding stage, the categories are given label definitions. In some models of qualitative data analysis, the categories stage is omitted, and coding links directly to themes.
4. Themes: Data are then brought together into unified, integrated and all-encompassing themes. Themes move beyond categories and descriptions into explanation and interpretation of data related to the investigated issues. Usually, themes are configurations of commonly occurring patterns across the data. A theme would be presented as a title, with a definition (what the theme is or is not) and then an explanation of the data which support the assertion that it is possible to identify the theme. It may be possible to detect how themes interact or relate. Simply listing key points from individual participants could not be defined as a theme—because the list is not commonly occurring across several participants.

6.9.4. Computer use in qualitative data analysis

Qualitative research studies produce large amounts of data that need to be proficiently managed. Computer packages, such as NVivo, offer data management efficiency and provide a mechanism for storing and retrieving material. Locating cases, statements, phrases, or even words is facilitated, replacing labour-intensive methods. However, certain disadvantages have been highlighted in using a computer programme, including quantifying qualitative data: analysis instead of a qualitative review, e.g. counting occurrences, giving more weight to more frequent events, and ignoring isolated incidences. It is necessary to weigh up the benefits and suitability of using electronic analytic tools, as there is a risk of reducing qualitative research methodology's acknowledged strength and the degree of insight and experience it deploys to develop new understandings of the world. Computer packages require the researcher to learn the programme, and despite some

helpful YouTube tutorials, this can take time. It is up to the investigator to determine if this might be an investment worth making.

6.10. Addressing criticisms of qualitative research[3, 4, 5, 6]

In terms of rigour, several criticisms of qualitative research need to be mitigated through a robust research design and standards for qualitative research.

Subjectivity: Qualitative research cannot be replicated mainly due to the researcher's key role in analysing and interpreting data. Interpretations of the same data can vary due to the researcher's decisions regarding what is important and what is irrelevant.
Unreliability: Qualitative research is prone to be unreliable because of uncontrolled factors that affect the data in a real-world setting.
Limited generalisability: It is difficult to draw generalisable conclusions due to data bias and unrepresentativeness to the broader population. Small samples are frequently used to gather detailed data about specific contexts and can contribute to limited generalisability.
Labour-intensive: Data analysis is often checked or performed manually; increasingly sophisticated software is used to manage and record large amounts of text, reducing labour insensitivity.

Table 6. Summary of criticisms of qualitative research qualitative research

6.11. Verifying outcomes[3, 26]

Given the criticisms frequently levelled at qualitative research, it is necessary to establish credibility in qualitative research through clear and well-defined verification techniques. This can be achieved through a process of triangulation, which refers to using multiple sources in qualitative research to develop or verify a comprehensive understanding of phenomena through amalgamating information from different sources.

To accomplish this, the research is undertaken from multiple perspectives; this could take the form of using several facilitators, different locations, or multiple individuals analysing the same data. Related to improving understanding more than additional verification, these can be data-led or investigator-led.

Typical examples of verification techniques are detailed in Table 7:

Technique	Explanation
Inter-rater reliability	This is using co-researchers (or supervisors for MSc students) to corroborate (usually but not always) independently the analysis and subsequent findings.

Peer Review	An external person conducts checks the research process, critically reviewing all aspects of the methodology.
Member or participant checking	Two ways: Firstly, permitting participants to confirm that transcripts are an accurate basis on which analysis can commence. Secondly, and arguably the most important, permitting participants to comment on the analysis and to confirm they have not been misinterpreted or their contribution misrepresented.
Prolonged engagement:	Emersion within a context sufficient to understand the culture, the context, and to build trust and rapport.
Persistent observation:	Evidence of engaging with the situation beyond a preliminary, superficial level
A full explication of methods	A complete rationale and a detailed, precise explanation of what was done in terms of data collection and why…
Fully auditable	Permitting an independent "other" to review the process and provide documentation of that process.
Saturation	Keep data collecting until no new information emerges. To end data collection when satisfied additional data no longer adds richness to understanding or aids in building theories. This can be difficult to prove.

Table 7. Examples of verification techniques

6.12. Conclusions

Qualitative research is intended to contribute to understanding rather than predict causes and effects from which to generalise. Consequently, the features that constitute robust qualitative research are different to those that constitute thorough quantitative research. Therefore, to conduct sound qualitative research, the investigator(s) must adopt a specific mindset and adopt a particular set of techniques and credibility indicators when constructing and conducting the study.

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