

Article

Qualitative Field Research and Data Management Techniques for Gender and Humanitarian Studies

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Abstract

Qualitative methods are essential for applied inquiry in Gender and Humanitarian Studies, offering nuanced insights into the lived experiences of individuals affected by crises and gender inequalities. This paper outlines practical qualitative field research and robust data management strategies tailored to humanitarian and gender-focused contexts. We address design choices, ethical safeguards, and participant safety, illustrating how to balance rich, context-sensitive data with rigorous data governance. Key contributions include: (1) data collection practices that uphold informed consent, confidentiality, and safety in volatile settings; (2) data management and stewardship protocols – organization, secure storage, quality assurance, and compliance with ethics approvals and data protection laws; (3) analytic approaches that foreground gendered power dynamics through reflexive coding, thematic analysis, and triangulation; and (4) strategies for accessibility and dissemination that respect privacy while maximizing the impact of findings for communities, practitioners, and policymakers. The discussion also foregrounds risk mitigation, contingency planning for disruptions, and transparent reporting of limitations related to bias and transferability. Through case vignettes and practical templates (data management plans, codebooks, anonymization workflows), the article provides actionable guidance for researchers seeking ethically sound, methodologically rigorous qualitative research in humanitarian and gender contexts.

Keywords: Qualitative Research, Fieldwork, Database Management, Content Analysis, Semi-Quantitative Coding

Introduction

Qualitative research methods serve as crucial tools in applied research, offering invaluable insights into the nuanced local perspectives of study populations. This exploratory scientific investigation systematically employs predefined procedures to uncover the underlying reasons, opinions, and motivations within a specific domain, providing a deep understanding of problems, informing hypotheses for quantitative studies, and revealing trends in thought. By delving into the cultural values, behaviours, and social contexts of particular populations, qualitative research is especially effective, particularly when addressing sensitive issues in humanitarian contexts. In such settings, understanding local perspectives is paramount for effective aid delivery and program design, ensuring interventions are culturally appropriate and meet the specific needs of vulnerable communities, including those impacted by gender inequalities.

Varying forms of qualitative research offer diverse approaches to inquiry. Field research, with its roots in phenomenology and ethnography, examines the personal meanings of experiences within social and cultural environments. This approach is particularly salient in humanitarian settings, where understanding the lived experiences of displaced populations, conflict-affected individuals, or those

recovering from disasters—including the specific challenges faced by women, girls, and gender-diverse individuals—can inform more effective and equitable responses. Data collection methods like participant observation and in-depth interviews allow researchers to capture firsthand accounts of resilience, vulnerability, and adaptive strategies. Similarly, action-oriented survey research, a form of field research, actively engages participants in knowledge sharing to promote social change, making it highly relevant for empowering marginalized groups and addressing gender-based violence or disparities in access to resources in humanitarian crises.

Other qualitative methodologies further enrich the research landscape. Biographical or life history research elicits and analyzes individuals' life stories through narrative interviews, offering profound insights into the long-term impacts of humanitarian crises on personal trajectories and identity, especially for survivors or those adapting to new circumstances. This can highlight the unique experiences of different genders through their life narratives. Case study research, another powerful qualitative design, investigates phenomena in depth, often combining qualitative and quantitative data from sources like documents, direct observation, and interviews. This method is particularly useful for understanding the complex dynamics of specific humanitarian interventions, policy impacts on different gender groups, or the socio-cultural factors contributing to vulnerability within a specific community. By rigorously applying these diverse qualitative methods, researchers can generate rich, context-specific knowledge that is vital for informing gender-responsive and effective humanitarian action.

Other forms of qualitative research for gender-responsive and effective humanitarian action include:

Conversational Analysis (CA): This is used for the analysis of naturally occurring verbal and non-verbal talk-in-interaction in order to discover how we produce an orderly social world.

Discourse Analysis / Critical Discourse Analysis: This employs a number of approaches to study the world, society, events, and psyche as they are produced in the use of language, discourse, writing, talk, conversation, or communicative events.

Ethnography: This involves researchers using direct observation to study participants in their “real life” environment, sometimes over extended periods. Results of ethnographic studies are summaries of observed activities, typifications, or the identification of patterns and regularities.

Ethnomethodology: This is a multi-method qualitative approach that studies people in their naturally occurring settings in order to provide a detailed and in-depth description of their everyday life and practice. It entails a close exploration of people through sources such as participant observation, observation, interviews, documents, newspapers, magazine articles, or artifacts.

Frame Analysis Approach: This was propounded by Goffman (1974). It is used to explain social phenomena in terms of the everyday use of schemes or frames like beliefs, images, or symbols. The number of such frames available to people in making sense of their environment is limited by the particular society they live in.

Frame Analysis is largely used in social movement theory, policy studies, and health research.

Life World Analysis (LWA): This refers to the art of drawing out individual structures from within the familiar world of everyday life. A lifeworld can be understood as a physical environment, even though the various inhabitants do not necessarily attribute the same meaning to the same space. Cats and people, for example, may inhabit the same physical environment but live in different life worlds as cupboards, window sills, and spaces underneath chairs have different significances for both of them. The aim is the reconstruction of the various subjective perspectives. The data types of life world analysis include document analysis, interviews, standardized surveys, or participant observation. The latter means that the researcher goes into the social “field” and tries to get as close as possible to the linguistic and habitual customs of the people examined.

Narrative Research: This focuses on the life experiences of study participants in order to gain insights into a person’s understanding of the meaning of events in their lives (Jovchelovitch & Bauer, 2000). It utilizes long interviews, life histories, journals, diaries, memoirs, autobiographies, and biographies to obtain a detailed account of their experiences in story form (Jovchelovitch & Bauer, 2000; Riessman, 1993). This can be analysed using formal sequential analysis. Formal Sequential Analysis focuses on identifying recurrent and regular forms of biographical experiences and is sometimes also combined with coding (Bamberg, De Fina, & Schiffrin, 2011).

Generally, qualitative research often helps researchers to access the thoughts and feelings of research participants within the terrain of gender, humanitarianism, and development, which can enable the development of an understanding of the meaning that people ascribe to their experiences. Qualitative methods can help researchers to understand how and why such behaviours take place.

Principles of Systematic Data Collection

The principles guiding data collection in qualitative research—including research questions, hypotheses, methodology, methods, reflexivity, participants' viewpoints, and ethical clearance – are fundamental to generating rich, context-specific insights. These elements are particularly crucial when the research delves into socio-behavioral factors like cultural norms, ethnic identities, stigma, socioeconomic status, and critically, gender norms. By employing culturally specific and contextually rich data collection approaches, qualitative research can illuminate how these factors intersect with and influence human experiences, especially within challenging contexts such as humanitarian crises. The duration of data collection can vary significantly, ranging from rapid assessments vital in emergency settings to more time-intensive studies, depending on the research scope (Locke, 2010).

The selection of appropriate research design, sampling techniques, data sources, and instrumentation forms the core of a study's methods and methodology. While "methods" refer to the specific techniques and procedures for data gathering and analysis, "methodology" encompasses the overarching strategy, plan, and philosophical stance guiding these choices (Crotty, 1998). In a humanitarian context, understanding the nuanced methodologies that prioritize the safety and agency of

vulnerable populations is paramount. Integrating a gender focus here means designing methods that are sensitive to distinct experiences of women, men, and gender-diverse individuals, recognizing that crises often exacerbate existing inequalities and create new vulnerabilities. For instance, data collection might specifically explore the differential impacts of displacement on women's access to healthcare or men's coping mechanisms for trauma.

Reflexivity, the researcher's self-awareness of their own biases and perspectives, is an indispensable principle in qualitative research, particularly when exploring sensitive topics in humanitarian settings. Articulating these subjectivities upfront enhances transparency, allowing readers to understand the lens through which data was gathered and interpreted. This becomes even more vital when considering participants' deeply personal thoughts and feelings, especially when related to traumatic experiences, such as those encountered during conflicts or natural disasters. Safeguarding participants and their data is the researcher's paramount responsibility. This includes ensuring informed consent processes are culturally appropriate and accessible, particularly for those who may be displaced, traumatized, or illiterate, and obtaining clear ethical approval from relevant research ethics review boards before any data collection commences. This ethical imperative ensures that research contributes positively without re-traumatizing or exploiting vulnerable individuals, especially those affected by humanitarian emergencies where power imbalances are often stark.

Table 1: Basic Concepts adapted from Silverman (1993)

Concept	Meaning	Relevance	Example
Theory	A set of explanatory concepts	Usefulness for addressing the research question	Agency theory, functionalism, management control theory, symbolic interactionism
Domain	A space in which data is collected	Usefulness for addressing the research question	Field, CRISP tape, historical archive, and the internet
Methodology	A general approach to studying research topics	Usefulness for addressing the research question	Qualitative methodology, positivism
Hypothesis	A testable proposition	Validity	Relationships between management accounting and strategy
Method	A specific research technique	Fit with theory, hypothesis, methodology, and domain	Interviews, observations, questionnaires, conversation analysis

Data-Collecting Procedures in Qualitative Research

When conducting qualitative research, the selection of appropriate data collection procedures is paramount for capturing rich, nuanced information, particularly when focusing on sensitive areas like gender dynamics and humanitarian contexts.

As highlighted by Creswell (2009) and Locke (2010), the primary methods encompass observations, interviews, focus group discussions, and the review of documents and audio-visual materials. In humanitarian settings, where power imbalances and vulnerability are often pronounced, the choice and execution of these methods must be handled with extreme sensitivity and ethical consideration, ensuring that the dignity and safety of participants, especially women, girls, and marginalized groups, are prioritized (United Nations Office for the Coordination of Humanitarian Affairs [OCHA], 2017).

Interviews, whether individual or group-based, offer a flexible means of data collection, ranging from structured sociodemographic inquiries to open-ended, conversational formats that delve into lived experiences (Merriam & Tisdell, 2015). In gender-sensitive humanitarian research, in-depth interviews can be particularly effective for exploring personal narratives, trauma, coping mechanisms, and specific challenges faced by different genders or age groups within crisis-affected populations, allowing for a deeper understanding of vulnerabilities and resilience. Establishing a profound rapport, as emphasized by Kirk and Miller (1986), is crucial, especially when discussing sensitive topics with individuals who may have experienced significant distress. Similarly, focus group discussions, while valuable for exploring collective perceptions and opinions (Morgan, 1996), require careful facilitation to ensure all voices are heard and to mitigate the risk of certain group dynamics, such as power struggles or a reluctance to speak publicly, which can disproportionately affect women or other marginalized participants (Patton, 2002).

Beyond interviews, direct observation provides contextual understanding of behaviors and interactions within a given setting (Pitney & Parker, 2009), which can be vital for assessing gender roles, community dynamics, and the effectiveness of humanitarian interventions in practice. However, researchers must address the obtrusiveness of observation and build trust, as noted by Locke (2010), a process that is critical in communities affected by displacement or conflict. The review of diverse documents—from self-reports and field notes to official reports and personal diaries—offers supplementary insights, providing historical context or corroborating findings. In a humanitarian and gender-focused lens, these documents could include protection monitoring reports, gender-based violence (GBV) service data, community meeting minutes, or personal testimonies, all of which contribute to a more comprehensive understanding of the crisis's impact on diverse populations and inform more equitable humanitarian responses (Inter-Agency Standing Committee [IASC], 2017).

Mechanisms of Data Documentation and Management

Qualitative research data consist of many different types of research material. These include transcribed interviews, audio recordings, still images, ethnographic diaries, and various types of written texts. According to Huberman and Miles (1994), a data management plan is a detailed explanation of how research data are collected or created, how data are used and stored during research, and how they are made accessible for others after the research has been completed. There are varying phases of data collection and management plans. These include:

1. **Phase 1 - Preparation for field work:** This phase entails the following process:
 - a) **Development of the research proposal**
 - b) **Identification of the type of data to be collected:** The two types of QDA, which can be applied to a variety of textual, visual, or audio-visual materials (media articles, interview transcripts, parliamentary debates, etc.), are:
 - i. **Enumerative Data:** Enumerative provides a numbers-oriented overview. Enumerative data alone provides only a superficial overview. Table 2 presents some of the enumerative content analysis tools.

Table 2: Enumerative Content Analysis Tools

S/N	Enumerative Content Analysis Tools
1.	<i>Word frequency</i> - helps you to identify how often key words are turning up in your documents.
2.	<i>Key word in context or concordance.</i> This approach shows each word in the document in alphabetical order and in context.
3.	<i>Category frequency or cluster analysis,</i> where other related words (synonyms) will also be picked up,
4.	Lemmatization, where the base form of the word and its variations are gathered co-occurrence of particular words such as 'security' and 'terrorism'

- ii. **Ethnographic / Thematic Data:** Ethnographic provides thematic analysis with more depth of explanation as to why and how words have been used in particular cultural contexts. It seeks to identify patterns (commonalities, contrasts, etc.) in the contents of data through a series of well-defined steps, such as category-building, coding, and categorising. Its basic steps include:

- ☐ Location of all relevant documents - sample if desirable.
- ☐ Identification of the units to be analysed
- ☐ Development and testing of a protocol from the intensive analysis of a few documents
- ☐ Revision and further refinement of the protocol as analysis proceeds
- ☐ Interpretation of meaning within content and culture

Thematic contextual interpretation alone lacks the detailed numerical information to situate and structure the data.

- c) **Sampling:** This entails the determination of the sampling technique to be adopted for the study - random, stratified, cluster, or non-probability approaches. Since researchers can rarely observe all content, a sample must be obtained from available content for the coding pool. Units of analysis may differ from units of observation (Observe story content to analyze newspaper differences), and sample selection depends largely on the unit of analysis. For example, if studying differences between authors, the unit of observation may be books, pages, paragraphs, or sentences. Researchers must be clear about the unit of analysis before planning a sampling strategy to avoid problems later.

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- d) **Development of research instruments:** These are usually interview guides, discussion guides, or audit guides.
 - e) **Selection, training, and supervision of fieldworkers, and Data Collection.** No matter how well conceptualized the qualitative research project has been, investigators must develop the research instruments and hire qualified fieldworkers and project staff. The fieldworkers and project staff may be persons having good educational credentials (i.e., master's or doctoral level training in qualitative research) or excellent contacts within the target population, but lack educational credentials, writing skills, and/or training in qualitative research methods. Consequently, at project start-up, all staff needs systematic five days or more of training five days or more of training in the details of the qualitative research process. This involves both formal training and actual practice sessions. Fieldworkers' formal training should include: in-depth discussion about the project's aims and purpose; practical application of the techniques of entering the field and conducting research among target population (Dunlap & Johnson, 1998); maintaining personal safety for both subjects and fieldworkers in dangerous situations (Williams, Dunlap, Johnson, & Hamid, 1992); informed consent procedures; ethical issues that may arise (Miller & Tewksbury, 2005); the basics of observations and field note writing; conduct of personal interviews, and conceptualization of the major issues to be researched; accounting for expenses incurred during the study; and plans for regular staff meetings.
 - f) **Keeping Memos:** Memos are short documents that one writes to oneself as one proceeds through the analysis of a corpus of data (Borgatti, 2005). There are three kinds of memos: the field note, the code note, and the theoretical note. A theoretical note is anything from a post-it that notes how something in the text or codes relates to the literature, to a 5-page paper developing the theoretical implications of something. The final theory and report is typically the integration of several theoretical memos.
 - g) **Transcribing and Checking:** Transcribing is an arduous process that must be conducted to convert the spoken words on audio-recorded interviews or focus group discussions to the written word to facilitate analysis. If a professional transcriber is engaged to do the work, the researcher must provide him/her with a background knowledge of the research work and what the participants were talking about. This can be done manually or through transcription editing software. An example of the software is EUDICO Linguistic Annotator (ELAN). This tool can organize data by linking media and data files. It can also be helpful in searching complex data sets.

All audio recordings should be transcribed verbatim, regardless of how intelligible the transcript may be when it is read back. Lines of text should be numbered. Once the transcription is complete, the researcher should read it while listening to the recording and do the following: correct any spelling or other errors; anonymize the transcript so that the participant cannot be identified from anything that is said (e.g., names, places, significant events); insert notations for pauses, laughter, looks of discomfort; insert any punctuation, such as commas and full stops (periods), and include any other contextual information that might have affected the participant (e.g., temperature or comfort of the room).

Dealing with the transcription of a focus group is slightly more difficult, as multiple voices are involved. One way of transcribing such data is to “tag” each voice (e.g., Voice A, Voice B). In addition, the focus group will usually have 2 facilitators, whose respective roles will help in making sense of the data. While one facilitator guides participants through the topic, the other can make notes about context and group dynamics.

2. **Phase 2 – Qualitative Data Analysis (QDA):** Data analysis is the systematic process of extracting information from qualitative material in order to create evidence about the content, to build or support an argument that will make meaning and persuade an intelligent reader (Merriam, 2001). The materials start qualitatively. The analysis starts qualitatively. It can remain primarily qualitative, identifying themes, patterns, and describing situations. Essentially, there are three major types of data in a qualitative study. These are:

- i. **Interpretive Analysis (Discourse and Narrative Analysis):** This is a “family” of analyses that look less (exclusively) at what the data say than at what they “do”, and namely how they construct universes of meaning, or “frames”, by means of often implicit categorisations, the creation of hierarchies and boundaries, attributions of blame and responsibility, the narrative construction of temporal sequences, etc.
- ii. **Content analysis:** This is a detailed, flexible research method that may be used either qualitatively or quantitatively (Downe-Wamboldt, 1992) for subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns (Cavanagh, 1997). The text data may be in verbal, print, or electronic form and could be obtained from narrative responses, open-ended survey questions, interviews, focus groups, observations, or print media such as articles, books, or manuals (Kondracki, Wellman, & Amundson, 2002). It is a systematic, replicable, and objective means for analysing documents (Elo & Kyngäs, 2008) and for describing and quantifying phenomena (Downe-Wamboldt, 1992)

The goal of content analysis is to provide knowledge and understanding of the phenomenon under study (Downe-Wamboldt, 1992). Content analysis aims to build a model to describe the phenomenon in a conceptual form. It can be used to test theoretical issues to enhance understanding of the data (Elo & Kyngäs, 2008), as well as for examining language and compressing many words of text into fewer content-related categories based on explicit rules of coding (Weber, 1990). These categories can represent either explicit communication or inferred communication. It is assumed that when classified into the same categories, words, phrases, and the like share the same meaning (Cavanagh, 1997). Content analysis can be a useful technique for discovering and describing the focus of individual, group, institutional, or social attention (Weber, 1990). It is a powerful tool for determining authorship (Mosteller & Wallace, 1964) and for examining trends and patterns in documents (Stemler, 2001). It can provide an empirical basis for monitoring shifts in public opinion.

Content analysis is used for analysing written, verbal, or visual communication messages (Cole, 1988) in an inductive or deductive approach (Elo & Kyngäs, 2008) based on the purpose of the study (Elo & Kyngäs, 2008). Inductive content analysis

is used in cases where there are no prior studies dealing with the phenomenon or when this knowledge is fragmented (Elo & Kyngäs, 2008; Lauri & Kyngäs, 2005). Categories are derived from the data in inductive content analysis (Kyngäs & Vanhanen, 1999), beginning from the specific to the general, so that particular instances are observed and then combined into a larger whole or general statement (Chinn & Kramer, 1999). Deductive content analysis is used when the structure of analysis is operationalized on the basis of prior knowledge (Kyngäs & Vanhanen, 1999) and the purpose of the study is to test a previous theory in a different situation or to compare categories at different time periods (Elo & Kyngäs, 2008). Content analysis is thus a family of analytic approaches ranging from impressionistic, intuitive, interpretive analyses to systematic, strict textual analyses (Rosengren, 1981). There are three distinct approaches to content analysis:

- **Conventional Content Analysis (CCA):** CCA is described as the inductive category development (Mayring, 2000). This is generally used with a study design that aims to describe a phenomenon, e.g., the emotional reactions of hospice patients. This type of design is usually appropriate when existing theory or research literature on a phenomenon is limited. Researchers avoid using preconceived categories (Kondracki et al., 2002), instead allowing the categories and names for categories to flow from the data (Kondracki et al., 2002). "Categories must be mutually exclusive and exhaustive" (Office, 1996). In conventional content analysis, coding categories are derived directly from the text data.
- **Directed Content Analysis:** With the directed content approach, analysis starts with a theory or relevant research findings as guidance for initial codes.
- **Summative Content Analysis:** A summative content analysis involves counting and comparisons, usually of keywords or content, followed by the interpretation of the underlying context.

All three approaches are used to interpret meaning from the content of text data and, hence, adhere to the naturalistic paradigm. The major differences among the approaches are coding schemes, origins of codes, and threats to trustworthiness.

Methods of Content Analysis

Content analysis is used for making replicable and valid inferences from data to their context, to provide knowledge, new insights, a representation of facts, and a practical guide to action (Krippendorff, 2004). The specific type of content analysis approach chosen by a researcher varies with the theoretical and substantive interests of the researcher and the problem being studied (Weber, 1990). Research using qualitative content analysis focuses on the characteristics of language as communication with attention to the content or contextual meaning of the text (Tesch, 2013). Thus, content analysis procedures entail provisions of answers to the following six questions (Krippendorff, 2004):

- a. Which data are analyzed?
- b. How are they defined?
- c. What is the population from which they are drawn?
- d. What is the context relative to which the data are analyzed?
- e. What are the boundaries of the analysis?

f. What is the target of the inferences?

According to Stemler (2001), a good rule of thumb to follow in content analysis is to use word frequency counts to identify words of potential interest, and then to use a Key Word In Context (KWIC) search to test for the consistency of usage of words. Certain software packages (e.g., the revised General Inquirer, NUD*IST, and HyperRESEARCH) are useful for content analyses.

Type of questions best suited for Content Analysis:

- ☐ What is the percentage of occurrences of 'X' words, events, types of approaches, etc.?
- ☐ How have particular concepts been used in context and why? And for what purpose?
- iii. **Coding:** A code can be a descriptive label, a category, a sub-code, a dimension, or a theoretical code. It is used as a method to structure and organize data in and outside the Grounded Theory framework (Saldana, 2009). It is used to assign a label, a word, or a phrase that summarizes a selected section of language-based or visual data segment (see Table 3).

Emergent and a priori coding are the two main approaches to coding data in content analysis. According to Haney, Russell, Gulek, and Fierros (1998), emergent coding entails the establishment of categories after the following stepwise preliminary examination of data:

- ☐ An independent review of the text materials to be conducted by two people to establish a set of features that form a checklist.
- ☐ The researchers compare notes and reconcile any differences that show up on their initial checklists.
- ☐ The researchers use a consolidated checklist to independently apply coding.
- ☐ The researchers check the reliability of the coding (a 95% agreement is suggested; .8 for Cohen's kappa). If the level of reliability is not acceptable, then the researchers repeat the previous steps. Once the reliability has been established, the coding is applied on a large-scale basis.
- ☐ The final stage is a periodic quality control check.

Table 3: Coding families (B. G. Glaser, 1978)

Coding Families	Concepts	Examples
The Six Cs	The Six Cs: Causes, contexts, contingencies, consequences, conditions	...of pain suffering
Process	Stages, phases, phasings, transitions, passages, careers, chains, sequences	Career of a patient with chronic pain
The Degree Family	Extent, level, intensity, range, amount, continuum, statistical average, standard deviation	Extent of pain suffering
Type Family	Types, classes, genres, prototypes, styles, kinds	Kinds of pain – sharp, piercing, throbbing, shooting, stinging, gnawing, burning

The Strategy Family	Strategies, tactics, techniques, mechanisms, management	Coping with pain
Interactive Family	Interaction, mutual effects, interdependence, reciprocity, symmetries, rituals	Interaction of pain experience and coping
Identity-Self Family	Identity, self-image, self-concept, self-evaluation, social worth, transformations of self	Self-concepts of pain patients
Cutting-Point Family	Boundary, critical juncture, cutting point, turning point, tolerance levels, point of no return	Start of chronification in the medical career of a pain patient
Cultural Family	Social norms, social values, social beliefs	Social norms about tolerating pain, 'feeling rule'
Consensus Family	Contracts, agreements, definitions of the situation, uniformity, conformity, conflict	Compliance

With a priori coding, categories are established before the analysis based on some theory. Professional colleagues agree on the categories, and the coding is applied to the data. Revisions are made as necessary, and the categories are tightened up to the point that maximizes mutual exclusivity and exhaustiveness (Weber, 1990). Coding could also be open, axial, or selective. According to Borgatti (2005), open coding is all about identifying, naming, categorizing, and describing phenomena found in a text in order to generate a general theory. Essentially, each line, sentence, paragraph, section, and chapter is read in search of the answer to the repeated question "what is this about? What is being referenced here?" These labels refer to things like hospitals, information gathering, friendship, social loss, etc. They are the nouns, verbs, adjectives, and adverbs of a conceptual world (Borgatti, 2005). The analytic process aims at identifying fairly abstract or very concrete categories of institutions, work activities, social relations, or social outcomes, as well as properties and dimensions such as duration, closeness, and importance to each party (Borgatti, 2005). The properties or dimensions could originate from the data itself, from respondents, or from the mind of the researcher, depending on the goals of the research. For instance, the phenomenon of interest in Text Fragment 1 is "pain". It indicates that pain has certain properties, one of which is INTENSITY: it varies from a little to a lot. When it hurts a lot, there are consequences: don't want to get out of bed, don't feel like doing things (what are the other consequences of pain?). PAIN RELIEF is the solution to this problem. One AGENT OF PAIN RELIEF is drugs (what are other members of this category?). Pain relief has a certain DURATION (could be temporary), and EFFECTIVENESS (could be partial).

Text Fragment 1

Pain relief is a major problem when you have arthritis. Sometimes, the pain is worse than other times, but when it gets really bad, whew! It hurts so bad, you don't want to get out of bed. You don't feel like doing anything. Any relief you get from the drugs that you take is only temporary or partial.

Source: Borgatti (2005)

The following 'theory generating' questions may guide in open coding to avoid simple paraphrasing:

- a) What? What is at issue here? What phenomenon is being addressed?
- b) Who? What persons or actors are involved? What roles do they play? How do they interact?
- c) How? What aspects of the phenomenon are addressed (or not addressed)?
- d) When? How long? Where? How much? How strongly? Why? What reasons are given or may be deduced?
- e) For what reason? With what intention, and for what purpose?
- f) By what means? What methods, tactics, and strategies are used to achieve the goal?

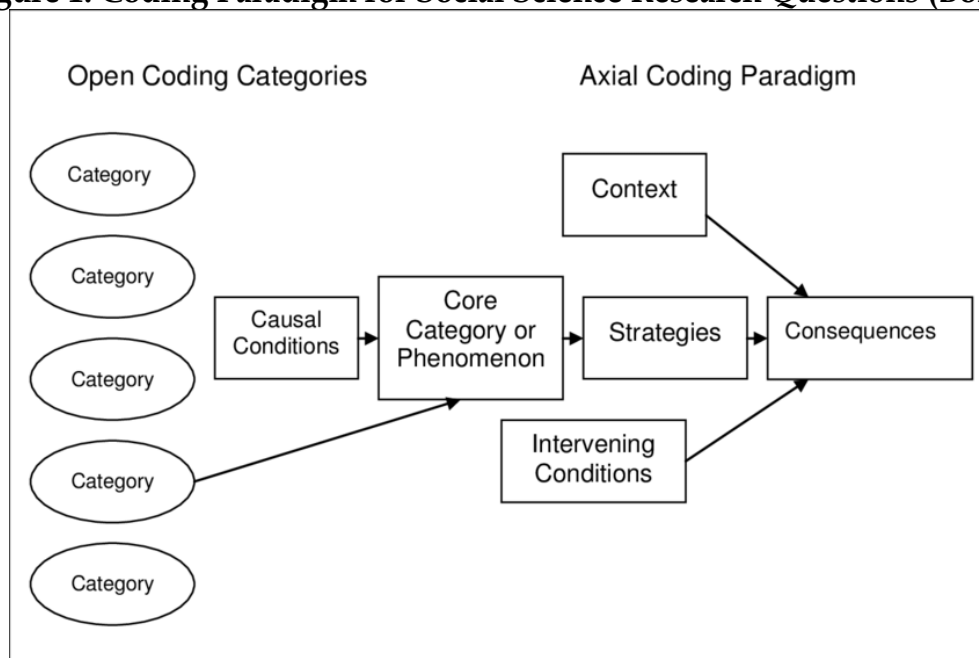
Axial coding is the process of relating codes (categories and properties) to each other, via a combination of inductive and deductive thinking (Borgatti, 2005). To simplify this process, grounded theorists emphasize causal relationships and fit things into a basic frame of generic relationships. According to Strauss and Corbin (1997), the following example, in which 'pain' has been selected as the axial category, illustrates the coding paradigm: 'If I've drunk too much (context), I get (condition) a headache (phenomenon/axial category). Then I take an aspirin (strategy). After a while, it's better (consequence).' Thus, Table 4 presents the elements of the frame (Borgatti, 2005).

Table 4: Elements of the Frame (Borgatti, 2005)

S/N	Element	Description
1.	Phenomenon	This is what, in schema theory, might be called the name of the schema or frame. It is the concept that holds the bits together. In grounded theory, it is sometimes the outcome of interest, or it can be the subject.
2.	Causal conditions	These are the events or variables that lead to the occurrence or development of the phenomenon. It is a set of causes and their properties.
3.	Context	Hard to distinguish from the causal conditions. It is the specific locations (values) of background variables. A set of conditions influencing the action/strategy. Researchers often make a quaint distinction between active variables (causes) and background variables (context). It has more to do with what the researcher finds interesting (causes) and less interesting (context) than with distinctions out in nature.
4.	Intervening conditions	Similar to context. If we like, we can identify context with moderating variables and intervening conditions with mediating variables. But it is not clear that grounded theorists clearly distinguish between these two.
5.	Action strategies	The purposeful, goal-oriented activities that agents perform in response to the phenomenon and intervening conditions.
6.	Consequences	These are the consequences of the action strategies, intended and unintended.

In the text segment 1 above, the phenomenon of interest is pain, the causal conditions are arthritis, the action strategy is taking drugs, and the consequence is pain relief. Grounded theorists don't show much interest in the consequences of the phenomenon (Borgatti, 2005).

Figure 1: Coding Paradigm for Social Science Research Questions (Bohm, 2004)



Borgatti (2005) also added that selective coding is the process of choosing one category to be the core category and relating all other categories to that category. The essential idea is to develop a single storyline around which everything else is draped. Thus, selective coding is all about finding the driver that impels the story forward.

Context and Coding Units

- A. Coding Units: These could be defined through the following process:
 - i. **Natural or Intuitive Borders:** The first way is to define the coding units physically in terms of their natural or intuitive borders. For instance, newspaper articles, letters, or poems all have natural boundaries.
 - ii. **Syntactic Units:** The second way to define the recording units syntactically is to use the separations created by the author, such as words, sentences, or paragraphs.
 - iii. **Referential Units:** The third way is to use referential units. Referential units refer to the way a unit is represented. For example, a paper might refer to George W. Bush as "President Bush," "the 43rd president of the United States," or "W." Referential units are useful when we are interested in making inferences about attitudes, values, or preferences.
 - iv. **Propositional Units:** The fourth method is by using propositional units. These are perhaps the most complex methods of defining coding units because they work by breaking down the text in order to examine underlying assumptions. For example, in a sentence that would read, "Investors took another hit as the stock market continued its descent," we would break it

down to: The stock market has been performing poorly recently/Investors have been losing money (Krippendorff, 1980).

- B. Context Analysis Unit: Generally, there are three kinds of units in content analysis: sampling units, context units, and recording units.
- a) Sampling units could be words, sentences, or paragraphs. For instance, in the mission statements project, the sampling unit was the mission statement.
 - b) Context units may overlap and contain many recording units. Context units set physical limits on what kind of data you are trying to record. In the mission statements project, the context units are sentences.

Recording units are rarely defined in terms of physical boundaries. In the mission statements project, the recording unit was the idea(s) regarding the purpose of the school found in the mission statements (e.g., develop responsible citizens or promote student self-worth). Thus, a sentence that reads "The mission of Jason Lee school is to enhance students' social skills, develop responsible citizens, and foster emotional growth" could be coded in three separate recording units, with each idea belonging to only one category (Krippendorff, 2004).

Reliability and Validity of Coding

Validity refers to the reasons for believing truth claims, what Dewey called "warranted assertability" (Phillips, 1987). In order to make valid inferences from the text, the classification procedure must be reliable and consistent. This implies that different people should code the same text in the same way (Weber, 1990). Reliability problems usually grow out of the ambiguity of word meanings, category definitions, or other coding rules (Krippendorff, 2004).

One of the most critical steps in content analysis involves developing a set of explicit recording reliability instructions. The reliability instructions may be in terms of intra-rater reliability (stability – can the same coder get the same results – try after try?) or inter-rater reliability (reproducibility – Do coding schemes lead to the same text being coded in the same category by different people?). The reliability of coding can also be measured by the percentage of agreement between raters. This involves simply adding up the number of cases that were coded the same way by the two raters and dividing by the total number of cases (Cohen, 1960). This can be calculated by using Cohen's Kappa, which approaches 1 as coding is perfectly reliable and goes to 0 when there is no agreement other than what would be expected by chance (Haney et al., 1998).

$$\kappa = \frac{P_A - P_c}{1 - P_c}$$

Cohen's Kappa:

Inter-coder reliability

- P_A is the proportion of units on which the raters agree
- P_c is the proportion of units for which agreement is expected by chance
- 0.00 = poor agreement
- 0.21 – 0.40 = fair agreement
- 0.81 – 1.00 = high agreement

Source: Hill, Thompson, and Williams (1997)

In qualitative research, the validity of content analysis takes the form of triangulation (Stemler, 2001). Triangulation lends credibility to the findings by incorporating multiple sources of data, methods, investigators, or theories (Erlandson, Harris, Skipper, & Allen, 1993).

Manual and Computer-Aided Qualitative Data Analysis Systems

Computer-Aided Qualitative Data Analysis Systems are expensive, single-purpose programs designed for computerized text; limited to Western languages; and work directly on text by applying codes. They are not necessary for qualitative content analysis. They use existing general computer tools, develop skills applicable to many areas, and focus on basic principles of coding and analysis.

CAQDAS is used as a tool for organizing and sorting action-oriented research data through coding. ATLAS.ti can also be used (Stratton, 2008). Biographical data can be analysed using a combination of methods (Rosenthal, 2004), such as objective hermeneutics (Oevermann, 2002), narrative analysis (Schütze, 1983), thematic field analysis (Kohli & Fisher, 1987), and ATLAS.ti (Patrizi, 2005). Data from case studies could be analysed using a matrix of categories, pattern matching, statistical procedures, and coding. ATLAS.ti can also be used to store, organize, and analyze case study data. The kinds of data assigned to an ATLAS.ti project file include the researchers' field notes, interview transcripts, interview protocols, photos of environmental texts found in the communities under study (e.g., signs, books, advertisements, magazines, etc.), scanned artefacts collected during the conduct of the field work (e.g., newspapers, flyers, memos), official documents, and all other collected data such as the demographic information of participants and video recordings.

Typically, data obtained from conversational analysis can be subjected to a fine-grained sequential analysis based on a sophisticated form of transcription. Coding could also be used for identifying recurrent themes and analyzing CA data. Coding, CAQDAS, and ATLAS.ti can be used to analyze discourse analysis/critical discourse analysis data. ATLAS.ti (Hernández and René, 2009) and CAQDA packages appropriate tools for analysing ethnographic data (Fielding, Lee, & Blank, 2008). Analysis procedures for field research consist of description, ordering, or coding of data, and displaying summaries of the data (Nia Parson, 2005) and ATLAS.ti. A classical code and retrieve approach can be used to analyse FGD data by comparing and contrasting relevant information through cutting, pasting, sorting, arranging, and rearranging (Krueger & Casey, 2000). CAQDAS and ATLAS.ti can also be used for their analysis (Baer et al., 2008). Frames can be extracted qualitatively through a coding approach and quantitatively through the keyword approach by means of hierarchical cluster or factor analysis. The software VBPro, for example, has specifically been developed for such procedures. Flick (1994) demonstrates how hermeneutics can be implemented when working with ATLAS.ti. The various perceptions which emerge from phenomenography data can be sorted into categories of description and then analysed using CAQDAS (Boon, Johnston, & Webber, 2007). A hermeneutic approach of analysis combined with codification procedures and CAQDAS can be used to analyse life world analysis data.

Theoretical Basis for Data Interpretation in Qualitative Research

Qualitative field studies are a profoundly theoretical activity. Consequently, qualitative research is shaped by the theoretical interests of the researcher. According to Silverman (1993), the distinctive role of theory in qualitative research relates to the expression of a subjective reality. The interpretation of the data depends solely on the theoretical standpoint taken by researchers. Researchers' theoretical standpoints could be based on grounded theory, social constructivist theory, feminist theory, positivism, symbolic interactionism, phenomenology, hermeneutics, interpretivism, or critical theory.

Grounded Theory (GT) is a theory that is grounded in data. B. G. Glaser (2001), Bryant and Charmaz (2007), and Walsh et al. (2015) opine that GT is a research method that permits the generation of theory from data; it offers an explanation about the main concern of the population of a substantive area and how that concern is resolved or processed. It enables researchers to seek out and conceptualise the latent social patterns and structures in their area of interest through the process of constant comparison. The researcher will initially use an inductive approach to generate substantive codes from the data; the resultant theory will suggest where to collect data and which more focused questions to ask. This is the deductive phase of the grounded theory process (B. Glaser & Strauss, 1967). It uses face-to-face interviews and interactions, such as focus groups, for data collection. It has open, axial, selective, and theoretical analytic phases of coding techniques (B. Glaser & Strauss, 1967).

The hermeneutic approach holds that the most basic fact of social life is the meaning of an action. Social life is constituted by social actions, and actions are meaningful to the actors and to the other social participants. Moreover, subsequent actions are oriented towards the meanings of prior actions; so understanding the later action requires that we have an interpretation of the meanings that various participants assign to their own actions and those of others. So Weinsheimer (1989) and Wilson (1989) claim that the social sciences need to be hermeneutic. Consequently, social science researchers need to devote attention to the interpretation of the meanings of social actions. It can be used to identify the meaning and intent of social actions and to address a broad range of research questions on the interpretation of human practices, events, and situations. The analytic aim is to understand "the other". The process of understanding is characterized by constant revision of the text. This is referred to as the hermeneutic cycle.

Phenomenology shares some features with grounded theory (such as an exploration of participants' behaviour) and uses similar techniques to collect data, but it focuses on understanding how human beings experience their world. It gives researchers the opportunity to put themselves in another person's shoes and to understand the subjective experiences of participants.

Phenomenography focuses on the experience of a phenomenon rather than on the phenomenon per se. The aim is to investigate the different ways in which people experience, perceive, apprehend, understand, and conceptualize various phenomena. A phenomenographic analysis seeks a description, analysis, and understanding of the variation in both the perceptions of the phenomenon as

experienced by the actor and in the ways of seeing something, as experienced and described by the researcher (Marton, 1988).

The social constructivist theory assumes that behaviour is socially constructed; in other words, people do things because of the expectations of those in their personal world or in the wider society in which they live. The feminist standpoint theory, among other things, focuses on marginalized groups in society.

Merits and Demerits

Content analysis is a powerful data reduction technique. Its major benefit comes from the fact that it is a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding. It has the attractive features of being unobtrusive and being useful in dealing with large volumes of data. Essentially, content analysis can be used to accomplish the following:

- a. Simplify very large documents into enumerative information,
- b. Analyse interactions from a distance, providing a sense of 'objectivity',
- c. Identify intentions, attitudes, and emotions as well as reveal lines of propaganda, inequality, and power, and
- d. Combine both qualitative and enumerative approaches to look at relationships among numbers and relationships between these and the cultural context.

Findings of qualitative research may not be generalizable to a wider population. Qualitative research is used to gain insights into people's feelings and thoughts, which may provide the basis for a future stand-alone qualitative study or may help researchers to map out survey instruments for use in a quantitative study. It is also possible to use different types of research in the same study, an approach known as "mixed methods" research.

In spite of these advantages, two fatal flaws that destroy the utility of a content analysis are faulty definitions of categories and non-mutually exclusive and exhaustive categories. It can also be criticised for being too positivist in orientation, particularly when only enumerative approaches are used. Limited or poor sampling strategies can lead to bias. Interpretations of words may be limited by the dictionary capacity of the computer program. It can decontextualize information, converting texts into categorical variables and constructing a limited frame in terms of interpretation. It can also be a-theoretical with minimal interpretation on the assumption that numbers say it all.

Planning and Writing the Report

Qualitative researchers report "findings" rather than "results", as the latter term typically implies that the data have come from a quantitative source. The final presentation of the research will usually be in the form of a report or a paper and should follow accepted academic guidelines. This will include the following:

1. **Headings for sections of the report:** It can be used to make a note of the codes that exemplify the thoughts and feelings of research participants. If researchers code and

theme the research material correctly, it will be easier to generate appropriate headings for sections of the report.

2. **Introduction:**
3. **Literature Review:**
4. **Rationale for the Research:**
5. **Research Questions:**
6. **Research Methodology:** This will be a brief discussion about why qualitative methodology was most appropriate for the study question and why one particular methodology (e.g., interpretative phenomenological analysis rather than grounded theory) was selected to guide the research. The method itself should then be described, including ethics approval, choice of participants, mode of recruitment, and method of data collection (e.g., semi-structured interviews or focus groups).
7. **Research Findings:** This will be the main body of the report or paper. The findings should be written as if a story is being told; as such, it is not necessary to have a lengthy discussion section at the end.
8. **Discussions of Findings:** The discussion will focus on the participants' quotes.
9. **Conclusion:** This will be used to close the report or paper. This will focus on the summary, limitations of the research, and the implications that the research has for practice. The findings of qualitative research cannot be generalized, and therefore, this is not, in itself, a limitation.

Conclusion

There are varying forms of qualitative research methods. Each one of them is an important tool within the broader approach to applied research in social science. Data collection in qualitative research is guarded by principles such as research questions, hypotheses, methodology, methods, reflection, participants' viewpoints, and ethical clearance.

Qualitative research data consist of many different types of research material, including transcribed interviews, audio recordings, still images, ethnographic diaries, and various types of written texts. Observations, interviews, focus group discussions, review of documents, and audio-visual materials are the main categories of data-collecting procedures in qualitative research.

Qualitative data analysis is the systematic process of extracting information from qualitative material in order to create evidence about the content, to build or support an argument that will make meaning and persuade an intelligent reader. Interpretive data analysis, content analysis coding are powerful data reduction techniques. Hence, the interpretation of findings in qualitative research is shaped by the theoretical interests of the researcher. Findings of qualitative research may not be generalizable to a wider population. Qualitative researchers report "findings".

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